

Notice of Preparation (NOP)  
and Responses

# NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT FOR WOODLAND RESEARCH & TECHNOLOGY PARK SPECIFIC PLAN

**To:** Responsible Agencies, Trustee Agencies, Organizations, and Interested Parties  
**From:** Erika Bumgardner, Senior Planner and Specific Plan Project Manager  
**Date:** June 16, 2017

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In accordance with the provisions of the California Environmental Quality Act (CEQA), the City of Woodland (City) has determined that the Woodland Research & Technology Park Specific Plan (Specific Plan) will require preparation of an Environmental Impact Report (EIR). The City will not be preparing an environmental initial study, consistent with CEQA Guidelines Section 15060(d). The City will be the lead agency for preparation of the EIR. The purpose of the Notice of Preparation (NOP) is to provide an opportunity for public agencies, other organizations, interested parties, and the public to comment on the scope and content of the EIR. Comments in response to this NOP should be submitted to the City no later than July 17, 2017 by 5:00 p.m. A scoping meeting will be held on June 26, 2017, at 6:00 p.m. at the Woodland Community and Senior Center at 2001 East Street.

## FOCUS OF INPUT

The City relies on responsible and trustee agencies to provide information relevant to the analysis of resources falling within the jurisdiction of such agencies. The City encourages input for the Specific Plan EIR, with a focus on the following topics:

- ▶ **Scope of Environmental Analysis.** Guidance on the scope of analysis for this EIR, including identification of specific issues that will require closer study due to the location, scale, and character of this Specific Plan.
- ▶ **Mitigation Measures.** Recommendations for mitigation, including both feasible mitigation that could take the form of Specific Plan development standards, design guidelines, land use and circulation diagrams, or other guidance provided in the Specific Plan, as well as programmatic mitigation with performance standards that would be applied at the subdivision map and project level that could avoid, eliminate, or reduce potentially significant or significant impacts.
- ▶ **Alternatives.** Suggestions for alternatives to the Specific Plan that could potentially reduce or avoid potentially significant or significant impacts, including alternative designs, alternative land use mixes, alternative phasing strategies, and other options.
- ▶ **Interested Parties.** Identification of public agencies, public and private organizations, and individuals that the City should notice regarding this Specific Plan and the accompanying EIR.

## NOP RESPONSES

Comments in response to this NOP should be addressed to:

Erika Bumgardner, Senior Planner  
City of Woodland  
300 First Street  
Woodland, CA 95695  
[erika.bumgardner@cityofwoodland.org](mailto:erika.bumgardner@cityofwoodland.org)

## **PROJECT LOCATION**

The Specific Plan is located in the southern portion of the City's Planning Area, adjacent to the existing City limits, in an area bound by Farmers Central Road to the north, County Road 101 (Harry Lorenzo Avenue) to the east, State Route 113 (SR 113) to the west, and County Road 25A to the south (western portions of the Specific Plan Area extend approximately 1,000 feet south of County Road 25A, as well). The City's Spring Lake Specific Plan Area is adjacent to, and east and north of the Specific Plan Area (Exhibit 1). The Specific Plan Area includes Assessor Parcel Numbers (APNs) 041-080-017, 041-020-039, 041-020-029, 041-020-010, 041-020-017, 041-020-031, 041-020-042, and 041-020-030.

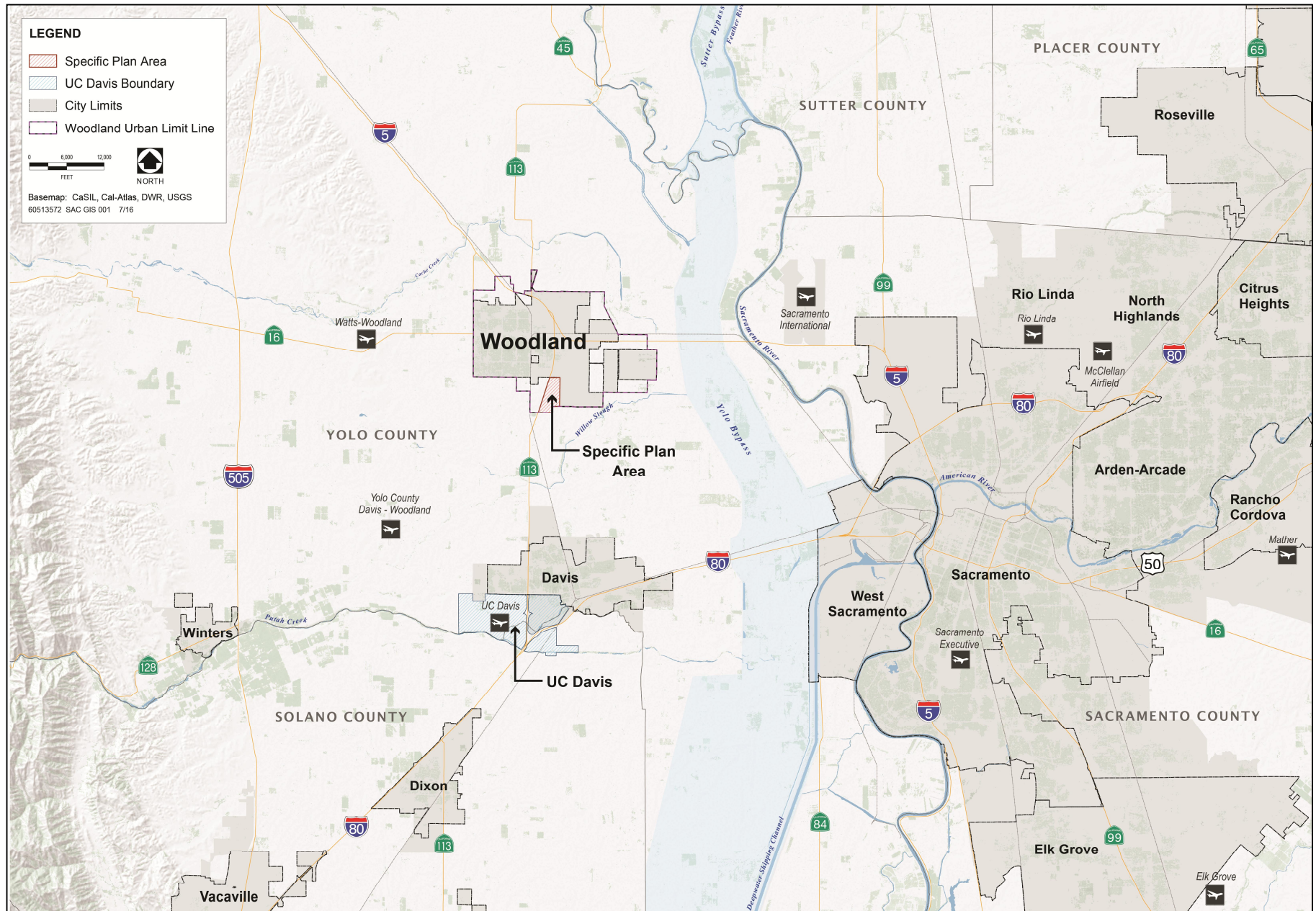
## **PROJECT DESCRIPTION**

Referred to as "SP1-A" in the City's General Plan, the Woodland Research & Technology Park Specific Plan would accommodate research and development, technology, and science and engineering-related uses; a commercial mixed-use town center focused around a central green; and a range of housing options, all connected by a multi-modal street network and trail system (Exhibit 2). The Specific Plan would provide for approximately 2.15 million square feet of non-residential building space for approximately 6,100 employees and 1,600 housing units on 351 acres of land area.

The Specific Plan is designed to place services and amenities within walking and biking distance of neighborhood residents and accommodate a mix of housing types at a range of densities and cost levels. The Specific Plan also includes approximately 20 acres of parkland, in addition to bicycle and pedestrian trails connecting proposed land uses and adjacent developed and developing areas in the Spring Lake Specific Plan Area.

The Specific Plan will allow a wide variety of businesses including agriculture and food technology, light manufacturing, bio-tech, engineering, and other fields. The Specific Plan will also provide incubation spaces for small start-up firms, facilities for established mid-size or large companies that require larger floorplates, flexible building spaces for high-tech research, and light manufacturing/flex space for product testing and development. Commercial areas of the Specific Plan will accommodate support services and retail.

The preliminary draft Specific Plan Land Use Diagram, Exhibit 3, identifies proposed land use designations.



**Exhibit 1**

**Vicinity Map**



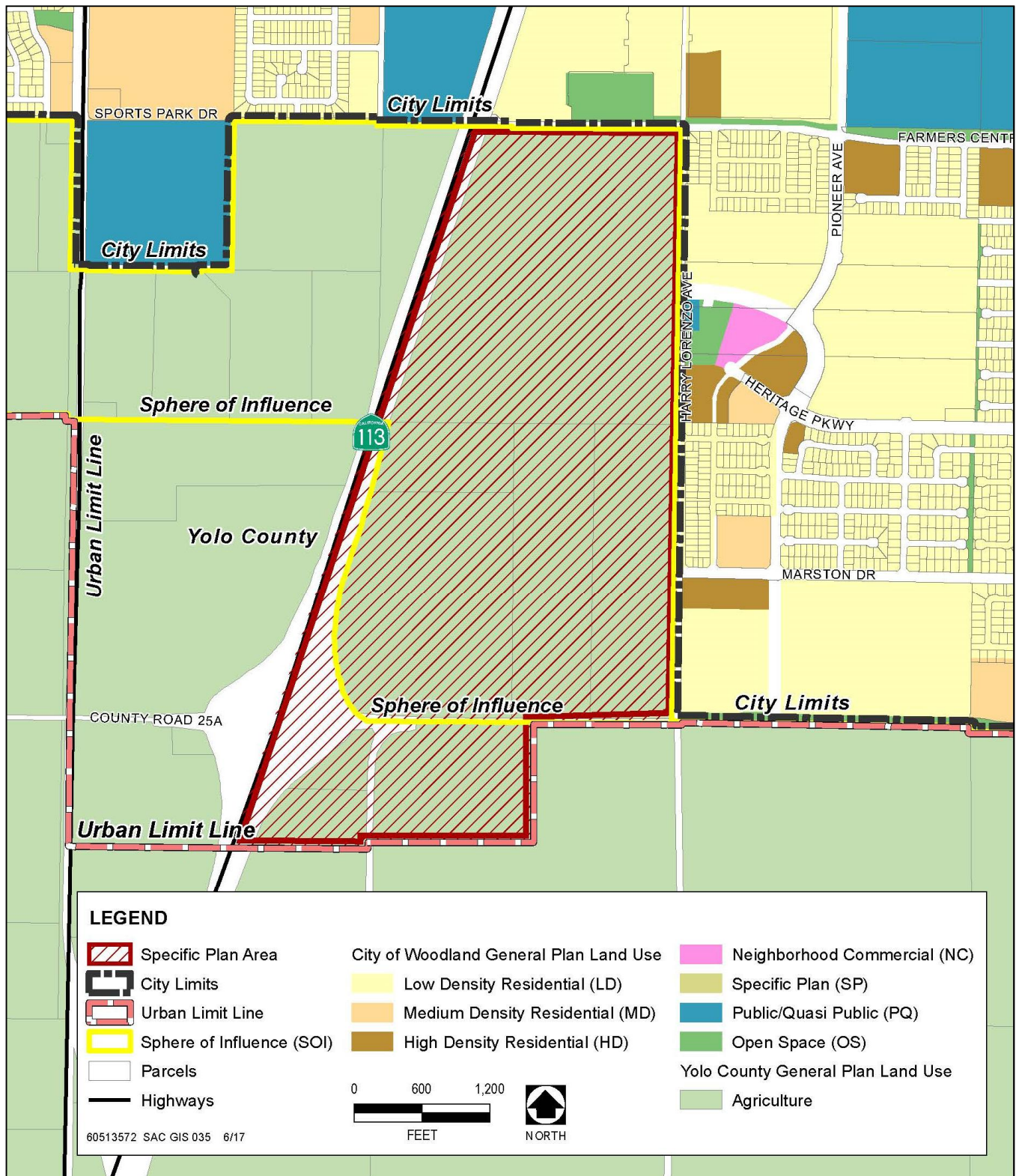
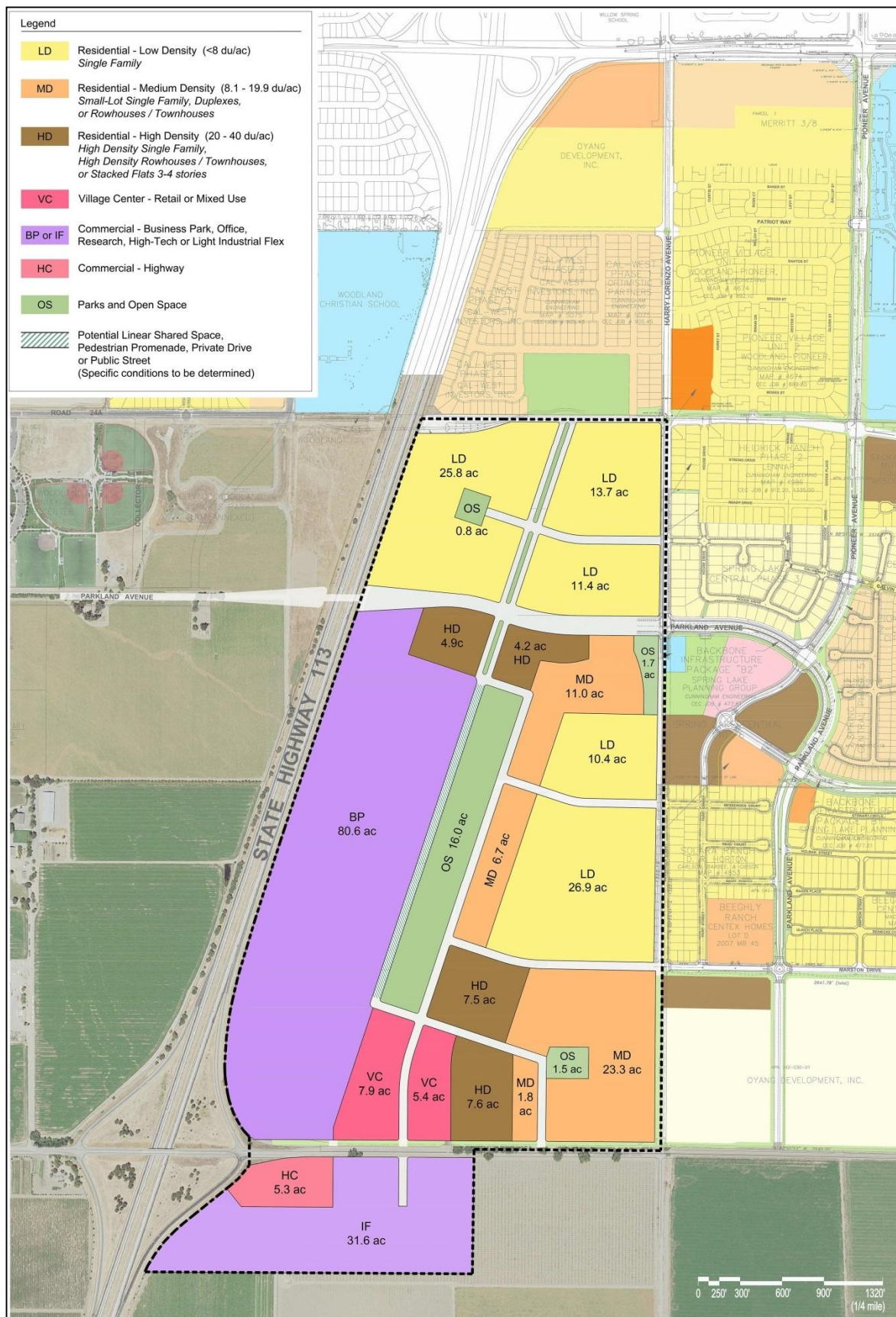


Exhibit 2

General Plan Land Use Diagram in Specific Plan Area Vicinity





**Exhibit 3**

**Preliminary Draft Land Use Diagram**

## Residential

The Specific Plan proposes three residential land use classifications, including (Table 1):

- ▶ Residential - Low Density (LD), with an allowable density range of 0-8 dwelling units per acre
- ▶ Residential - Medium Density (MD), with an allowable density range of 8.1-19.9 dwelling units per acre
- ▶ Residential - High Density (HD), with an allowable density range of 20-40 dwelling units per acre

## Employment and Commercial Uses

The Specific Plan proposes four employment and commercial land use designations, including (Table 1):

- ▶ Village Center (VC), with an allowable floor area ratio (FAR) of 0.2-2.0 (single use) or 0.5-3.0 (mixed)
- ▶ Business Park (BP), with an allowable FAR 0.25-2.0
- ▶ Light Industrial Flex (IF), with an allowable FAR of 0.25-2.0
- ▶ Highway Commercial (HC), with an allowable FAR of 0.2-2.0

Table 1 presents preliminary development assumptions for the Specific Plan, which are subject to change as the Plan is developed.

**Table 1  
Proposed Specific Plan Land Uses and Assumed Development Yield**

Land Use	Approximate Acres	Average Density / Floor Area Ratio (FAR)	Estimated Dwelling Units / Non-Residential Square Footage
Residential - Low Density (LD)	88	4 dwelling units per acre, gross	~530 units
Residential – Medium Density (MD)	43	14 dwelling units per acre, gross	~500 units
Residential – High Density (HD)	24	30 dwelling units per acre, gross	~570 units
Parks / Open Space (Large & Medium-Sized Parks)	20		
Village Center	13	0.2 FAR	~115,900 square feet
Business Park	81	0.4 FAR	~1,404,400 square feet
Light Industrial Flex	34	0.4 FAR	~583,700 square feet
Highway Commercial	5	0.2 FAR	~46,200 square feet
Multi-Modal Travelways and Rights-of-Way	43		
<b>Total</b>	<b>351</b>		<b>1,600 dwelling units / 2,150,100 square feet, non-residential</b>

Note: Totals may not add due to rounding.

## Parks/Open Space

The Specific Plan will propose public parkland, open spaces, and greenways. A central green of approximately 16 acres would serve as a central gathering space, and as an organizing design feature of the layout of the Specific

Plan. Smaller parks, open spaces, and greenways are proposed throughout the Specific Plan Area so that residents and employees would have close access to open space. A series of greenways would connect the Specific Plan Area, both north-south and east-west, to existing and planned parks, open spaces, and greenways within the Spring Lake Specific Plan Area.

### **Drainage**

An existing drainage way adjacent to SR 113 that wraps around the southern end of the Specific Plan Area adjacent to County Road 25A will either be maintained or modified to retain or increase the existing drainage capacity to meet Specific Plan needs. Naturalized stormwater management systems will be incorporated into parks and open spaces to reduce the need for engineered drainage systems. Private development will also employ naturalized stormwater management systems to manage drainage needs on-site.

### **Utilities**

The first phase of development is anticipated to connect to trunk lines for water, sewer, and drainage that are currently stubbed out at the property line between the Spring Lake Specific Plan Area and the Woodland Research & Technology Park Specific Plan Area. These lines were designed to accommodate development in the Specific Plan, in addition to demands generated by the Spring Lake Specific Plan. Concept-level infrastructure and utility masterplans will be prepared to support the Specific Plan. The Specific Plan will also identify private utility needs (electricity, natural gas, telephone, cable / internet, etc.).

### **Circulation**

The Specific Plan will provide a well-connected circulation network supporting all modes of travel within the Specific Plan Area, as well as connections to the adjacent Spring Lake Specific Plan Area. All public roads within the Specific Plan Area will include a connected sidewalk system and either protected bicycle lanes as part of the sidewalk (for major through roads) or a combination of on-street bicycle lanes or mixed-flow bicycle routes for local streets with low traffic volumes and slower vehicle speeds.

The Business Park area may be developed with a combination of public roads and private drives to connect buildings within each development site and to connect multiple development sites to each other. Site plan and design guidelines applicable to accompany the Specific Plan will encourage such connectivity. Design guidelines will also encourage buildings to be accessible and have entrances fronting public streets, providing opportunities to activate those streets. The Specific Plan will include a circulation master plan identifying roadways, bicycle and pedestrian facilities, and the block framework.

## **PERMITS AND OTHER APPROVALS**

Implementation of the Specific Plan will require approval by the Woodland City Council. The City will also be required to certify the EIR. Implementation of the Specific Plan will also involve a variety of other City approvals that could include, but are not necessarily limited to the approval of subdivision maps, grading permits, encroachment permits, and building permits (with appropriate permit conditions).

Other permitting agencies with approval or review authority over portions of the Specific Plan and projects developed under the Specific Plan may include, but is not necessarily limited to the agencies identified below:

- ▶ Yolo-Solano Air Quality Management District
- ▶ California Department of Transportation
- ▶ Central Valley Regional Water Quality Control Board
- ▶ Yolo Local Agency Formation Commission

- ▶ Yolo County Flood Control & Water Conservation District

## PROJECT OBJECTIVES

Specific Plans, under State law, must be consistent with the relevant jurisdiction's general plan. As such, the Woodland Research & Technology Park Specific Plan will be consistent with, and implement the City of Woodland General Plan. The EIR will include reference to relevant General Plan policies that will guide the City's review of the Specific Plan and other entitlements required to fully implement the Specific Plan. Implementation of the General Plan within the Specific Plan Area is the primary Project Objective.

The Vision and Guiding Principles developed to guide the Specific Plan process also serve as the Project Objectives, including:

- ▶ Develop a state-of-the-art innovation center campus for high-technology offices, research and development, hotel, and employee-serving retail and recreational uses.
- ▶ Accommodate advanced technology-related jobs and training that allow a greater number of Woodland residents and college graduates from the Woodland Community College to live and work in the community.
- ▶ Collaborate with UC Davis, Woodland Community College, and others to capture technology transfer to start-up businesses and growing mid-to-large size companies, reducing the loss of intellectual capital and revenue through regional out-migration.
- ▶ Create and support the seed, food, and agricultural-based industry currently doing business in and around Woodland.
- ▶ Ensure that roadways, utilities, and other infrastructure are installed to meet project needs and can be feasibly financed.
- ▶ Contribute to meeting City goals for greenhouse gas reduction by 2035 contained in its 2035 Climate Action Plan through:
  - increasing efficiency of buildings and other non-transportation energy use;
  - land use and transportation strategies that reduce vehicle miles traveled and facilitate use of alternative fuel vehicles;
  - enhancing the City's urban forest through planting and management of trees in public parks, other open spaces, and public streets;
  - promoting recycled water use within the neighborhoods park and greenbelts; and
  - reducing water use and waste generation.
- ▶ Create a successful Village Center that serves area residents and, along with the southern end of a proposed central green, provides a gathering place for workers, residents, and visitors.
- ▶ Integrate multi-modal transportation within project design, to reduce the use of single-occupant vehicles, and implement a Transportation Demand Management (TDM) Plan that increases the use of multiple modes of transportation, such as, public transit, bicycle, and pedestrian access to, from, and within the plan area.



- ▶ Facilitate bicycle use and walking through a combination of well-designed complete streets, protected bicycle lanes, where appropriate, and pedestrian / bicycle greenways that connect to parks and open spaces, as well as connect to Spring Lake at multiple points.
- ▶ Encourage active, healthy, living through connected streets with bicycle and pedestrian facilities, trails, accessible parks and open spaces with passive and programmed recreation, access to healthy foods (such as, through a farmers market and/or fresh produce market in the Village Center), and social gathering places.
- ▶ Promote flexibility in project design and implementation to respond to market demand through the phasing of construction and offering a variety of building types.
- ▶ Incorporate naturalized stormwater management in the plan area and individual projects, as feasible.
- ▶ Seek ways to complement and support Downtown Woodland by accommodating larger and other businesses, better suited for locations outside Downtown.
- ▶ Help provide vital connections to the existing Spring Lake community in planning for the density and intensity of land use and by promoting and extending bike paths, open space, and recreational opportunities.

## **RELATIONSHIP TO GENERAL PLAN AND GENERAL PLAN EIR**

The Specific Plan Area is included as “SP1-A” in the City’s General Plan, and the General Plan and EIR assume the Specific Plan could accommodate approximately 1,600 dwelling units and 2.16 million square feet of non-residential building space. The Specific Plan is being developed consistent with the General Plan.

The General Plan EIR is the first “tier” of environmental review for projects in Woodland, and it creates the foundation upon which future CEQA documents can build. The City intends to use the General Plan EIR analysis to avoid duplicative discussion and focus on project- and plan-specific analysis and mitigation. In order to achieve these objectives, Section 21093(b) of the Public Resources Code indicates that “environmental impact reports shall be tiered wherever feasible, as determined by the lead agency.”

The General Plan EIR, on pages 1-2 through 1-5, discussed the City’s intent to use tiering (CEQA Guidelines Section 15152), partial exemptions (CEQA Guidelines Section 15183), and tiering and streamlining for greenhouse gas emissions analysis (CEQA Guidelines Section 15183.5) to focus analysis of plans and projects implemented under the General Plan.<sup>1</sup> Section 15152 of the CEQA Guidelines provides that where a first-tier EIR has “adequately addressed” impacts, such impacts need not be revisited in second- and/or third-tier documents. CEQA Guidelines Section 15183 provides that, for subsequent environmental documents, CEQA only applies to issues “peculiar to the site.” Impacts are not peculiar to the project if uniformly applied development policies or standards substantially mitigate that environmental effect. CEQA Guidelines Section 15183.5 includes the provision for tiering and streamlining the analysis of GHG emissions in CEQA documents. Under this provision, lead agencies may analyze and mitigate the effects of GHG emissions at a programmatic level, and later documents may tier from this analysis if the proposed project is consistent with the programmatic greenhouse gas emissions reduction plan.

The Woodland Research & Technology Park Specific Plan EIR will employ each of these strategies, with different approaches for different environmental topics, and in a different way for project-specific impacts than for cumulative impacts.

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<sup>1</sup> Please see the City’s 2035 General Plan website for more detail: [http://cityofwoodland.org/gov/depts/cd/woodland\\_general\\_plan\\_2035/default.asp](http://cityofwoodland.org/gov/depts/cd/woodland_general_plan_2035/default.asp).

## **PROBABLE ENVIRONMENTAL EFFECTS**

An initial study will not be prepared to accompany this Notice of Preparation. The City intends to prepare an EIR that addresses each environmental issue that is relevant to the Specific Plan, consistent with the tiering and streamlining provisions summarized above and discussed on pages 1-2 through 1-5 of the General Plan EIR.

CEQA Guidelines Section 15082 recommends that a NOP include “probable environmental effects of the project.” The following is a summary of the environmental issues anticipated to be addressed in the Draft EIR. The listed issue areas are not necessarily potentially significant or significant effects attributable to the Specific Plan – these determinations will be the subject of analysis disclosed in the Draft EIR.

The Draft EIR will identify feasible mitigation measures to avoid or reduce potentially significant environmental impacts. The level and scope of environmental assessment in the EIR will be refined, based on responses to this NOP.

### **Aesthetics**

Based on guidance in the General Plan, the EIR will evaluate the change in existing visual character of the area resulting from implementation of the Specific Plan, as well as potential effects to scenic views and resources. The EIR will assess the impacts related to light and glare from lighting included in the Specific Plan and will consider lighting that could create skyglow.

### **Agriculture**

The EIR will consider direct conversion of Important Farmland, conflicts with agricultural zoning, and any indirect impacts on ongoing agricultural operations.

### **Air Quality**

The EIR will evaluate construction-related and long-term (operational) regional air pollutant emissions, including area- and mobile-source emissions attributable to Specific Plan implementation. The City plans to qualitatively assess sources of diesel emissions (e.g., loading docks at business park/commercial facilities) allowed under the Specific Plan for the potential to expose sensitive receptors to diesel particulate matter. The EIR will discuss exposure of sensitive land uses to sources of toxic air contaminants and qualitatively address the potential exposure of existing and proposed sensitive uses to odors, as appropriate.

### **Biological Resources**

Building on the foundation provided in the 2035 General Plan and EIR, the City will summarize impacts on biological resources, including potential effects on special-status species.

### **Tribal/Cultural Resources**

No historic resources are associated with the Specific Plan Area, and no prehistoric resources have been formally recorded in Woodland. However, the prehistoric occupation of the region makes it possible that unknown archaeological sites could be present. As of 2015, CEQA resources include “tribal cultural resources.” Under Assembly Bill (AB) 52, CEQA analyses must consider tribal cultural resources, including “the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.” The EIR will assess potential effects on cultural resources, with a focus on significant documented resources, and identify the potential for as-yet unrecorded cultural resources to be affected by the proposed Specific Plan.

## **Energy**

The EIR will include an analysis of energy-related impacts related to Specific Plan implementation. This includes identifying energy sources and estimating the operational energy demands associated with the proposed Specific Plan.

## **Geology, Soils, Minerals, and Paleontological Resources**

The EIR will describe potential effects related to seismic activity and soils constraints, as well as the erosion potential of the site's soils. The City will use the sensitivity paleontological assessment recently conducted to support the General Plan and General Plan EIR to evaluate potential paleontological resources impacts. There are no identified significant mineral resource zones in the Specific Plan Area.

## **Greenhouse Gas Emissions**

The EIR will briefly assess the consistency of the Specific Plan with the City's Climate Action Plan as a way of documenting potential greenhouse gas emissions impacts and supporting the City's environmental findings for this topic.

## **Hazards and Hazardous Materials**

The EIR will discuss the potential for hazardous material exposure either during construction or during long-term occupation of development. Potential hazards related to the provision of emergency services, fire hazards, any residual on-site hazardous materials, and routine use of hazardous materials during operation of proposed land uses.

## **Hydrology and Water Quality**

The EIR will describe hydrologic conditions in the Specific Plan Area and evaluate the effects of the Specific Plan on hydrologic features. This evaluation will include the Specific Plan's consistency with the requirements of water quality and drainage regulations. The EIR will report on impacts related to alteration of on-site and off-site drainage patterns; erosion; stormwater discharges; groundwater recharge; water quality; and flooding.

## **Land Use and Planning/Population/Housing**

The EIR will provide a brief analysis of consistency with environmental policies from the General Plan, the Sacramento Area Council of Governments' Sustainable Communities Strategy/Metropolitan Transportation Plan, and Local Agency Formation Commission policies and standards. The population, housing, and employment analysis will include a review of changes in population, demographics, housing, and employment resulting from the proposed Specific Plan.

## **Noise and Vibration**

The noise section of the EIR will include a description of the existing noise environment in the Specific Plan Area, based on existing environmental documentation, on-site reconnaissance data, and data and analysis from the General Plan and General Plan EIR. Noise levels of construction equipment will be presented and resultant noise levels at receptors (at given distances from the source) will be calculated. The analysis of long-term (operational) noise impacts associated with the proposed project will include noise increases generated by vehicle traffic on local roadways.

## **Public Services and Utilities, including Recreation**

The EIR will highlight any secondary impacts associated with project generated demand for expanded facilities. Water supply and conveyance, recycled water conveyance and irrigation, wastewater collection and treatment, solid waste, and natural gas and electrical services will be described and addressed based on information prepared to support the Specific Plan. The Public Works Department will prepare a water supply assessment to

document and provide verification that sufficient water supplies are available to meet the proposed Specific Plan's projected water demands during normal, single-dry, and multiple-dry water years.

### **Transportation and Circulation**

Traffic will be described and addressed in this section of the EIR based on a traffic study prepared for the City. The traffic study will identify existing conditions, existing plus project conditions, cumulative no-project conditions cumulative plus project conditions. The EIR will include a discussion of consistency of the Specific Plan with the City's travel demand (VMT) policy.

### **CEQA-Required Sections**

The EIR will provide description and analysis of cumulative impacts and growth inducement issues based on the foundation provided by the City's General Plan and General Plan EIR.

## **Burrowing Owl Preservation Society**

**A non profit organization dedicated to increasing the burrowing owl population  
through education and enhancement of grassland habitat**

**14841 CR 91 B, Woodland CA 95695**

[cportman@gmail.com](mailto:cportman@gmail.com)

**530-666-0882**

[www.burrowingowlpreservation.org](http://www.burrowingowlpreservation.org)

**July 17, 2017**

**Erika Bumgardner, AICP, Senior Planner**

City of Woodland, Community Development Department

300 First Street, Woodland, CA 95695

Thanks for the Notice of Preparation for Woodland Research & Technology Park.

The scope of the EIR must include thorough biological assessment. On 351 acres there will be significant impacts to many species some of which are listed in the General Plan EIR including burrowing owls.

Burrowing owl surveys must be done according to protocols described in the 2012 CDFW's Staff Report on Burrowing Owl Mitigations to assure burrowing owls are detected. And burrowing owl wintering habitat use must also be assessed.

The wildlife agencies, CDFW and USFW must be consulted.

Cincerely Yours,

Catherine Portman, President



**DEPARTMENT OF TRANSPORTATION**

DISTRICT 3 – SACRAMENTO AREA OFFICE  
2379 GATEWAY OAKS DRIVE, STE 150 – MS 19  
SACRAMENTO, CA 95833  
PHONE (916) 274-0638  
FAX (916) 263-1796  
TTY 711



*Serious drought.  
Help save water!*

July 17, 2017

YOL-2017-00034  
SCH #2017062042

City of Woodland  
300 First Street  
Woodland, CA, 95695

**Notice of Preparation (NOP) for the Woodland Research & Technology Park Specific Plan draft Environmental Impact Report (EIR)**

Dear Ms. Erika Bumgardner:

Thank you for including the California Department of Transportation (Caltrans) in the application review process for the project referenced above. Caltrans' new mission, vision, and goals signal a modernization of our approach to California's transportation system. We review this local development for impacts to the State Highway System in keeping with our mission, vision and goals for sustainability/livability/economy, and safety/health. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl.

This project proposes a commercial mixed-use town center with a range of housing options, all connected to provide for approximately 2.15 million square feet of non-residential building space, for approximately 6,100 employees and 1,600 housing units. The project is located in the southern portion of the City's Planning Area, adjacent to the existing City limits, in an area bound by Farmers Central Road to the north, County Road 101 to the east, SR 113 to the west, and County Road 25A to the south.

Based on the project information provided, a Multi-Modal Transportation Impact Analysis should be prepared to assess potential impacts to the State Highway System (SHS). The analysis should measure Vehicle Miles Traveled (VMT) generated by the project with a trip distribution diagram and also analyze and identify any potential Safety issues for all modes. The scope of the analysis should include SR113, between Woodland and Davis, I-5 mainline within the project vicinity, the CR 102/I-5 interchange, the SR113/I-80 interchange, and I-80 within the project vicinity. Our preliminary analysis shows that the residential portion of the project is expected to generate approximately 1232 a.m. and 1632 p.m. peak hour trips.

Mitigation proposed in the analysis should include Transportation Demand Management and Access Management projects and strategies that increase multimodal access and reduce VMT on the SHS.

City of Woodland

May 12, 2017

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In addition to identifying project impacts and mitigations, Caltrans requests that the DEIR provide detailed information regarding the feasibility of identified mitigations, as required by Section 21081.5 of the CEQA Guidelines, as well as the specific implementation and monitoring measures needed to ensure the completion of required mitigation, as directed by Section 15097 of the CEQA Guidelines. Specifically, Caltrans requests that the DEIR identify both direct and cumulative mitigations, their compatibility or incompatibility with Caltrans' and Woodland's long-range system plans, the design and cost of direct mitigations, the total amount of fair share payments that the project will contribute to mitigate its cumulative impacts through either AD Hoc or uniform area-wide impact fees, and information regarding how the required mitigations will actually be carried out.

We would like to schedule a meeting with you to better understand to your agency's transportation planning objectives, to discuss this project, and to assist with scoping the traffic impact study (TIS) that will be used to assess its potential impacts.

Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Jacob Buffenbarger, Intergovernmental Review Coordinator at (916) 263-1625 or by email at: [Jacob.Buffenbarger@dot.ca.gov](mailto:Jacob.Buffenbarger@dot.ca.gov).

Sincerely,



JEFFREY MORNEAU, Chief  
Office of Transportation Planning – South Branch

CC: State Clearinghouse





EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**Central Valley Regional Water Quality Control Board**

11 July 2017

Erika Bumgardner  
City of Woodland  
300 First Street  
Woodland, CA 95695

CERTIFIED MAIL  
91 7199 9991 7035 8361 5493

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT, WOODLAND RESEARCH AND TECHNOLOGY PARK SPECIFIC PLAN PROJECT, YOLO COUNTY**

Pursuant to the City of Woodland’s 16 June 2017 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation of Environment Impact Report* for the Woodland Research and Technology Park Specific Plan Project, located in Yolo County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

**I. Regulatory Setting**

**Basin Plan**

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State’s water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:  
[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/).

### **Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:  
[http://www.waterboards.ca.gov/centralvalleywater\\_issues/basin\\_plans/sacsjr.pdf](http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf)

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

## **II. Permitting Requirements**

### **Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml).

### **Phase I and II Municipal Separate Storm Sewer System (MS4) Permits<sup>1</sup>**

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/municipal\\_permits/](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/).

For more information on the Caltrans Phase I MS4 Permit, visit the State Water Resources Control Board at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/caltrans.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.shtml).

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/phase\\_ii\\_municipal.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml)

### **Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/industrial\\_general\\_permits/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml).

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<sup>1</sup> Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.



#### **Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

#### **Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance (i.e., discharge of dredge or fill material) of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

#### **Waste Discharge Requirements (WDRs)**

##### *Discharges to Waters of the State*

If USACOE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

##### *Land Disposal of Dredge Material*

If the project will involve dredging, Water Quality Certification for the dredging activity and Waste Discharge Requirements for the land disposal may be needed.

##### *Local Agency Oversight*

Pursuant to the State Water Board’s Onsite Wastewater Treatment Systems Policy (OWTS Policy), the regulation of septic tank and leach field systems may be regulated under the local agency’s management program in lieu of WDRs. A county environmental health department may permit septic tank and leach field systems designed for less than 10,000 gpd. For more information on septic system regulations, visit the Central Valley Water Board’s website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/owts/sb\\_owts\\_policy.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/owts/sb_owts_policy.pdf)

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:  
[http://www.waterboards.ca.gov/centralvalley/help/business\\_help/permit2.shtml](http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml).

### **Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2003/wqo/wqo2003-0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf)

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/waivers/r5-2013-0145\\_res.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf)

### **Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: [http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/app\\_approval/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml); or contact water board staff at (916) 464-4611 or via email at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other

action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).

### **Low or Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0074.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf)

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0073.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf)

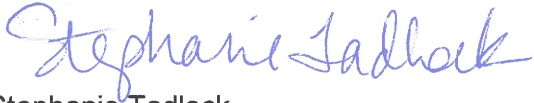
### **NPDES Permit**

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/help/business\\_help/permit3.shtml](http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml)

If you have questions regarding these comments, please contact me at (916) 464-4644 or  
[Stephanie.Tadlock@waterboards.ca.gov](mailto:Stephanie.Tadlock@waterboards.ca.gov).



Stephanie Tadlock  
Environmental Scientist

**Woodland Research & Technology Park Specific Plan  
Environmental Impact Report  
Comment Card**



Name: Laurie Gads Organization/Address: 2201 Maister Dr.  
Email: lauriegads1@gmail.com Woodland, CA 95776

Please add me to the mailing list for this project.

Appendices F and G to the California Environmental Quality Act Guidelines (CEQA) suggest that communities study applicable aspects of the following topics in an environmental impact report (EIR):

- ▶ Aesthetics
- ▶ Agriculture
- ▶ Air Quality
- ▶ Biological Resources
- ▶ Cultural and Tribal Resources
- ▶ Energy
- ▶ Geology and Soils, Minerals, and Paleontological Resources
- ▶ Greenhouse Gas Emissions
- ▶ Hazards and Hazardous Materials
- ▶ Hydrology and Water Quality
- ▶ Land Use and Planning
- ▶ Noise and Vibration
- ▶ Population / Housing
- ▶ Public Services and Recreation
- ▶ Transportation/Traffic
- ▶ Utilities and Service Systems

**Q:** Does this list leave out any important topics? If so, which ones and why? Should any topics be dismissed from further consideration? If so, which ones and why?

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**Q:** Due to what you know about the location, scale, or character of this Specific Plan, should the EIR place particular focus on certain topics? If so, which ones?

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**Q:** Are there existing conditions in the Specific Plan Area or in the vicinity of the Specific Plan Area we should focus on in the EIR analysis? If so, please describe these conditions.

I would like to encourage putting CR 25A through to CR 102 sooner than later.



**Mitigation Measures**

**Q:** Mitigation measures are changes to the design, phasing, operation, or construction practices that would reduce or avoid environmental impacts. Please suggest mitigation measures that could address impacts of this Specific Plan. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Alternatives**

**Q:** The City will consider alternatives that meet the objectives for the Specific Plan and reduce or avoid environmental impacts. This could include an alternative designs for the Specific Plan, alternative mixes of land use, alternatives for transportation, or other options. Do you have ideas for alternatives that would reduce or avoid environmental impacts?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Interested Parties**

**Q:** Do you know of public agencies, public or private groups, or individuals that the City should contact regarding this Specific Plan and the accompanying EIR? If so, please list them.

*Dr. Dican Westworth could not attend the meeting but  
wants to be informed  
2209 Marston drwestworth@gmail.com*



If you would prefer to take this card with you and provide comments later, please send them **no later than July 17, 2017 by 5:00 p.m.** to:

**Erika Bumgardner, Senior Planner  
City of Woodland  
300 First Street  
Woodland, CA 95695  
erika.bumgardner@cityofwoodland.org**

You can find additional information related to the Specific Plan on the City's website:

<http://www.cityofwoodland.org/researchpark>

# WOODLAND RESEARCH & TECHNOLOGY PARK

Land Evaluation and Site Assessment

**SCORE = 84.8**

April 4, 2017



## USDA NATURAL RESOURCES CONSERVATION SERVICE

221 West Court, Suite 1  
Woodland, CA 95695  
(530) 207-6526

[phil.hogan@ca.usda.gov](mailto:phil.hogan@ca.usda.gov)

**Yolo County LESA Model  
Land Evaluation Worksheet**

(See Yolo LESA narrative for detailed scoring instructions)

Name of Project: Woodland Research & Technology Park LESA Evaluation

**1. Land Capability Classification, and 2. CA Revised Storie Index Scoring:**

A	B	C	D	E	F	G	H
Soil Type (Map Unit)	Area	% (B/total area)	LCC	LCC pts	LCC Score (C * E)	Revised SIR	SIR Score (C * G)
St	1.4	0.4	I-1	100	0.4	62	0.25
Ra	9.9	2.9	I-1	100	2.9	98	2.84
BrA	12.7	3.7	I-1	100	3.7	88	3.26
Ca	124.6	36.6	II-s	80	29.3	45	16.47
Ya	192.3	56.4	I-1	100	56.4	98	55.27
<b>Total Area:</b>	<b>340.9</b>	<b>100.0</b>		<b>LCC Score</b>	<b>92.7</b>	<b>SIR Score</b>	<b>78.09</b>

**LCC Point Assignment Table:**

LCC	I	Ile	IIs,w	IIle	IIIs,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

**3. Irrigated Farmland Scoring:**

Total area of project: \_\_\_\_\_ **340.9 (a)**

Area of project that is irrigated: \_\_\_\_\_ **340.9 (b)**

(b)/(a) x 100 = : \_\_\_\_\_ **100 % of the project that is irrigated**

Length of project perimeter: \_\_\_\_\_ **18,322.3 feet (c)**

Length of perimeter adjacent to irrigated farmland: **5,940.6 feet (d)**

(d)/(c) x 100 = : \_\_\_\_\_ **32.4% surrounded by irrigated farmland**  
(See table below for appropriate irrigated Farmland Score:)

% of project that is irrigated	Score if ≥ 50% surrounded by irrigated farmland	Score if < 50% surrounded by irrigated farmland
75 - 100	100	100
50 - 74	80	60
1 - 49	80	40

0	80	0
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**Yolo County LESA Model  
Site Evaluation Worksheet**

(See Yolo LESA narrative for detailed scoring instructions)

**Name of Project:** Woodland Research & Technology Park LESA Evaluation

**1. Project Size:**

	Acres	Earned Points
Class I and II Acres	340.9	100
Class III Acres	0	0
Class IV or lower Acres	0	0
Totals:	340.9	100

**Project Size Score:** 100

Project Size Scoring Table:

Class I & II Acres		Class III Acres		Class IV or Lower	
Acreage	Points	Acreage	Points	Acreage	Points
> 80	100	>160	100	>320	100
60-80	90	120-160	90	240-320	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
< 10	0	20-39	30	< 40	0
		10-19	10		
		< 10	0		

**2. Urban Separation:**

(Area of project not in urban conflict) ÷ (Total area of project) x 100 = Separation from Urban Conflict Score:

( 297.8 ) ÷ ( 340.9 ) X 100 = **Urban Separation Score = 87.4** (For this project)

**3. County Zoning:**

Is project, or portion of project, Zoned AP (Agricultural Preserve - Y/N)? y (AN)

Total length of project perimeter: 18,322.3 ft." (a)

Length of perimeter directly adjacent to AP Zone: 4,544.0 ft" (b)

(b) ÷ (a) x 100 = (% of perimeter Zoned AP) 24.8 % of AP perimeter

(See table below to assign appropriate Zoning score.)

**County Zoning Score:** 50

County Zoning Score Table:

Project Zoning	Perimeter Zoning	Zoning Score
Zoned AP	≥ 75% of perimeter Zoned AP	100
Zoned AP	50% - 74% of perimeter Zoned AP	75
Zoned AP	≤ 49% of perimeter Zoned AP	50
Not Zoned AP	≥ 75% of perimeter Zoned AP	100
Not Zoned AP	50% - 74% of perimeter Zoned AP	50
Not Zoned AP	≤ 49% of perimeter Zoned AP	0



# Yolo County LESA Model

## Combined Land Evaluation and Site Assessment Project Score Sheet

Name of Project: Woodland Research & Technology Park LESA Evaluation

<u>Evaluation Factors:</u>	Score	Weight	Weighted Score
<b>Land Evaluation Scores:</b>			
<b>Land Capability Classification:</b>	92.7	X (0.20) =	18.54
<b>Storie Index Rating:</b>	78.09	X (0.20) =	15.62
<b>Irrigated Farmland Score:</b>	100	X (0.10) =	10.00
<b>Site Assessment</b>			
<b>Project Size Score:</b>	100	X (0.20) =	20.00
<b>Separation from Urban Conflict Score:</b>	87.4	X (0.15) =	13.11
<b>County Zoning Score:</b>	50	X (0.15) =	7.5
(Sum the above weighted scores to obtain the Total LESA Score)			<b>Total LESA Score: 84.8</b>

Worksheet Completed By: Phil Hogan

Title: District Conservationist

Address: USDA NRCS 221 W. Court Ste 1

Phone: (530) 207-6526

Woodland, CA 95695

Fax: (844) 206-7025

email: phil.hogan@ca.usda.gov

Date: 4/4/2017

WOODLAND RESEARCH AND TECHNOLOGY PARK  
COMMENTS: Submitted by Phil Hogan  
June 21, 2017

The time for changing the metric of measuring economic growth is here.

No longer can we measure economic success just by the number of jobs created, acres of farmland converted to urban use, etc. Economic growth also depends on the maintenance of the inherent capacity of the land to be developed to continue providing for environmental benefits.

The amenities that farmland affords go way beyond food production (although, in my view, that is the most important).

Anytime farmland is planned to be converted to urban use, not only should the food-producing benefit of that land be mitigated (through easements and other tools), the other values that farmland produces should also be mitigated for.

When it comes to food production on developed land, that should be integrated, right up front, into the overall development plan. Look at what the Cannery development in Davis has accomplished with its Urban Farm. In addition, I have witnessed hydroponic greenhouses in Ventura County that produce many times more tomatoes on a per-acre basis than what we do here in the Sacramento Valley (these greenhouse tomatoes are fresh-market tomatoes, not the processing tomatoes we grow here).

These values and amenities other than food production include:

1. Groundwater Recharge
  - a. When farmland is converted to urban use, it is possible to retain the soil's infiltration capacity for groundwater recharge.
  - b. Technology exists in paving and roofing materials that allow rainwater to infiltrate THROUGH pervious surfaces.
  - c. A calculation needs to be performed on the total groundwater recharge that takes place on this parcel as it exists now (farmland). This would be the BEFORE situation.
  - d. Any development of this area should result in a net-zero change in this land's ability to allow for infiltration of rainwater and other water sources (irrigation, etc) after it is developed. No longer can we allow most of water that falls on this land to simply run off, resulting in drainage and flooding problems downstream.
  - e. So, another calculation needs to be performed here that determines how much of this proposed research park needs to have pervious surfaces (both open land and pervious surfacing materials and technology) that results in the



same groundwater recharge potential as before the land is developed. This would be the AFTER situation.

- f. Factors that need to be considered are the soils and their infiltration rates.

## 2. Flood Control

- a. This is closely related to Groundwater Recharge above. The more water is allowed to infiltrate into the soil, the less that will run off, increasing the flooding potential downstream.
- b. Before land in the Sacramento Valley evolved into irrigated farmland, it was not leveled to irrigation grade. The land had undulations, little peaks and valleys if you will, that served to trap rainwater and hold it until it had a chance to infiltrate into the soil. When the soil was saturated and could no longer absorb any additional water, then, and only then, did the water run off of the fields. This runoff was naturally 'metered.'
- c. Developed land must adopt this natural function as well. The site should not be leveled to the point that allows water that can no longer be absorbed by the soil to simply run off to downstream areas. Methods needs to be devised to capture and hold any excess runoff. This will result in greater groundwater recharge and less flooding downstream.

## 3. Wildlife Habitat

- a. It is widely held that urban development and wildlife cannot co-exist. It is true that the highest quality habitat is that which most approximates the natural conditions that existed even before agricultural development. Many hundreds of millions of dollars are spent in the U.S. every year to restore both agricultural land and developed land back into its native state (albeit, a tiny, tiny fraction in the overall scope of things).
- b. If we cannot have habitat afforded by land's native, original condition, then agricultural land is the next best choice. And within this ag category, certain types of agriculture are higher quality habitat than others. For example, open alfalfa hayland is far superior habitat for the Swainson's Hawk than the orchards that are starting to dominate our agricultural landscape here in Yolo County.
- c. And, if we cannot have habitat afforded by agricultural land, then the proposed urban development must plan for habitat that is integrated into the overall development, and, not just as an after-thought if there is any space left over when the development is built-out.
- d. Habitat that is to be planned for within a developed land framework must first start with addressing this question: In a developed land situation, what wildlife species are we trying to provide habitat for? What species are appropriate for an urban setting? Do we want just song birds, or, do we want to be BOLD, and strive to establish a diverse array of habitat types (wetlands, uplands, riparian, etc)?
- e. Of course, paramount would be the safety of residents, employees, and motorists. We do not want to see a lot of traffic accidents resulting from vehicles colliding with deer, etc.

- f. Wildlife helps to instill a sense of wonder in our younger generations. Do you remember when the first time you saw an eagle or caught your first fish? The standard development of today, paving from one corner of the property to the next, instills no such sense of wonder.

4. Open Space Retention

- a. OK, I know I'm supposed to keep things on an objective level here. However, there is nothing more heartbreaking (to me, anyway) than to see what was once agricultural land, native land, and open space converted to wall-to-wall development.
- b. Even the most remote areas of our nation are filling in with development. I fly over Nevada, and, at 35,000 feet, can see all of the 5-acre "ranchettes" spring up across this beautiful sagebrush landscape. Reno has observed growth in California very closely, but has gone in the wrong direction with its rampant sprawl and decreasing air quality.
- c. I tend to think of it in this way: For land that is about to be developed, all of the wonderful amenities of the property that took tens of millions of years to evolve can be destroyed in one day's work with a bulldozer. Think of it, tens of millions of years of evolution destroyed in one fell swoop of earthmoving equipment.
- d. Open Space inspires people. Traditional urban development does not. When planning for this Research and Technology Park, we want something the citizens of Woodland can be proud of. It is to be located in a gateway setting of our great city. I would hope that when the community is asked for its initial input, that how this development will help to instill that sense of inspiration into folks is the first, and foremost, guiding principal of this 351 acres.
- e. Please take a look at some of the initial nighttime satellite imagery from the 1960's of our nation, and compare it to today. The dark spaces of the map, our open spaces, agricultural land, recreational areas, etc. are quickly developing, and, in a few years, the lights of our urban areas will then be the defining feature of this map.
- f. We want this development to continue to be displayed as one of those dark areas at night on the satellite imagery. Just because it will be developed does not mean that we have to fill the night sky with blinding light.

5. Energy Conservation

- a. I am not an expert in this area, so my comments will be kept brief.
- b. It will go without saying that the energy requirements, once developed, will be many times more than what the farmers needed to grow their crops. The Community Choice Energy Committee in Woodland is working hard to insure that our future energy is produced from a wide diversity of sustainable sources.
- c. However, I must caution this: Let's not assume that because we switch to more and more wind, solar, and other "green" sources that all of our energy problems will be solved. Alternative energy sources are not truly green, or

sustainable, if the infrastructure for these sources are built on farmland. Even "sustainably" produced energy from a far distance has to be transported. There are currently plans to build transmission lines in Yolo County, on farmland, to transport this energy to this area. There simply is no such thing as a "Free Lunch" when it comes to energy development. Every source of energy has a price, and we are obligated to educate the public about what this price is.

- d. Also, the raw materials and natural resources that have to be extracted from the Earth to manufacture solar panels will exact an environmental price tag in and of itself. There are many that are concerned if there will be enough economically extractable raw materials to fuel the exponential growth of this sector of the energy market.

#### 6. Climate Change and Carbon Sequestration

- a. Again, I'm no expert at this area as well, although the agency that I work for, the USDA Natural Resources Conservation Service, has been charged by Congress to develop the expertise of our field employees to assist farmers and ranchers address Climate Change through their farming practices.
- b. Carbon sequestration is an example of an ecosystem service provided by farmland. Agricultural soils sequester carbon dioxide, the most prevalent of the greenhouse gasses addressed by the Kyoto Protocol. In the past, conventional crop practices have caused agricultural soil carbon levels to decline by 25 to 50 percent relative to uncultivated soils. Adopting alternative farming practices such as reducing tillage or changing crop rotations can increase the amount of carbon sequestered, helping to mitigate global warming. All of this progress will be for nothing if we allow agricultural land to be developed at its current pace. It is estimated that 50,000 acres of Prime Farmland are lost to development in California on an annual basis. Once this land is developed, the capacity of the soil to sequester carbon will be greatly reduced.

#### 7. Others

- a. Farmland provides a host of other benefits to our environment. I have touched on only a few. All I ask is that at the very beginning of the planning process for this project that a wide diversity of interest groups and individuals in Woodland sit down and identify those benefits that farmland produces that they want to be retained, even enhanced, by this proposed Research and Development Park.
- b. If we dream it, we can make it happen.

#### CONCLUSION:

Am I concerned about the impacts the proposed Woodland Research and Technology Park will have on the environment, especially the loss of 351 acres of Prime Farmland and the implications this holds for reducing our capacity to grow food? Yes, of course!

However, I am equally excited about the possibilities of this proposed project to enhance our natural resources and improve the quality of life for our citizens IF this development is planned with all of the factors that I have discussed above. Wildlife, food production, climate change reduction are all natural resource issues that can be addressed if we start, and carry through, in the planning process that Woodland, California, is now this region's leader and innovator in sustainable development.

We can be proud of the work we have done with our new Surface Water Project and the use of Aquifer Storage and Recovery (ASR) wells to provide a clean and abundant source of water for the future. It is my hope, and my dream, that we can build on this and show that *ALL* aspects of development in Woodland are sustainable not just in the present, but for the future as well. We owe nothing less to our children and grandchildren.

Submitted by:

PHIL HOGAN  
District Conservationist  
USDA Natural Resources Conservation Service  
221 West Court Street, Suite 1  
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YOLO  
LOCAL  
AGENCY  
FORMATION  
COMMISSION



July 12, 2017

Erika Bumgardner, Senior Planner  
City of Woodland  
300 First Street  
Woodland, CA 95695

Re: Notice of Preparation for the Woodland Research & Technology Park Specific Plan EIR

Dear Ms. Bumgardner:

Thank you for the opportunity to comment on the Notice of Preparation for the Woodland Research & Technology Park Specific Plan DEIR. As you are already well aware, LAFCo will be a responsible agency for this project and if the project is approved by the City Council, LAFCo will use this EIR to process a subsequent sphere of influence amendment and annexation of the project area to the City of Woodland.

As such the project and DEIR analysis must comply with the Yolo LAFCo's Standards of Evaluation for Proposals for a Change of Organization or Reorganization and Agricultural Conservation Policies (see attached). In particular, the following issues need to be addressed in the project and its Draft EIR:

- Impacts to agricultural resources from developing the project itself, plus the continued productivity and viability of surrounding agricultural lands (LAFCo notes that this project along its southern boundary would be the ultimate/final City boundary and permanent urban/agricultural interface. Therefore, the project should include 500' buffers as required by the County Agricultural Commissioner);
- Housing need for the project; and
- Water and water availability.

Please note that LAFCo has a different definition in state law for prime agricultural land than what is more commonly used. Specifically, the soils can qualify as prime agricultural land regardless of whether the soils are irrigated or not.

Thank you again for consulting with Yolo LAFCo. If you have any questions, please feel free to contact me.

Best regards,

A handwritten signature in blue ink, appearing to read "Christine M. Crawford".

Christine M. Crawford, AICP

encl: Standards of Evaluation for Proposals for a Change of Organization or Reorganization  
Yolo LAFCo Agricultural Conservation Policies

CHAIR  
OLIN WOODS  
Public Member

VICE CHAIR  
MATT REXROAD  
Supervisor – 3<sup>rd</sup> District

CECILIA AGUIAR-CURRY  
Mayor  
City of Winters

DON SAYLOR  
Supervisor – 2<sup>nd</sup> District

WILL ARNOLD  
Councilmember  
City of Davis

ALTERNATES  
VACANT  
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## **1.0 GENERAL PROVISIONS**

### **1.1 TITLE**

The Yolo County Local Agency Formation Commission (“LAFCo” or “Commission”) hereby adopts the following Project Policies governing common applications and LAFCo studies considered by the Commission. These policies supersede those previously adopted, shall apply to LAFCo and are adopted pursuant to the authority vested in the Commission by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, Government Code Section 56000, et seq. (“CKH Act”). These policies shall guide the decision-making of the LAFCo Executive Officer and the Commission.

## **2.0 STANDARDS OF EVALUATION FOR PROPOSALS FOR A CHANGE OF ORGANIZATION OR REORGANIZATION**

The following standards are adopted for the evaluation of proposals for a change of organization or reorganization of local agencies.

### **2.1 CHOICE OF ENTITY**

The provision of municipal services in highly urbanized areas by cities rather than by counties or special districts is favored. The further development of single purpose autonomous districts is disfavored. The formation of multi-purpose special districts contiguous to existing cities is disfavored. The creation of a multiplicity of small cities is disfavored. Accommodating additional growth within, or through the expansion of, the boundaries of those local agencies which can best accommodate and provide necessary governmental services and housing for persons and families of all incomes in the most efficient manner feasible is favored.

### **2.2 DUPLICATION OF AUTHORITY**

The inclusion of territory within a city in one or more districts with common powers, or within two or more districts with common powers, is disfavored. The Commission shall determine whether an application violates the policy set forth in the preceding sentence. If the determination is in the affirmative, the Commission shall provide each affected city or district an opportunity to express its views to the Commission.

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### **2.3 TERRITORY TO BE INCLUDED**

The division of existing identifiable communities is disfavored, but at the same time the inclusion of heterogeneous economic and social interests within the same entity is favored. The division of existing communities identifiable on the basis of appreciable social, economic, or other factors is disfavored. The division of existing commercial districts is disfavored. The inclusion of contiguous or nearby urban areas within the same entity is favored. The inclusion of separate existing contiguous or nearby communities identifiable on the basis of appreciable, social, economic, or other factors is favored. Consistency with current spheres of influence is favored. Conformity with appropriate city or county general and specific plans is favored. The location of boundary lines of areas proposed for annexation to cities or districts so as to promote productivity and preservation of agricultural land is favored. Proposals which result in significant or serious operational or economic problems or disruptions of existing services in remaining adjacent territory are disfavored.

### **2.4 ECONOMIC FEASIBILITY OF PROPOSED FORMATIONS**

If the proposal is for the formation of a new agency, the proponents shall demonstrate the economic feasibility of the proposed formation, taking into account both the assessed valuation of the subject territory and any other sources of revenue, compared to the type and cost of the services proposed to be provided. Any economic feasibility study shall include and address the following considerations:

- a) Infrastructure needs or deficiencies;
- b) Growth and population projections for the affected area;
- c) Financing constraints and opportunities;
- d) Cost avoidance opportunities;
- e) Opportunities for rate restructuring;
- f) Opportunities for shared facilities;
- g) Government structure options, including advantages and disadvantages of consolidation or reorganization of service providers;
- h) Evaluation of management efficiencies; and
- i) Local accountability and governance.

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A proposal for the formation of a new agency shall also be accompanied by an analysis of the availability and economic feasibility of obtaining the proposed services from other private and public agencies.

## **2.5 FUTURE SERVICE**

In evaluating a proposal, the Commission shall consider not only present service needs of the area under consideration, but shall also consider future services which may be required to take care of future growth or expansion. If a proposal is submitted to extend services into a previously unserved unincorporated area or to create a new service provider with the power or authority to extend services to urban type development in a previously unserved unincorporated area, the Commission will review the proposal to ensure that it is consistent with the policies set forth in State law and LAFCo policies.

## **2.6 DESCRIPTION, SERVICE PLAN, AND TIMETABLE REQUIRED**

Any proposal to annex shall be accompanied by a service plan that describes the extension and financing of services and timing of major milestones of any related development project.

## **2.7 TERMS AND CONDITIONS**

Any term or condition recommended for the Commission to impose pursuant to Government Code §56885.5 et seq. must be presented by a statement in writing that includes a description of each proposed term and condition. If the term or condition is proposed by an affected public agency, the statement in writing must be signed by the chief legislative or administrative officer of the agency. If the term or condition is proposed by a proponent, it must be signed by one of the proponents. In the absence of protest, the Commission shall evaluate the proposed terms and conditions on the basis of the written statement. In the case of a protest that is not resolved at the public hearing, the Commission may direct the Executive Officer to negotiate with the opposing parties and may also authorize independent evaluation of issues involved in the dispute.

## **2.8 BOUNDARIES**

Boundary descriptions of territory included in any proposal shall be definite and certain. If the Commission determines that the boundary is indefinite or uncertain, it shall refer the proposal back to the proponents and require the proponents to submit a reviewed boundary description at the public hearing which is certified by the County Surveyor as being definite and certain. If the Commission requires the inclusion of territory in addition to that proposed in an application, it may direct the County Surveyor to prepare a new boundary description.

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Boundaries that split lines of assessment or legal parcel boundaries are disfavored. Boundaries which follow existing political boundaries and natural or manmade features such as rivers, lakes, railroad tracks, roads and freeways are favored. Boundaries which create islands, strips, or corridors are disfavored. Boundary lines of areas proposed for annexation to cities or districts, which include, where possible, land abutting both sides of a given street or right of way within the same entity are favored. When a boundary must follow a street or highway, the boundary will include the complete right of way for the entire street or highway.

## **2.9 PRE-ZONING**

Any proposal for the annexation of territory to a city shall be accompanied by the city's general plan and pre-zoning for that territory, including the planned and probable use of the territory based upon the general plan and pre-zoning designations.

## **2.10 REGIONAL HOUSING**

LAFCo encourages all pertinent agencies, both public and private, to collaborate on effective solutions to introduce more affordable housing into the County, including more housing for farm workers.

A proposal's effect on a city or cities and the County's ability to achieve their respective fair shares of the regional housing needs as determined by the Sacramento Area Council of Governments ("SACOG") shall be considered. In such consideration, the Commission shall review all relevant information presented to it, including but not be limited to, the following:

- a) The agency's regional housing needs allocation as determined by SACOG;
- b) Whether the affected agency has recently updated (within five years) the housing element of its general plan;
- c) Whether the affected agency has a certified housing element in its general plan;
- d) Whether the agency has an inclusionary housing ordinance that meets the minimum standard of the SACOG Affordable Housing Compact;
- e) The degree to which the agency has zoned adequate amounts and quality of land for housing;
- f) The degree to which development within the agency has met that agency's its "low income" and "very low income" housing targets as determined by SACOG;

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- g) Whether an agency had recently changed the affected territory's zoning from residential to a non-residential use; and
  - h) The extent to which the territory to be annexed will advance, or inhibit, the principles, goals, objectives, policies, and standards of the agency's housing element, including
    - i) Whether the territory to be annexed to a city will reduce another jurisdiction's ability to meet its housing element;
    - ii) Whether the proposal will advance or inhibit the agency's and other agencies' jobs/housing balance; and
    - iii) In cases where the territory to be annexed will be used for non-residential purposes, whether said territory was designated for housing by another agency.

## **2.11 WATER AND WATER AVAILABILITY**

For any proposal that entails the provision of water services, the timely availability of water supplies adequate for projected needs will be evaluated as specified in Government Code §56668(l) and 65352.5. The applicant will provide information that addresses the factors set forth in Government Code §65352.5(c).

The applicant will also provide sufficient information for the Commission to determine that adequate services, facilities, and improvements can be provided and financed by the agency responsible for the provision of water services, including but not limited to:

- a) A "will serve" letter from the agency dated within six (6) months of the date of the Commission's consideration of the proposal; or
- b) An agreement between the developer and the agency sufficient for the agency to provide water services.

In evaluating the annexing agency's capacity to provide water, the Commission shall take into account the agency's ability to acquire the resources necessary to provide this service, including but not limited to securing water rights.

Annexation to an agency that has a cease and desist order, water connection moratorium, or similar service limitation preventing it or directing it not to issue additional water connections is disfavored.

The Commission may waive any of the foregoing requirements on a case-by-case basis if it determines there is a public health or safety threat that justifies the extension of water service.

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## **2.12 ENVIRONMENTAL JUSTICE**

The extent to which the proposal will promote environmental justice shall be considered. As used in this subdivision, “environmental justice” means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.

## **2.13 PROPERTY TAX TRANSFER NEGOTIATIONS**

Property tax exchange negotiations must be completed and filed with the Executive Officer before a Certificate of Filing may be issued.

## **2.14 USE OF STANDARDS**

In the evaluation of a proposal, the Commission shall consider these Standards for Evaluation, the Agricultural Conservation Policy, the Land Evaluation and Site Assessment model, any applicable sphere of influence, and any other criteria and requirements as may be adopted by the Commission from time-to-time, the requirements and criteria set forth in the Local Government Reorganization Act of 2000 (as it may be amended from time-to-time), including but not limited to Government Code § 56668, any relevant information concerning the proposal, the environmental review document, the Executive Officer's report, presentations of all interested parties at the public hearing, and any other relevant information as may be submitted to the Commission in connection with its consideration of the proposal.

## **3.0 OUT OF AGENCY SERVICE REVIEW**

### **3.1 APPLICABILITY**

Government Code § 56133 requires that districts and cities obtain LAFCo approval of any new or extended services outside the agency’s existing boundaries. For the Commission to approve the request, the area to be served must be within the sphere of influence (“SOI”) of the agency, and annexation of the territory is anticipated. LAFCo may also authorize extended services outside an agency’s SOI to respond to an existing or impending public health or safety threat (e.g. failing well or septic system).

The following services are exempt from this code section:

- a) Contracts or agreements solely involving two or more public agencies where the public service to be provided is an alternative to, or substitute for, public services already being provided by an existing public service provider and where the level of service to



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## **4.0 AGRICULTURAL CONSERVATION**

### **4.1 LEGISLATIVE MANDATE**

California Government Code § 56377 mandates LAFCO consider the following factors. In reviewing and approving or disapproving proposals which could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses, the commission shall consider all of the following policies and priorities:

- a) Development or use of land for other than open-space uses shall be guided away from existing prime agricultural lands in open-space use toward areas containing non-prime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area.
- b) Development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open-space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency.

### **4.2 APPLICABILITY**

Given the direction outlined by the California Legislature in Government Code § 56377, LAFCo adopts the following policies in respect to the conversion of agricultural land to urban uses. This policy is meant to apply both to city and special district changes of organization when urban development is the ultimate goal.

Unless otherwise provided in this Policy, the provisions of this Policy shall apply to all proposals requiring approval by the Commission, including but not limited to, any proposal for approval of a change of organization, reorganization, or out-of-agency service agreement.

This Policy applies to proposals of both public agencies and private parties. However, LAFCo recognizes that there are significant differences between public agencies and private parties. In light of those differences, in some circumstances it may not be appropriate to require mitigation for the loss of prime agricultural land as would otherwise be required by this Policy.

A fundamental difference is that public agencies are generally responsible to the electorate, while private parties are not. Public agencies are also generally required to provide constitutionally or statutorily mandated services. In addition, a public agency is generally

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required, by law or policy considerations, to locate its facilities within its boundaries, while a private party has no such constraints.

Public agencies are also generally subject to constitutional or statutory constraints on their ability to raise revenues. Public agencies often experience increases in demand for services that are not (and often cannot) be accompanied by equivalent increases in revenues. In light of these and other fiscal constraints that are currently imposed upon public agencies, a mitigation requirement could result in an additional cost to a public agency that it is unable to recoup by increasing its revenues, which in turn could impair the agency's ability to provide its constitutionally and statutorily mandated services.

In addition, unlike private parties, public agencies are often exempt from the land use controls and regulations of other public agencies, despite the fact that the activities of the former occur within the boundaries of the latter. Although a public agency might request input from other local agencies, it is not necessarily bound by or required to follow their local planning requirements. As a result, a public agency's development or construction activities may not be subject to the same degree of control as a private party, and it might not learn of a mitigation requirement until after it has completed significant portions of the planning processes that are required by law.

Based upon the foregoing factors, LAFCo concludes that, in the case of proposals that are undertaken exclusively for the benefit of a public agency, the Commission should review the applicability of the mitigation requirements set forth in this Policy on a case-by-case basis to determine the appropriateness of requiring mitigation in any particular case.

### **4.3 AGRICULTURAL POLICY STATEMENT**

Agriculture is a vital and essential part of the Yolo County economy and environment. Agriculture shapes the way Yolo County residents and visitors view themselves and the quality of their lives. Accordingly, boundary changes for urban development should only be proposed, evaluated, and approved in a manner which, to the fullest extent feasible, is consistent with the continuing growth and vitality of agriculture within the county.

### **4.4 REVIEW CRITERIA**

To promote the policy statement, proposals shall be reviewed based on the following considerations:

- a) Existing developed areas should be maintained and renewed;

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- b) Vacant land within developed areas should be developed before agricultural land is annexed for non-agricultural purposes;
  - c) Land substantially surrounded by existing agency boundaries should be annexed before other lands;
  - d) Urban development should be restricted in agricultural areas. For example, agricultural land should not be annexed for non-agricultural purposes when feasible alternatives exist;
  - e) The continued productivity and viability of agricultural land surrounding existing communities should be promoted, by preventing the premature conversion of agricultural land to other uses and, to the extent feasible, minimizing conflicts between agricultural and other land uses;
  - f) Development near agricultural land should not adversely affect the economic viability or constrain the lawful, responsible practices of the agricultural operations;
  - g) Where feasible, non-prime land should be annexed before prime land; and
  - h) A land's current zoning, pre-zoning, or land use designation is one of the factors the Commission will consider in determining whether mitigation will be required for the loss of agricultural land. A land's zoning, pre-zoning, or land use designation in the city's or County's general plan does not automatically exempt it from mitigation.

#### **4.5 AGENCY GUIDELINES**

LAFCo encourages local agencies to adopt policies that result in efficient, coterminous, and logical growth patterns within their general plan and sphere of influence areas and that encourage protection of prime agricultural land in a manner that is consistent with this Policy.

LAFCo encourages the maintenance of agricultural inter-city buffers between the cities. LAFCo encourages the cities and the County to formalize and strengthen existing agreements maintaining agricultural buffers.

LAFCo encourages local agencies to identify the loss of prime agricultural land as early in their processes as possible, and to work with applicants to initiate and execute plans to mitigate for that loss, in a manner that is consistent with this Policy, as soon as feasible. Local agencies may also adopt their own agricultural conservation policies, consistent with this Policy, in order to better meet their own circumstances and processes.

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Detachment of prime agricultural lands and other open space lands shall be encouraged if consistent with the sphere of influence for that agency

#### **4.6 STANDARDS FOR ANNEXATIONS INVOLVING PRIME AGRICULTURAL LAND**

Annexation of prime agricultural lands shall not be approved unless the following factors have been considered:

- a) There is insufficient marketable, viable, less prime land available in the subject jurisdiction for the proposed land use;
- b) The adoption and implementation of effective measures to mitigate the loss of agricultural lands, and to preserve adjoining lands for agricultural use to prevent their premature conversion to other uses. Such measures may include, but need not be limited to: the acquisition and dedication of farmland, development rights, open space and conservation easements to permanently protect adjacent and other agricultural lands within the county; participation in other development programs (such as transfer or purchase of development rights); payments to responsible, recognized government and non-profit organizations for such purposes; the establishment of open space and similar buffers to shield agricultural operations from the effects of development; and
- c) Less prime agricultural land generally should be annexed and developed before prime land is considered for boundary changes. The relative importance of different parcels of prime agricultural land shall be evaluated based upon the following (in a descending order of importance):
  - i. Soil classification, with Class I or II soil receiving the most significance, followed by the Revised Storie Index Rating.
  - ii. The land's economic viability for continued agricultural use.

#### **4.7 ANNEXATION OF LANDS IN AGRICULTURAL PRESERVE CONTRACT**

Annexation for land uses in conflict with an existing agricultural preserve contract shall be prohibited, unless the Commission finds that it meets all the following criteria:

- a) The area is within the annexing agency's sphere of influence;
- b) The Commission makes findings required by Government Code § 56856.5.
- c) The parcel is included in an approved city specific plan;

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- d) The soil is not categorized as prime;
  - e) Mitigation for the loss of agricultural land has been secured at least at a 1:1 ratio of agricultural easements for the land lost;
  - f) There is a pending, or approved, rescission for the property that has been reviewed by the local jurisdictions and the Department of Conservation; and
  - g) Any Williamson Act Contract on the property has been non-renewed if still awaiting rescission approval.

#### **4.8 CHANGE OF ORGANIZATION/REORGANIZATION RESULTING IN CONVERSION OF PRIME AGRICULTURAL LAND**

LAFCo will approve a change of organization which will result in the conversion of prime agricultural land or open space use to other uses only if the Commission finds that the proposal will lead to planned, orderly, and efficient development. The following factors shall be considered:

- a) Contiguity of the subject land to developed urban areas;
- b) Receipt of all other discretionary approvals for changes of boundary, such as rezoning, environmental review, and service plans as required by the Executive Officer before action by the Commission. If not feasible before the Commission acts, the proposal can be made contingent upon receipt of such discretionary approvals within not more than one (1) year following LAFCo action;
- c) Consistency with existing planning documents of the affected local agencies, including a service plan of the annexing agency or affected agencies;
- d) Likelihood that all or a substantial portion of the subject land will develop within a reasonable period of time for the project's size and complexity;
- e) The availability of less prime land within the sphere of influence of the annexing agency that can be developed, and is planned and accessible, for the same or a substantially similar use; and
- f) The proposal's effect on the physical and economic viability of other agricultural operations. In making this determination, LAFCo will consider the following factors:
  - i. The agricultural significance of the subject and adjacent areas relative to other agricultural lands in the region;

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- ii. The existing use of the subject and adjacent areas;
  - iii. Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of adjacent or nearby agricultural land, or will be extended through or adjacent to, any other agricultural lands which lie between the project site and existing facilities;
  - iv. Whether natural or man-made barriers serve to buffer adjacent or nearby agricultural land from the effects of the proposed development;
  - v. Provisions of the General Plan's open space and land use elements, applicable growth management policies, or other statutory provisions designed to protect agriculture. Such provisions may include, but not be limited to, designating land for agriculture or other open space uses on that jurisdiction's general plan, adopted growth management plan, or applicable specific plan; adopting an agricultural element to its general plan; and acquiring conservation easements on prime agricultural land to permanently protect the agricultural uses of the property; and
  - vi. The establishment of measures to ensure that the new property owners shall recognize the rights of adjacent property owners conducting agricultural operations and practices in compliance with the agricultural zone in accordance with the Right to Farm Ordinance adopted by the Yolo County Board of Supervisors.

#### **4.9 AGRICULTURAL MITIGATION**

Except as expressly noted in sections 4.13 and 4.14 below, annexation of prime agricultural lands shall not be approved unless one of the following mitigations has been instituted, at not less than a 1:1 replacement ratio:

- a) The acquisition and dedication of farmland, development rights, and agricultural conservation easements to permanently protect adjacent and other agricultural lands within the County.
- b) The payment of fees that is sufficient to fully fund the acquisition and maintenance of such farmland, development rights or easements. The per acre fees shall be specified by a Fee Schedule or Methodology, noted in Section 4.15, which may be periodically updated at the discretion of the Commission.



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- c) Any such measures must preserve prime agricultural property of reasonably equivalent quality and character that would otherwise be threatened, in the reasonably foreseeable future, by development and/or other urban uses.

The loss of fewer than twenty (20) acres of prime agricultural land generally shall be mitigated by the payment of in lieu fees as mitigation rather than the dedication of agricultural conservation easements. The loss of twenty (20) acres or more of prime agricultural land generally may be mitigated either with the payment of in lieu fees or the dedication of agricultural conservation easements. In all cases, the Commission reserves the right to review such mitigation on a case-by-case basis.

#### **4.10 AGRICULTURAL EASEMENT REQUIREMENTS**

If an applicant provides agricultural easements to satisfy this requirement, the easements must conform to the following characteristics:

- a) The land used to mitigate the loss of prime agricultural land must also be prime agricultural land as defined in this Policy and the CKH Act.
- b) In addition, it must also be of reasonably equivalent quality and character as the mitigated land as measured using both of the following methodologies:
  - i. Average Storie Index – The USDA calculation methodology will be used to calculate the average Storie Index or Revised Storie Index score. The mitigating land's average Index score shall be no more than 10% less than the mitigated land's average Index score. The decision of whether to use the Storie Index or Revised Storie Index is within LAFCo's sole discretion.
  - ii. Land Equivalency and Site Assessment ("LESA") Model – The LESA calculation shall be in accordance with the methodology adopted by this Commission (see appendices). The mitigating land's LESA score shall be no more than 10% below the mitigated land's LESA score.
- c) As a general rule, the Commission will not accept, as mitigation required by this Policy, an agricultural conservation easement or property that is "stacked" or otherwise combined with easements or property acquired for habitat conservation purposes, nor for any other purposes that are incompatible with the maintenance and preservation of economically sound and viable agricultural activities and operations. The Commission retains the discretion to make exceptions on a case-by-case basis, based upon whether the applicant made a good-faith effort to mitigate separately for the loss of habitat in

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accordance with the Yolo Natural Heritage Program process but such efforts were infeasible, and whether the proposed "stacked" mitigation for the loss of prime agricultural land and habitat involves one of the following, whichever results in the greatest acreage of preserved land:

- i. Mitigation at a ratio of no less than 2:1 for the loss of prime agricultural soils; or
  - ii. Mitigation at a ratio of no less than 1:1 for the loss of all agricultural lands in the proposal area; or
  - iii. The property subject to the agricultural conservation easement is larger than the proposal area, meets the conditions specified in this Policy, and encompasses a complete field, legal parcel, or farm line.
- d) The presence of a home on land that is subject to an agricultural conservation easement is generally incompatible with the maintenance and preservation of economically sound and viable agricultural activities and operations on that land. The presence or introduction of a home may diminish the value of the agriculture conservation easement as mitigation for the loss of prime agricultural land. Consequently, an agricultural conservation easement will generally not be accepted as mitigation for the loss of prime agricultural land if the easement permits the presence of a home, except an existing home that has been present on the proposed easement for at least twenty-five (25) years, or construction of a comparable replacement for such a home. Exceptions to this section of the Policy may be granted by the Commission on a case-by-case basis if the home site is less than two acres and if the applicant can provide sufficient evidence that a home site on the agriculture conservation easement is necessary to further the goals of maintaining and preserving economically sound and viable agricultural activities and operations on that easement.

#### **4.11 EASEMENT HOLDER**

LAFCo favors the use of a local non-profit agricultural conservation entity or the regional branch of a nationally recognized non-profit agricultural conservation entity as the easement holder. The Commission will use the following criteria when approving the non-profit agricultural conservation entity for these purposes:

- a) Whether the entity is a non-profit organization that is either based locally or is a regional branch of a national non-profit organization whose principal purpose is holding and administering agricultural conservation easements for the purposes of conserving and maintaining lands in agricultural production;

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- b) Whether the entity has a long-term proven and established record for holding and administering easements for the purposes of conserving and maintaining lands in agricultural production;
  - c) Whether the entity has a history of holding and administering easements in Yolo County for the foregoing purposes;
  - d) Whether the entity has adopted the Land Trust Alliance’s “Standards and Practices” and is operating in compliance with those Standards; and
  - e) Any other information that the Commission finds relevant under the circumstances.

A local public agency may be an easement co-holder if that agency was the lead agency during the environmental review process. LAFCo also favors that applicants transfer the easement rights or in lieu fees directly to the recognized non-profit agricultural conservation entity in accordance with that entity’s procedures. The Commission retains the discretion to determine whether the agricultural conservation entity identified by the applicant and the local lead agency has met the criteria delineated above.

#### **4.12 AGRICULTURAL MITIGATION IMPOSED BY OTHER AGENCIES**

The Commission prefers that mitigation measures consistent with this Policy be in place at the time that a proposal is filed with the Commission. The loss of prime agricultural land may be mitigated before Commission action by the annexing city, or the County of Yolo in the case of a district annexation, provided that such mitigation is consistent with this Policy. LAFCo will use the following criteria in evaluating such mitigation:

- a) Whether the loss of prime agricultural land was identified during the project’s or proposal’s review process, including but not necessarily limited to review pursuant to the California Environmental Quality Act;
- b) Whether the approval of the environmental documents included a legally binding and enforceable requirement that the applicant mitigate the loss of prime agricultural land in a manner consistent with this Policy; and
- c) Whether, as part of the LAFCo application, an adopted ordinance or resolution was submitted confirming that mitigation has occurred, or requiring the applicant to have the mitigation measure in place before the issuance of a grading permit, a building permit or final map approval for the site.

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### **4.13 MITIGATION FOR PUBLIC AGENCY PROJECTS**

As noted in Section 4.2, the Commission has concluded that, in the case of proposals that are undertaken exclusively for the benefit of a public agency, the Commission should review the applicability of the mitigation requirements set forth in this Policy on a case-by-case basis to determine the appropriateness of requiring mitigation in any particular case. In making such a determination, the Commission will consider all relevant information that is brought to its attention, including but not limited to the following factors:

- a) Whether the public agency had any significant, practical option in locating its project, including locating the project on non-prime or less prime agricultural land;
- b) Whether the public agency is subject to or exempt from the land use regulations of another public agency;
- c) Whether the public agency identified the loss of agricultural land as an environmental impact during the project's review, including but not limited to California Environmental Quality Act review, and, if so, whether it adopted a "Statement of Overriding Considerations" for that impact;
- d) When the public agency learned of the agricultural conservation mitigation requirements of the Commission's Policy or that of another public agency (whether or not it was subject to that agency's land use control);
- e) Whether the public agency could reasonably have allocated or obtained sufficient revenues to provide for some or all of the mitigation required by this Policy if it had learned of that requirement before submitting its proposal to this Commission;
- f) Whether the public good served by the public agency's proposal clearly outweighs the purposes served by this Policy and its mitigation requirements; and
- g) Whether the proposal is necessary to meet the immediate needs of the public agency.

If the Commission determines that it is not appropriate to require mitigation for the loss of agricultural land resulting from a public agency's proposal, or to require less mitigation than otherwise prescribed by this Policy, it shall adopt findings, and a statement of overriding considerations if applicable, supporting that determination.

### **4.14 LESS THAN SIGNIFICANT AGRICULTURAL LAND LOSS**

Mitigation shall not be required for the annexation of less than five (5) acres of land if the Commission finds that the land:

- 
- a) Scores in the fourth tier of LESA;
  - b) Is “infill” as defined in this Policy; and
  - c) Has not been used for active agriculture purposes in the previous 20 years.

#### **4.15 AGRICULTURAL CONSERVATION POLICY PAYMENT IN LIEU FEE METHODOLOGY**

In lieu of the dedication of agricultural conservation easements that would otherwise be required by the Agricultural Conservation Policy, the Commission may permit the payment of fees as set forth in this Schedule to fully fund the acquisition and maintenance of farmland, development rights or agricultural conservation easements.

No less than 35% of the average per acre price for full and unencumbered fee title price in the last five (5) unimproved land purchases plus a five percent (5%) endowment of the cost of the easement, and the payment of the estimated transaction costs associated with acquiring an easement. The purchases must be within the general vicinity of the annexing entity and of a size equal to or greater than the total acreage of prime soils within the subject territory.

Payment of the In Lieu Fee is to be made directly to an agricultural conservation entity that meets the criteria set forth in Section 4.10 of this Policy. The agricultural conservation entity receiving these funds must present to the Commission a letter stating its intention to use these funds for the acquisition of farmland, development rights or agricultural conservation easements in Yolo County whose prime soils are reasonably equivalent to the proposal area’s soils and that the location of the easements will be within the general vicinity of the annexing entity and in an area within the County of Yolo that would otherwise be threatened, in the reasonably foreseeable future, by development and/or other urban uses.

#### **4.16 DEFINITIONS**

Except where noted, the following definitions are not defined in the California Government Code Sections 56000 et seq.

**AFFECTED LOCAL AGENCY** - any local agency which contains, or would contain, or whose sphere of influence contains or would contain, any territory for which a change of organization is proposed or ordered, either singularly or as part of a reorganization or for which a study is to be reviewed by LAFCo (Government Code § 56014).

**AGRICULTURAL LAND** - areas within which the primary zoning or general plan designation is AG, AP, or AE, or any other agricultural zone.

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FEASIBLE - capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, legal, social, and technological factors (Government Code § 56038.5).

INFILL LAND - property surrounded, or substantially surrounded, by urban uses or incorporated or special district boundaries.

PRIME AGRICULTURAL LAND - (Government Code § 56064) an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and which meets any of the following qualifications:

- a) Land that qualifies, if irrigated, for rating as Class I or Class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is currently irrigated, provided that irrigation is feasible.
- b) Land that qualifies for rating 80 - 100 Storie Index rating.
- c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
- d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.
- e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred (\$400) per acre for three of the previous five calendar years.

URBAN DEVELOPMENT - a change of organization that contemplates or is likely to lead to the conversion of land from agricultural use to a primarily nonagricultural related use, generally resulting in the need for services such as sewer, water, fire protection, schools, drainage systems, and police protection.



## NATIVE AMERICAN HERITAGE COMMISSION

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June 26, 2017

Erika Bumgardner  
City of Woodland  
300 First Street  
Woodland, CA 95695

Sent via Email: [Erika.bumgardner@cityofwoodland.org](mailto:Erika.bumgardner@cityofwoodland.org)

RE: SCH# 2017062042, Woodland Research and Technology Park Specific Plan, Yolo County

Dear Ms. Bumgardner:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

**CEQA was amended significantly in 2014.** Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

#### AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. **Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public

agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
  - b. The lead agency contact information.
  - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
  - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).
2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).
3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
- a. Alternatives to the project.
  - b. Recommended mitigation measures.
  - c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).
4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
- a. Type of environmental review necessary.
  - b. Significance of the tribal cultural resources.
  - c. Significance of the project's impacts on tribal cultural resources.
  - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).
5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).
6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
  - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).
7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
  - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).
  
9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).
  
10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
  - a. Avoidance and preservation of the resources in place, including, but not limited to:
    - i. Planning and construction to avoid the resources and protect the cultural and natural context.
    - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - i. Protecting the cultural character and integrity of the resource.
    - ii. Protecting the traditional use of the resource.
    - iii. Protecting the confidentiality of the resource.
  - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
  - e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
  - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).
  
11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
  - a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
  - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
  - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf)

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at:  
<http://nahc.ca.gov/resources/forms/>

#### NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([http://ohp.parks.ca.gov/?page\\_id=1068](http://ohp.parks.ca.gov/?page_id=1068)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have been already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
  - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
3. Contact the NAHC for:
  - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

- b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
- 4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
  - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
  - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
  - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: [sharaya.souza@nahc.ca.gov](mailto:sharaya.souza@nahc.ca.gov).

Sincerely,



Sharaya Souza  
Staff Services Analyst  
cc: State Clearinghouse



July 18, 2017

Ms. Cindy Norris  
City of Woodland  
Community Development Department  
300 First Street  
Woodland, CA 95695

Dear Ms. Norris:

The Yolo-Solano Air Quality Management District (District) has received the Notice of Preparation (NOP) for the City of Woodland's Research and Technology Center. The District offers the following comments:

### **Components of the Air Quality Analysis**

The NOP should evaluate potential air quality impacts associated with the construction and operation of the proposed project. Emissions of air pollutants should be evaluated against the thresholds of significance in the District's *CEQA Handbook for Assessing and Mitigating Air Quality Impacts*. The NOP should also describe how emissions from construction and operational activities will be mitigated to the extent feasible. For emissions produced by the combustion of diesel fuel from construction equipment, the District recommends that mitigation occur at the project site where possible. For the control of fugitive dust associated with the operation of heavy-duty equipment, the District recommends best management practices as found in the District's CEQA Handbook.

For most CEQA air quality analyses, the District recommends using the CalEEMod emission modeling software. If the lead agency determines that CalEEMod is not appropriate for the project, the lead agency should contact the District to discuss how modeling will be conducted prior to the initiation of the air quality analysis.

### **Analysis of Toxic Air Contaminants**

The DEIR should include a discussion of Toxic Air Contaminants (TACs) and whether allowable uses at the proposed project site could have the potential to produce TACs. While stationary TAC sources would originally be reviewed through the District's Risk Management Policy and permitting process, the District has no permitting or other regulatory authority over non-permitted sources of TAC such as heavy-duty on-road vehicles. If significant increases in truck traffic could potentially occur as part of the proposed project, the impacts on existing sensitive receptors should be analyzed.

### **Odor Analysis**

Offensive odors are another source of concern in urban areas where mixed-use development occurs. As with TAC impacts, odor impacts can be created when either a receptor is located near an existing odor source or



when a new odor source is located where it can impact existing receptors. For the proposed project, the NOP should examine whether potential commercial or industrial uses could produce odors that may impact either nearby existing receptors or new receptors that will also be developed as part of the proposed project.

### **Mitigation Measures and Site Design**

The EIR for the proposed project should discuss how any air quality impacts will be reduced to levels that are less than significant. If impacts cannot be mitigated to less-than-significant levels, the EIR should incorporate measures to reduce impacts to the maximum feasible extent. For the proposed project, it is expected that any operational impacts would mostly be reduced through site-design measures that encourage clean vehicle technology or alternative transportation modes. This may include providing infrastructure, such as electric charging stations, for alternative-fueled vehicles. It may also include a commitment to providing infrastructure for bike parking at commercial and retail uses. Vehicle emissions can also be reduced through site-design measures that support bicycle and pedestrian modes. Minimizing barriers such as sound walls and cul-de-sacs and maximizing opportunities for bicycle and pedestrian circulation by creating an interconnected transportation network within the project can have long-term air quality benefits. Consistent with this, the District asks the lead agency to consider whether locating the proposed Village Center to a more central position within the project site would allow for easier access by residents and employees.

The District appreciates the opportunity to comment on the NOP for this project. If you have any questions about the comments included in this letter, please feel free to contact me at 530-757-3668 or email me at [mjones@ysaqmd.org](mailto:mjones@ysaqmd.org).

Sincerely,



Matthew R Jones  
Planning Manager,  
Yolo-Solano Air Quality Management District

Criteria Air Pollutant and Greenhouse Gas Emissions, and Energy Use

WRTP Specific Plan EIR - Yolo County, Winter

**WRTP Specific Plan EIR**  
**Yolo County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Office Park	320.25	1000sqft	1.00	320,250.00	0
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan EIR - Yolo County, Winter

Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

Grading -

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

WRTP Specific Plan EIR - Yolo County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstructionPhase	NumDays	110.00	260.00
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tblConstructionPhase	NumDays	155.00	260.00
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tblConstructionPhase	NumDays	60.00	260.00
tblConstructionPhase	PhaseEndDate	12/28/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	2/24/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	3/17/2022	12/30/2021

## WRTP Specific Plan EIR - Yolo County, Winter

tblConstructionPhase	PhaseEndDate	7/27/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	8/12/2021	12/30/2021
tblConstructionPhase	PhaseStartDate	7/28/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	3/18/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	8/13/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	2/25/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	5/21/2021	1/1/2021
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00

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tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00
tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00



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tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	0.41	2.05
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00

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tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00
tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00

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tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

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tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00
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## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	84.5534	144.6396	108.9626	0.2705	184.0146	5.8562	189.8707	30.5651	5.4167	35.9818	0.0000	26,780.2468	26,780.2468	4.9530	0.0000	26,904.0708
<b>Maximum</b>	<b>84.5534</b>	<b>144.6396</b>	<b>108.9626</b>	<b>0.2705</b>	<b>184.0146</b>	<b>5.8562</b>	<b>189.8707</b>	<b>30.5651</b>	<b>5.4167</b>	<b>35.9818</b>	<b>0.0000</b>	<b>26,780.2468</b>	<b>26,780.2468</b>	<b>4.9530</b>	<b>0.0000</b>	<b>26,904.0708</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	75.2227	35.2659	114.5623	0.2705	110.4631	0.4129	110.8760	17.1054	0.4073	17.5128	0.0000	26,780.2468	26,780.2468	4.9530	0.0000	26,904.0707
<b>Maximum</b>	<b>75.2227</b>	<b>35.2659</b>	<b>114.5623</b>	<b>0.2705</b>	<b>110.4631</b>	<b>0.4129</b>	<b>110.8760</b>	<b>17.1054</b>	<b>0.4073</b>	<b>17.5128</b>	<b>0.0000</b>	<b>26,780.2468</b>	<b>26,780.2468</b>	<b>4.9530</b>	<b>0.0000</b>	<b>26,904.0707</b>

## WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.04	75.62	-5.14	0.00	39.97	92.95	41.60	44.04	92.48	51.33	0.00	0.00	0.00	0.00	0.00	0.00

WRTP Specific Plan EIR - Yolo County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 650

Acres of Paving: 0

Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment



WRTP Specific Plan EIR - Yolo County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

WRTP Specific Plan EIR - Yolo County, Winter

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0429	0.4074	1.2100e-003	2.7848	8.5000e-004	2.7856	0.3004	7.8000e-004	0.3012		120.3798	120.3798	2.8700e-003		120.4516
<b>Total</b>	<b>0.0630</b>	<b>0.0429</b>	<b>0.4074</b>	<b>1.2100e-003</b>	<b>2.7848</b>	<b>8.5000e-004</b>	<b>2.7856</b>	<b>0.3004</b>	<b>7.8000e-004</b>	<b>0.3012</b>		<b>120.3798</b>	<b>120.3798</b>	<b>2.8700e-003</b>		<b>120.4516</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>8.1298</b>	<b>0.0621</b>	<b>8.1919</b>	<b>4.4688</b>	<b>0.0621</b>	<b>4.5309</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0429	0.4074	1.2100e-003	1.7411	8.5000e-004	1.7420	0.1936	7.8000e-004	0.1944		120.3798	120.3798	2.8700e-003		120.4516
<b>Total</b>	<b>0.0630</b>	<b>0.0429</b>	<b>0.4074</b>	<b>1.2100e-003</b>	<b>1.7411</b>	<b>8.5000e-004</b>	<b>1.7420</b>	<b>0.1936</b>	<b>7.8000e-004</b>	<b>0.1944</b>		<b>120.3798</b>	<b>120.3798</b>	<b>2.8700e-003</b>		<b>120.4516</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0700	0.0476	0.4526	1.3400e-003	3.0942	9.4000e-004	3.0951	0.3337	8.7000e-004	0.3346		133.7553	133.7553	3.1900e-003		133.8351
<b>Total</b>	<b>0.0700</b>	<b>0.0476</b>	<b>0.4526</b>	<b>1.3400e-003</b>	<b>3.0942</b>	<b>9.4000e-004</b>	<b>3.0951</b>	<b>0.3337</b>	<b>8.7000e-004</b>	<b>0.3346</b>		<b>133.7553</b>	<b>133.7553</b>	<b>3.1900e-003</b>		<b>133.8351</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0620</b>	<b>3.9030</b>	<b>0.1015</b>	<b>4.0045</b>	<b>1.6184</b>	<b>0.1015</b>	<b>1.7200</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0700	0.0476	0.4526	1.3400e-003	1.9346	9.4000e-004	1.9355	0.2151	8.7000e-004	0.2160		133.7553	133.7553	3.1900e-003		133.8351
<b>Total</b>	<b>0.0700</b>	<b>0.0476</b>	<b>0.4526</b>	<b>1.3400e-003</b>	<b>1.9346</b>	<b>9.4000e-004</b>	<b>1.9355</b>	<b>0.2151</b>	<b>8.7000e-004</b>	<b>0.2160</b>		<b>133.7553</b>	<b>133.7553</b>	<b>3.1900e-003</b>		<b>133.8351</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6327	23.8255	4.5116	0.0604	24.8443	0.0555	24.8998	2.7538	0.0531	2.8069		6,320.7955	6,320.7955	0.3325		6,329.1072
Worker	2.3416	1.5936	15.1403	0.0449	103.5001	0.0316	103.5317	11.1637	0.0291	11.1928		4,474.1158	4,474.1158	0.1067		4,476.7826
<b>Total</b>	<b>2.9743</b>	<b>25.4192</b>	<b>19.6519</b>	<b>0.1053</b>	<b>128.3444</b>	<b>0.0871</b>	<b>128.4315</b>	<b>13.9174</b>	<b>0.0822</b>	<b>13.9997</b>		<b>10,794.9113</b>	<b>10,794.9113</b>	<b>0.4391</b>		<b>10,805.8898</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5867	2.7396	17.6822	0.0269		0.1120	0.1120		0.1120	0.1120	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>0.5867</b>	<b>2.7396</b>	<b>17.6822</b>	<b>0.0269</b>		<b>0.1120</b>	<b>0.1120</b>		<b>0.1120</b>	<b>0.1120</b>	<b>0.0000</b>	<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>



WRTP Specific Plan EIR - Yolo County, Winter

**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6327	23.8255	4.5116	0.0604	15.6312	0.0555	15.6867	1.8113	0.0531	1.8644		6,320.7955	6,320.7955	0.3325		6,329.1072
Worker	2.3416	1.5936	15.1403	0.0449	64.7110	0.0316	64.7426	7.1956	0.0291	7.2247		4,474.1158	4,474.1158	0.1067		4,476.7826
<b>Total</b>	<b>2.9743</b>	<b>25.4192</b>	<b>19.6519</b>	<b>0.1053</b>	<b>80.3422</b>	<b>0.0871</b>	<b>80.4293</b>	<b>9.0069</b>	<b>0.0822</b>	<b>9.0891</b>		<b>10,794.9113</b>	<b>10,794.9113</b>	<b>0.4391</b>		<b>10,805.8898</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0357	0.3395	1.0100e-003	2.3206	7.1000e-004	2.3213	0.2503	6.5000e-004	0.2510		100.3165	100.3165	2.3900e-003		100.3763
<b>Total</b>	<b>0.0525</b>	<b>0.0357</b>	<b>0.3395</b>	<b>1.0100e-003</b>	<b>2.3206</b>	<b>7.1000e-004</b>	<b>2.3213</b>	<b>0.2503</b>	<b>6.5000e-004</b>	<b>0.2510</b>		<b>100.3165</b>	<b>100.3165</b>	<b>2.3900e-003</b>		<b>100.3763</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0357	0.3395	1.0100e-003	1.4509	7.1000e-004	1.4516	0.1613	6.5000e-004	0.1620		100.3165	100.3165	2.3900e-003		100.3763
<b>Total</b>	<b>0.0525</b>	<b>0.0357</b>	<b>0.3395</b>	<b>1.0100e-003</b>	<b>1.4509</b>	<b>7.1000e-004</b>	<b>1.4516</b>	<b>0.1613</b>	<b>6.5000e-004</b>	<b>0.1620</b>		<b>100.3165</b>	<b>100.3165</b>	<b>2.3900e-003</b>		<b>100.3763</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.4699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>69.6888</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4690	0.3192	3.0326	8.9900e-003	20.7310	6.3300e-003	20.7373	2.2361	5.8300e-003	2.2419		896.1607	896.1607	0.0214		896.6949
<b>Total</b>	<b>0.4690</b>	<b>0.3192</b>	<b>3.0326</b>	<b>8.9900e-003</b>	<b>20.7310</b>	<b>6.3300e-003</b>	<b>20.7373</b>	<b>2.2361</b>	<b>5.8300e-003</b>	<b>2.2419</b>		<b>896.1607</b>	<b>896.1607</b>	<b>0.0214</b>		<b>896.6949</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.4699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>69.4996</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4690	0.3192	3.0326	8.9900e-003	12.9616	6.3300e-003	12.9679	1.4413	5.8300e-003	1.4471		896.1607	896.1607	0.0214		896.6949
<b>Total</b>	<b>0.4690</b>	<b>0.3192</b>	<b>3.0326</b>	<b>8.9900e-003</b>	<b>12.9616</b>	<b>6.3300e-003</b>	<b>12.9679</b>	<b>1.4413</b>	<b>5.8300e-003</b>	<b>1.4471</b>		<b>896.1607</b>	<b>896.1607</b>	<b>0.0214</b>		<b>896.6949</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

WRTP Specific Plan EIR - Yolo County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

WRTP Specific Plan EIR - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Unmitigated	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.9354					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.9354					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

WRTP Specific Plan EIR - Yolo County, Winter

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan EIR - Yolo County, Summer

**WRTP Specific Plan EIR**  
**Yolo County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Office Park	320.25	1000sqft	1.00	320,250.00	0
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan EIR - Yolo County, Summer

Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

Grading -

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00



WRTP Specific Plan EIR - Yolo County, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	1,550.00	260.00
tblConstructionPhase	NumDays	155.00	260.00
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	60.00	260.00
tblConstructionPhase	PhaseEndDate	12/28/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	2/24/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	3/17/2022	12/30/2021

## WRTP Specific Plan EIR - Yolo County, Summer

tblConstructionPhase	PhaseEndDate	7/27/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	8/12/2021	12/30/2021
tblConstructionPhase	PhaseStartDate	7/28/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	3/18/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	8/13/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	2/25/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	5/21/2021	1/1/2021
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00

## WRTP Specific Plan EIR - Yolo County, Summer

tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00
tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00

## WRTP Specific Plan EIR - Yolo County, Summer

tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	0.41	2.05
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00

WRTP Specific Plan EIR - Yolo County, Summer

tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00
tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00

## WRTP Specific Plan EIR - Yolo County, Summer

tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

WRTP Specific Plan EIR - Yolo County, Summer

tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00
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**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	84.7553	143.9537	110.9166	0.2800	184.0146	5.8533	189.8679	30.5651	5.4139	35.9790	0.0000	27,726.43 14	27,726.43 14	4.9303	0.0000	27,849.69 00
<b>Maximum</b>	<b>84.7553</b>	<b>143.9537</b>	<b>110.9166</b>	<b>0.2800</b>	<b>184.0146</b>	<b>5.8533</b>	<b>189.8679</b>	<b>30.5651</b>	<b>5.4139</b>	<b>35.9790</b>	<b>0.0000</b>	<b>27,726.43 14</b>	<b>27,726.43 14</b>	<b>4.9303</b>	<b>0.0000</b>	<b>27,849.69 00</b>

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	75.4246	34.5800	116.5163	0.2800	110.4631	0.4100	110.8731	17.1054	0.4046	17.5100	0.0000	27,726.43 14	27,726.43 14	4.9303	0.0000	27,849.68 99
<b>Maximum</b>	<b>75.4246</b>	<b>34.5800</b>	<b>116.5163</b>	<b>0.2800</b>	<b>110.4631</b>	<b>0.4100</b>	<b>110.8731</b>	<b>17.1054</b>	<b>0.4046</b>	<b>17.5100</b>	<b>0.0000</b>	<b>27,726.43 14</b>	<b>27,726.43 14</b>	<b>4.9303</b>	<b>0.0000</b>	<b>27,849.68 99</b>

## WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.01	75.98	-5.05	0.00	39.97	93.00	41.61	44.04	92.53	51.33	0.00	0.00	0.00	0.00	0.00	0.00



WRTP Specific Plan EIR - Yolo County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 650**

**Acres of Paving: 0**

**Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

WRTP Specific Plan EIR - Yolo County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

WRTP Specific Plan EIR - Yolo County, Summer

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0345	0.4646	1.3700e-003	2.7848	8.5000e-004	2.7856	0.3004	7.8000e-004	0.3012		136.3748	136.3748	3.2100e-003		136.4551
<b>Total</b>	<b>0.0680</b>	<b>0.0345</b>	<b>0.4646</b>	<b>1.3700e-003</b>	<b>2.7848</b>	<b>8.5000e-004</b>	<b>2.7856</b>	<b>0.3004</b>	<b>7.8000e-004</b>	<b>0.3012</b>		<b>136.3748</b>	<b>136.3748</b>	<b>3.2100e-003</b>		<b>136.4551</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>8.1298</b>	<b>0.0621</b>	<b>8.1919</b>	<b>4.4688</b>	<b>0.0621</b>	<b>4.5309</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0345	0.4646	1.3700e-003	1.7411	8.5000e-004	1.7420	0.1936	7.8000e-004	0.1944		136.3748	136.3748	3.2100e-003		136.4551
<b>Total</b>	<b>0.0680</b>	<b>0.0345</b>	<b>0.4646</b>	<b>1.3700e-003</b>	<b>1.7411</b>	<b>8.5000e-004</b>	<b>1.7420</b>	<b>0.1936</b>	<b>7.8000e-004</b>	<b>0.1944</b>		<b>136.3748</b>	<b>136.3748</b>	<b>3.2100e-003</b>		<b>136.4551</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0755	0.0383	0.5162	1.5200e-003	3.0942	9.4000e-004	3.0951	0.3337	8.7000e-004	0.3346		151.5275	151.5275	3.5700e-003		151.6167
<b>Total</b>	<b>0.0755</b>	<b>0.0383</b>	<b>0.5162</b>	<b>1.5200e-003</b>	<b>3.0942</b>	<b>9.4000e-004</b>	<b>3.0951</b>	<b>0.3337</b>	<b>8.7000e-004</b>	<b>0.3346</b>		<b>151.5275</b>	<b>151.5275</b>	<b>3.5700e-003</b>		<b>151.6167</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0620</b>	<b>3.9030</b>	<b>0.1015</b>	<b>4.0045</b>	<b>1.6184</b>	<b>0.1015</b>	<b>1.7200</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0755	0.0383	0.5162	1.5200e-003	1.9346	9.4000e-004	1.9355	0.2151	8.7000e-004	0.2160		151.5275	151.5275	3.5700e-003		151.6167
<b>Total</b>	<b>0.0755</b>	<b>0.0383</b>	<b>0.5162</b>	<b>1.5200e-003</b>	<b>1.9346</b>	<b>9.4000e-004</b>	<b>1.9355</b>	<b>0.2151</b>	<b>8.7000e-004</b>	<b>0.2160</b>		<b>151.5275</b>	<b>151.5275</b>	<b>3.5700e-003</b>		<b>151.6167</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>



WRTP Specific Plan EIR - Yolo County, Summer

**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5977	23.5403	3.7458	0.0621	24.8443	0.0526	24.8969	2.7538	0.0504	2.8041		6,506.3312	6,506.3312	0.2936		6,513.6706
Worker	2.5267	1.2804	17.2659	0.0509	103.5001	0.0316	103.5317	11.1637	0.0291	11.1928		5,068.5950	5,068.5950	0.1194		5,071.5798
<b>Total</b>	<b>3.1244</b>	<b>24.8208</b>	<b>21.0117</b>	<b>0.1130</b>	<b>128.3444</b>	<b>0.0842</b>	<b>128.4287</b>	<b>13.9174</b>	<b>0.0795</b>	<b>13.9969</b>		<b>11,574.9261</b>	<b>11,574.9261</b>	<b>0.4130</b>		<b>11,585.2503</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5867	2.7396	17.6822	0.0269		0.1120	0.1120		0.1120	0.1120	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>0.5867</b>	<b>2.7396</b>	<b>17.6822</b>	<b>0.0269</b>		<b>0.1120</b>	<b>0.1120</b>		<b>0.1120</b>	<b>0.1120</b>	<b>0.0000</b>	<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5977	23.5403	3.7458	0.0621	15.6312	0.0526	15.6838	1.8113	0.0504	1.8616		6,506.3312	6,506.3312	0.2936		6,513.6706
Worker	2.5267	1.2804	17.2659	0.0509	64.7110	0.0316	64.7426	7.1956	0.0291	7.2247		5,068.5950	5,068.5950	0.1194		5,071.5798
<b>Total</b>	<b>3.1244</b>	<b>24.8208</b>	<b>21.0117</b>	<b>0.1130</b>	<b>80.3422</b>	<b>0.0842</b>	<b>80.4264</b>	<b>9.0069</b>	<b>0.0795</b>	<b>9.0863</b>		<b>11,574.9261</b>	<b>11,574.9261</b>	<b>0.4130</b>		<b>11,585.2503</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0567	0.0287	0.3871	1.1400e-003	2.3206	7.1000e-004	2.3213	0.2503	6.5000e-004	0.2510		113.6456	113.6456	2.6800e-003		113.7126
<b>Total</b>	<b>0.0567</b>	<b>0.0287</b>	<b>0.3871</b>	<b>1.1400e-003</b>	<b>2.3206</b>	<b>7.1000e-004</b>	<b>2.3213</b>	<b>0.2503</b>	<b>6.5000e-004</b>	<b>0.2510</b>		<b>113.6456</b>	<b>113.6456</b>	<b>2.6800e-003</b>		<b>113.7126</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0567	0.0287	0.3871	1.1400e-003	1.4509	7.1000e-004	1.4516	0.1613	6.5000e-004	0.1620		113.6456	113.6456	2.6800e-003		113.7126
<b>Total</b>	<b>0.0567</b>	<b>0.0287</b>	<b>0.3871</b>	<b>1.1400e-003</b>	<b>1.4509</b>	<b>7.1000e-004</b>	<b>1.4516</b>	<b>0.1613</b>	<b>6.5000e-004</b>	<b>0.1620</b>		<b>113.6456</b>	<b>113.6456</b>	<b>2.6800e-003</b>		<b>113.7126</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.4699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>69.6888</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5061	0.2565	3.4583	0.0102	20.7310	6.3300e-003	20.7373	2.2361	5.8300e-003	2.2419		1,015.2343	1,015.2343	0.0239		1,015.8321
<b>Total</b>	<b>0.5061</b>	<b>0.2565</b>	<b>3.4583</b>	<b>0.0102</b>	<b>20.7310</b>	<b>6.3300e-003</b>	<b>20.7373</b>	<b>2.2361</b>	<b>5.8300e-003</b>	<b>2.2419</b>		<b>1,015.2343</b>	<b>1,015.2343</b>	<b>0.0239</b>		<b>1,015.8321</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.4699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>69.4996</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5061	0.2565	3.4583	0.0102	12.9616	6.3300e-003	12.9679	1.4413	5.8300e-003	1.4471		1,015.2343	1,015.2343	0.0239		1,015.8321
<b>Total</b>	<b>0.5061</b>	<b>0.2565</b>	<b>3.4583</b>	<b>0.0102</b>	<b>12.9616</b>	<b>6.3300e-003</b>	<b>12.9679</b>	<b>1.4413</b>	<b>5.8300e-003</b>	<b>1.4471</b>		<b>1,015.2343</b>	<b>1,015.2343</b>	<b>0.0239</b>		<b>1,015.8321</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

WRTP Specific Plan EIR - Yolo County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

WRTP Specific Plan EIR - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Unmitigated	29.9885	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.9354					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Summer

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	28.9354					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>29.9885</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

WRTP Specific Plan EIR - Yolo County, Summer

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan EIR - Yolo County, Annual

**WRTP Specific Plan EIR**  
**Yolo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Office Park	320.25	1000sqft	1.00	320,250.00	0
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

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Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

Grading -

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00



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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	1,550.00	260.00
tblConstructionPhase	NumDays	155.00	260.00
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	60.00	260.00
tblConstructionPhase	PhaseEndDate	12/28/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	2/24/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	3/17/2022	12/30/2021

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tblConstructionPhase	PhaseEndDate	7/27/2028	12/30/2021
tblConstructionPhase	PhaseEndDate	8/12/2021	12/30/2021
tblConstructionPhase	PhaseStartDate	7/28/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	3/18/2022	1/1/2021
tblConstructionPhase	PhaseStartDate	8/13/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	2/25/2028	1/1/2021
tblConstructionPhase	PhaseStartDate	5/21/2021	1/1/2021
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00

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tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00
tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00

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tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00
tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	0.41	2.05
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00

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tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00
tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00

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tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

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tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00
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**2.0 Emissions Summary**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	10.9645	18.7822	14.0583	0.0355	21.0173	0.7611	21.7784	3.6790	0.7040	4.3829	0.0000	3,190.1509	3,190.1509	0.5816	0.0000	3,204.6904
<b>Maximum</b>	<b>10.9645</b>	<b>18.7822</b>	<b>14.0583</b>	<b>0.0355</b>	<b>21.0173</b>	<b>0.7611</b>	<b>21.7784</b>	<b>3.6790</b>	<b>0.7040</b>	<b>4.3829</b>	<b>0.0000</b>	<b>3,190.1509</b>	<b>3,190.1509</b>	<b>0.5816</b>	<b>0.0000</b>	<b>3,204.6904</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	9.7515	4.5636	14.7862	0.0355	12.5740	0.0535	12.6274	2.0417	0.0527	2.0944	0.0000	3,190.1488	3,190.1488	0.5816	0.0000	3,204.6883
<b>Maximum</b>	<b>9.7515</b>	<b>4.5636</b>	<b>14.7862</b>	<b>0.0355</b>	<b>12.5740</b>	<b>0.0535</b>	<b>12.6274</b>	<b>2.0417</b>	<b>0.0527</b>	<b>2.0944</b>	<b>0.0000</b>	<b>3,190.1488</b>	<b>3,190.1488</b>	<b>0.5816</b>	<b>0.0000</b>	<b>3,204.6883</b>





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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.2807	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.2807</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 650**

**Acres of Paving: 0**

**Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

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**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5055	5.2646	2.7501	4.9400e-003		0.2658	0.2658		0.2445	0.2445	0.0000	434.6643	434.6643	0.1406	0.0000	438.1788
<b>Total</b>	<b>0.5055</b>	<b>5.2646</b>	<b>2.7501</b>	<b>4.9400e-003</b>	<b>2.3486</b>	<b>0.2658</b>	<b>2.6144</b>	<b>1.2910</b>	<b>0.2445</b>	<b>1.5355</b>	<b>0.0000</b>	<b>434.6643</b>	<b>434.6643</b>	<b>0.1406</b>	<b>0.0000</b>	<b>438.1788</b>

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**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6800e-003	4.9500e-003	0.0520	1.6000e-004	0.3105	1.1000e-004	0.3106	0.0338	1.0000e-004	0.0339	0.0000	14.5998	14.5998	3.4000e-004	0.0000	14.6083
<b>Total</b>	<b>7.6800e-003</b>	<b>4.9500e-003</b>	<b>0.0520</b>	<b>1.6000e-004</b>	<b>0.3105</b>	<b>1.1000e-004</b>	<b>0.3106</b>	<b>0.0338</b>	<b>1.0000e-004</b>	<b>0.0339</b>	<b>0.0000</b>	<b>14.5998</b>	<b>14.5998</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>14.6083</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0569	0.0000	1.0569	0.5809	0.0000	0.5809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0605	0.2623	2.7130	4.9400e-003		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003	0.0000	434.6638	434.6638	0.1406	0.0000	438.1783
<b>Total</b>	<b>0.0605</b>	<b>0.2623</b>	<b>2.7130</b>	<b>4.9400e-003</b>	<b>1.0569</b>	<b>8.0700e-003</b>	<b>1.0650</b>	<b>0.5809</b>	<b>8.0700e-003</b>	<b>0.5890</b>	<b>0.0000</b>	<b>434.6638</b>	<b>434.6638</b>	<b>0.1406</b>	<b>0.0000</b>	<b>438.1783</b>

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**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6800e-003	4.9500e-003	0.0520	1.6000e-004	0.1947	1.1000e-004	0.1948	0.0219	1.0000e-004	0.0220	0.0000	14.5998	14.5998	3.4000e-004	0.0000	14.6083
<b>Total</b>	<b>7.6800e-003</b>	<b>4.9500e-003</b>	<b>0.0520</b>	<b>1.6000e-004</b>	<b>0.1947</b>	<b>1.1000e-004</b>	<b>0.1948</b>	<b>0.0219</b>	<b>1.0000e-004</b>	<b>0.0220</b>	<b>0.0000</b>	<b>14.5998</b>	<b>14.5998</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>14.6083</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1275	0.0000	1.1275	0.4676	0.0000	0.4676	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5449	6.0320	4.0142	8.0600e-003		0.2581	0.2581		0.2375	0.2375	0.0000	708.4348	708.4348	0.2291	0.0000	714.1628
<b>Total</b>	<b>0.5449</b>	<b>6.0320</b>	<b>4.0142</b>	<b>8.0600e-003</b>	<b>1.1275</b>	<b>0.2581</b>	<b>1.3856</b>	<b>0.4676</b>	<b>0.2375</b>	<b>0.7050</b>	<b>0.0000</b>	<b>708.4348</b>	<b>708.4348</b>	<b>0.2291</b>	<b>0.0000</b>	<b>714.1628</b>

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**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5300e-003	5.5000e-003	0.0577	1.8000e-004	0.3450	1.2000e-004	0.3451	0.0376	1.1000e-004	0.0377	0.0000	16.2220	16.2220	3.8000e-004	0.0000	16.2314
<b>Total</b>	<b>8.5300e-003</b>	<b>5.5000e-003</b>	<b>0.0577</b>	<b>1.8000e-004</b>	<b>0.3450</b>	<b>1.2000e-004</b>	<b>0.3451</b>	<b>0.0376</b>	<b>1.1000e-004</b>	<b>0.0377</b>	<b>0.0000</b>	<b>16.2220</b>	<b>16.2220</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>16.2314</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5074	0.0000	0.5074	0.2104	0.0000	0.2104	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0990	0.4290	4.2899	8.0600e-003		0.0132	0.0132		0.0132	0.0132	0.0000	708.4339	708.4339	0.2291	0.0000	714.1620
<b>Total</b>	<b>0.0990</b>	<b>0.4290</b>	<b>4.2899</b>	<b>8.0600e-003</b>	<b>0.5074</b>	<b>0.0132</b>	<b>0.5206</b>	<b>0.2104</b>	<b>0.0132</b>	<b>0.2236</b>	<b>0.0000</b>	<b>708.4339</b>	<b>708.4339</b>	<b>0.2291</b>	<b>0.0000</b>	<b>714.1620</b>

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**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5300e-003	5.5000e-003	0.0577	1.8000e-004	0.2163	1.2000e-004	0.2164	0.0244	1.1000e-004	0.0245	0.0000	16.2220	16.2220	3.8000e-004	0.0000	16.2314
<b>Total</b>	<b>8.5300e-003</b>	<b>5.5000e-003</b>	<b>0.0577</b>	<b>1.8000e-004</b>	<b>0.2163</b>	<b>1.2000e-004</b>	<b>0.2164</b>	<b>0.0244</b>	<b>1.1000e-004</b>	<b>0.0245</b>	<b>0.0000</b>	<b>16.2220</b>	<b>16.2220</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>16.2314</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2471	2.2662	2.1548	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.1285	301.1285	0.0727	0.0000	302.9447
<b>Total</b>	<b>0.2471</b>	<b>2.2662</b>	<b>2.1548</b>	<b>3.5000e-003</b>		<b>0.1246</b>	<b>0.1246</b>		<b>0.1172</b>	<b>0.1172</b>	<b>0.0000</b>	<b>301.1285</b>	<b>301.1285</b>	<b>0.0727</b>	<b>0.0000</b>	<b>302.9447</b>



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**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.1060	0.5277	7.9800e-003	2.7750	7.0000e-003	2.7820	0.3119	6.7000e-003	0.3186	0.0000	758.1258	758.1258	0.0365	0.0000	759.0393
Worker	0.2853	0.1840	1.9307	6.0000e-003	11.5404	4.1100e-003	11.5445	1.2572	3.7800e-003	1.2609	0.0000	542.6246	542.6246	0.0127	0.0000	542.9417
<b>Total</b>	<b>0.3646</b>	<b>3.2900</b>	<b>2.4584</b>	<b>0.0140</b>	<b>14.3154</b>	<b>0.0111</b>	<b>14.3265</b>	<b>1.5690</b>	<b>0.0105</b>	<b>1.5795</b>	<b>0.0000</b>	<b>1,300.7504</b>	<b>1,300.7504</b>	<b>0.0492</b>	<b>0.0000</b>	<b>1,301.9810</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0763	0.3562	2.2987	3.5000e-003		0.0146	0.0146		0.0146	0.0146	0.0000	301.1281	301.1281	0.0727	0.0000	302.9443
<b>Total</b>	<b>0.0763</b>	<b>0.3562</b>	<b>2.2987</b>	<b>3.5000e-003</b>		<b>0.0146</b>	<b>0.0146</b>		<b>0.0146</b>	<b>0.0146</b>	<b>0.0000</b>	<b>301.1281</b>	<b>301.1281</b>	<b>0.0727</b>	<b>0.0000</b>	<b>302.9443</b>

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**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.1060	0.5277	7.9800e-003	1.7524	7.0000e-003	1.7594	0.2070	6.7000e-003	0.2137	0.0000	758.1258	758.1258	0.0365	0.0000	759.0393
Worker	0.2853	0.1840	1.9307	6.0000e-003	7.2350	4.1100e-003	7.2391	0.8155	3.7800e-003	0.8192	0.0000	542.6246	542.6246	0.0127	0.0000	542.9417
<b>Total</b>	<b>0.3646</b>	<b>3.2900</b>	<b>2.4584</b>	<b>0.0140</b>	<b>8.9874</b>	<b>0.0111</b>	<b>8.9985</b>	<b>1.0224</b>	<b>0.0105</b>	<b>1.0329</b>	<b>0.0000</b>	<b>1,300.7504</b>	<b>1,300.7504</b>	<b>0.0492</b>	<b>0.0000</b>	<b>1,301.9810</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1632	1.6795	1.9049	2.9600e-003		0.0881	0.0881		0.0811	0.0811	0.0000	260.3052	260.3052	0.0842	0.0000	262.4099
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1632</b>	<b>1.6795</b>	<b>1.9049</b>	<b>2.9600e-003</b>		<b>0.0881</b>	<b>0.0881</b>		<b>0.0811</b>	<b>0.0811</b>	<b>0.0000</b>	<b>260.3052</b>	<b>260.3052</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4099</b>

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**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-003	4.1300e-003	0.0433	1.3000e-004	0.2588	9.0000e-005	0.2589	0.0282	8.0000e-005	0.0283	0.0000	12.1665	12.1665	2.8000e-004	0.0000	12.1736
<b>Total</b>	<b>6.4000e-003</b>	<b>4.1300e-003</b>	<b>0.0433</b>	<b>1.3000e-004</b>	<b>0.2588</b>	<b>9.0000e-005</b>	<b>0.2589</b>	<b>0.0282</b>	<b>8.0000e-005</b>	<b>0.0283</b>	<b>0.0000</b>	<b>12.1665</b>	<b>12.1665</b>	<b>2.8000e-004</b>	<b>0.0000</b>	<b>12.1736</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0365	0.1580	2.2484	2.9600e-003		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003	0.0000	260.3049	260.3049	0.0842	0.0000	262.4096
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0365</b>	<b>0.1580</b>	<b>2.2484</b>	<b>2.9600e-003</b>		<b>4.8600e-003</b>	<b>4.8600e-003</b>		<b>4.8600e-003</b>	<b>4.8600e-003</b>	<b>0.0000</b>	<b>260.3049</b>	<b>260.3049</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4096</b>

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**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-003	4.1300e-003	0.0433	1.3000e-004	0.1622	9.0000e-005	0.1623	0.0183	8.0000e-005	0.0184	0.0000	12.1665	12.1665	2.8000e-004	0.0000	12.1736
<b>Total</b>	<b>6.4000e-003</b>	<b>4.1300e-003</b>	<b>0.0433</b>	<b>1.3000e-004</b>	<b>0.1622</b>	<b>9.0000e-005</b>	<b>0.1623</b>	<b>0.0183</b>	<b>8.0000e-005</b>	<b>0.0184</b>	<b>0.0000</b>	<b>12.1665</b>	<b>12.1665</b>	<b>2.8000e-004</b>	<b>0.0000</b>	<b>12.1736</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.0311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>9.0596</b>	<b>0.1985</b>	<b>0.2363</b>	<b>3.9000e-004</b>		<b>0.0122</b>	<b>0.0122</b>		<b>0.0122</b>	<b>0.0122</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0571	0.0369	0.3867	1.2000e-003	2.3115	8.2000e-004	2.3124	0.2518	7.6000e-004	0.2526	0.0000	108.6871	108.6871	2.5400e-003	0.0000	108.7507
<b>Total</b>	<b>0.0571</b>	<b>0.0369</b>	<b>0.3867</b>	<b>1.2000e-003</b>	<b>2.3115</b>	<b>8.2000e-004</b>	<b>2.3124</b>	<b>0.2518</b>	<b>7.6000e-004</b>	<b>0.2526</b>	<b>0.0000</b>	<b>108.6871</b>	<b>108.6871</b>	<b>2.5400e-003</b>	<b>0.0000</b>	<b>108.7507</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.0311					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8600e-003	0.0167	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>9.0350</b>	<b>0.0167</b>	<b>0.2382</b>	<b>3.9000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0571	0.0369	0.3867	1.2000e-003	1.4492	8.2000e-004	1.4500	0.1633	7.6000e-004	0.1641	0.0000	108.6871	108.6871	2.5400e-003	0.0000	108.7507
<b>Total</b>	<b>0.0571</b>	<b>0.0369</b>	<b>0.3867</b>	<b>1.2000e-003</b>	<b>1.4492</b>	<b>8.2000e-004</b>	<b>1.4500</b>	<b>0.1633</b>	<b>7.6000e-004</b>	<b>0.1641</b>	<b>0.0000</b>	<b>108.6871</b>	<b>108.6871</b>	<b>2.5400e-003</b>	<b>0.0000</b>	<b>108.7507</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

WRTP Specific Plan EIR - Yolo County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy









WRTP Specific Plan EIR - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



WRTP Specific Plan EIR - Yolo County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2807					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.2807</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

WRTP Specific Plan EIR - Yolo County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000



WRTP Specific Plan EIR - Yolo County, Annual

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

WRTP Specific Plan EIR - Yolo County, Annual

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

WRTP Specific Plan EIR - Yolo County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**8.2 Waste by Land Use**

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

WRTP Specific Plan EIR - Yolo County, Annual

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan EIR - Yolo County, Winter

**WRTP Specific Plan EIR**  
**Yolo County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	320.25	1000sqft	1.00	320,250.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan EIR - Yolo County, Winter

Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Grading -

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Architectural Coating - Mitigation to use "Super-Compliant" ultra-low VOC architectural coatings of 10 g/L or less.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	10.00
tblArchitecturalCoating	EF_Parking	150.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	10.00
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14



WRTP Specific Plan EIR - Yolo County, Winter

tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	260.00

WRTP Specific Plan EIR - Yolo County, Winter

tblConstructionPhase	NumDays	1,550.00	260.00
tblConstructionPhase	NumDays	155.00	260.00
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	60.00	260.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00

## WRTP Specific Plan EIR - Yolo County, Winter

tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00
tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00

## WRTP Specific Plan EIR - Yolo County, Winter

tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LandUseSquareFeet	286,624.80	286,407.00
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	0.41	2.05
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00
tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00

WRTP Specific Plan EIR - Yolo County, Winter

tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00

## WRTP Specific Plan EIR - Yolo County, Winter

tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00

WRTP Specific Plan EIR - Yolo County, Winter

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	20.5565	144.6396	108.9626	0.2705	184.0146	5.8562	189.8707	30.5651	5.4167	35.9818	0.0000	26,780.2468	26,780.2468	4.9530	0.0000	26,904.0708
<b>Maximum</b>	<b>20.5565</b>	<b>144.6396</b>	<b>108.9626</b>	<b>0.2705</b>	<b>184.0146</b>	<b>5.8562</b>	<b>189.8707</b>	<b>30.5651</b>	<b>5.4167</b>	<b>35.9818</b>	<b>0.0000</b>	<b>26,780.2468</b>	<b>26,780.2468</b>	<b>4.9530</b>	<b>0.0000</b>	<b>26,904.0708</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	11.2258	35.2659	114.5623	0.2705	110.4631	0.4129	110.8760	17.1054	0.4073	17.5128	0.0000	26,780.2468	26,780.2468	4.9530	0.0000	26,904.0707
<b>Maximum</b>	<b>11.2258</b>	<b>35.2659</b>	<b>114.5623</b>	<b>0.2705</b>	<b>110.4631</b>	<b>0.4129</b>	<b>110.8760</b>	<b>17.1054</b>	<b>0.4073</b>	<b>17.5128</b>	<b>0.0000</b>	<b>26,780.2468</b>	<b>26,780.2468</b>	<b>4.9530</b>	<b>0.0000</b>	<b>26,904.0707</b>

## WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	45.39	75.62	-5.14	0.00	39.97	92.95	41.60	44.04	92.48	51.33	0.00	0.00	0.00	0.00	0.00	0.00



WRTP Specific Plan EIR - Yolo County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 650**

**Acres of Paving: 0**

**Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

WRTP Specific Plan EIR - Yolo County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

WRTP Specific Plan EIR - Yolo County, Winter

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0429	0.4074	1.2100e-003	2.7848	8.5000e-004	2.7856	0.3004	7.8000e-004	0.3012		120.3798	120.3798	2.8700e-003		120.4516
<b>Total</b>	<b>0.0630</b>	<b>0.0429</b>	<b>0.4074</b>	<b>1.2100e-003</b>	<b>2.7848</b>	<b>8.5000e-004</b>	<b>2.7856</b>	<b>0.3004</b>	<b>7.8000e-004</b>	<b>0.3012</b>		<b>120.3798</b>	<b>120.3798</b>	<b>2.8700e-003</b>		<b>120.4516</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>8.1298</b>	<b>0.0621</b>	<b>8.1919</b>	<b>4.4688</b>	<b>0.0621</b>	<b>4.5309</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0429	0.4074	1.2100e-003	1.7411	8.5000e-004	1.7420	0.1936	7.8000e-004	0.1944		120.3798	120.3798	2.8700e-003		120.4516
<b>Total</b>	<b>0.0630</b>	<b>0.0429</b>	<b>0.4074</b>	<b>1.2100e-003</b>	<b>1.7411</b>	<b>8.5000e-004</b>	<b>1.7420</b>	<b>0.1936</b>	<b>7.8000e-004</b>	<b>0.1944</b>		<b>120.3798</b>	<b>120.3798</b>	<b>2.8700e-003</b>		<b>120.4516</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0700	0.0476	0.4526	1.3400e-003	3.0942	9.4000e-004	3.0951	0.3337	8.7000e-004	0.3346		133.7553	133.7553	3.1900e-003		133.8351
<b>Total</b>	<b>0.0700</b>	<b>0.0476</b>	<b>0.4526</b>	<b>1.3400e-003</b>	<b>3.0942</b>	<b>9.4000e-004</b>	<b>3.0951</b>	<b>0.3337</b>	<b>8.7000e-004</b>	<b>0.3346</b>		<b>133.7553</b>	<b>133.7553</b>	<b>3.1900e-003</b>		<b>133.8351</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0620</b>	<b>3.9030</b>	<b>0.1015</b>	<b>4.0045</b>	<b>1.6184</b>	<b>0.1015</b>	<b>1.7200</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0700	0.0476	0.4526	1.3400e-003	1.9346	9.4000e-004	1.9355	0.2151	8.7000e-004	0.2160		133.7553	133.7553	3.1900e-003		133.8351
<b>Total</b>	<b>0.0700</b>	<b>0.0476</b>	<b>0.4526</b>	<b>1.3400e-003</b>	<b>1.9346</b>	<b>9.4000e-004</b>	<b>1.9355</b>	<b>0.2151</b>	<b>8.7000e-004</b>	<b>0.2160</b>		<b>133.7553</b>	<b>133.7553</b>	<b>3.1900e-003</b>		<b>133.8351</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>



WRTP Specific Plan EIR - Yolo County, Winter

**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6327	23.8255	4.5116	0.0604	24.8443	0.0555	24.8998	2.7538	0.0531	2.8069		6,320.7955	6,320.7955	0.3325		6,329.1072
Worker	2.3416	1.5936	15.1403	0.0449	103.5001	0.0316	103.5317	11.1637	0.0291	11.1928		4,474.1158	4,474.1158	0.1067		4,476.7826
<b>Total</b>	<b>2.9743</b>	<b>25.4192</b>	<b>19.6519</b>	<b>0.1053</b>	<b>128.3444</b>	<b>0.0871</b>	<b>128.4315</b>	<b>13.9174</b>	<b>0.0822</b>	<b>13.9997</b>		<b>10,794.9113</b>	<b>10,794.9113</b>	<b>0.4391</b>		<b>10,805.8898</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5867	2.7396	17.6822	0.0269		0.1120	0.1120		0.1120	0.1120	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>0.5867</b>	<b>2.7396</b>	<b>17.6822</b>	<b>0.0269</b>		<b>0.1120</b>	<b>0.1120</b>		<b>0.1120</b>	<b>0.1120</b>	<b>0.0000</b>	<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

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**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.6327	23.8255	4.5116	0.0604	15.6312	0.0555	15.6867	1.8113	0.0531	1.8644		6,320.7955	6,320.7955	0.3325			6,329.1072
Worker	2.3416	1.5936	15.1403	0.0449	64.7110	0.0316	64.7426	7.1956	0.0291	7.2247		4,474.1158	4,474.1158	0.1067			4,476.7826
<b>Total</b>	<b>2.9743</b>	<b>25.4192</b>	<b>19.6519</b>	<b>0.1053</b>	<b>80.3422</b>	<b>0.0871</b>	<b>80.4293</b>	<b>9.0069</b>	<b>0.0822</b>	<b>9.0891</b>		<b>10,794.9113</b>	<b>10,794.9113</b>	<b>0.4391</b>			<b>10,805.8898</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139			2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>			<b>2,225.0573</b>

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**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0357	0.3395	1.0100e-003	2.3206	7.1000e-004	2.3213	0.2503	6.5000e-004	0.2510		100.3165	100.3165	2.3900e-003		100.3763
<b>Total</b>	<b>0.0525</b>	<b>0.0357</b>	<b>0.3395</b>	<b>1.0100e-003</b>	<b>2.3206</b>	<b>7.1000e-004</b>	<b>2.3213</b>	<b>0.2503</b>	<b>6.5000e-004</b>	<b>0.2510</b>		<b>100.3165</b>	<b>100.3165</b>	<b>2.3900e-003</b>		<b>100.3763</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

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**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0357	0.3395	1.0100e-003	1.4509	7.1000e-004	1.4516	0.1613	6.5000e-004	0.1620		100.3165	100.3165	2.3900e-003		100.3763
<b>Total</b>	<b>0.0525</b>	<b>0.0357</b>	<b>0.3395</b>	<b>1.0100e-003</b>	<b>1.4509</b>	<b>7.1000e-004</b>	<b>1.4516</b>	<b>0.1613</b>	<b>6.5000e-004</b>	<b>0.1620</b>		<b>100.3165</b>	<b>100.3165</b>	<b>2.3900e-003</b>		<b>100.3763</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>5.6919</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4690	0.3192	3.0326	8.9900e-003	20.7310	6.3300e-003	20.7373	2.2361	5.8300e-003	2.2419		896.1607	896.1607	0.0214		896.6949
<b>Total</b>	<b>0.4690</b>	<b>0.3192</b>	<b>3.0326</b>	<b>8.9900e-003</b>	<b>20.7310</b>	<b>6.3300e-003</b>	<b>20.7373</b>	<b>2.2361</b>	<b>5.8300e-003</b>	<b>2.2419</b>		<b>896.1607</b>	<b>896.1607</b>	<b>0.0214</b>		<b>896.6949</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>5.5027</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Winter

**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4690	0.3192	3.0326	8.9900e-003	12.9616	6.3300e-003	12.9679	1.4413	5.8300e-003	1.4471		896.1607	896.1607	0.0214		896.6949
<b>Total</b>	<b>0.4690</b>	<b>0.3192</b>	<b>3.0326</b>	<b>8.9900e-003</b>	<b>12.9616</b>	<b>6.3300e-003</b>	<b>12.9679</b>	<b>1.4413</b>	<b>5.8300e-003</b>	<b>1.4471</b>		<b>896.1607</b>	<b>896.1607</b>	<b>0.0214</b>		<b>896.6949</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

WRTP Specific Plan EIR - Yolo County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan EIR - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Unmitigated	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

WRTP Specific Plan EIR - Yolo County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan EIR - Yolo County, Summer

**WRTP Specific Plan EIR**  
**Yolo County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	320.25	1000sqft	1.00	320,250.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

## WRTP Specific Plan EIR - Yolo County, Summer

## Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Grading -

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Architectural Coating - Mitigation to use "Super-Compliant" ultra-low VOC architectural coatings of 10 g/L or less.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	10.00
tblArchitecturalCoating	EF_Parking	150.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	10.00
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14



WRTP Specific Plan EIR - Yolo County, Summer

tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	260.00

WRTP Specific Plan EIR - Yolo County, Summer

tblConstructionPhase	NumDays	1,550.00	260.00
tblConstructionPhase	NumDays	155.00	260.00
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	60.00	260.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00

WRTP Specific Plan EIR - Yolo County, Summer

tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00
tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00

## WRTP Specific Plan EIR - Yolo County, Summer

tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LandUseSquareFeet	286,624.80	286,407.00
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	0.41	2.05
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00
tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00

WRTP Specific Plan EIR - Yolo County, Summer

tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00

## WRTP Specific Plan EIR - Yolo County, Summer

tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00

WRTP Specific Plan EIR - Yolo County, Summer

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	20.7584	143.9537	110.9166	0.2800	184.0146	5.8533	189.8679	30.5651	5.4139	35.9790	0.0000	27,726.43 14	27,726.43 14	4.9303	0.0000	27,849.69 00
<b>Maximum</b>	<b>20.7584</b>	<b>143.9537</b>	<b>110.9166</b>	<b>0.2800</b>	<b>184.0146</b>	<b>5.8533</b>	<b>189.8679</b>	<b>30.5651</b>	<b>5.4139</b>	<b>35.9790</b>	<b>0.0000</b>	<b>27,726.43 14</b>	<b>27,726.43 14</b>	<b>4.9303</b>	<b>0.0000</b>	<b>27,849.69 00</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	11.4277	34.5800	116.5163	0.2800	110.4631	0.4100	110.8731	17.1054	0.4046	17.5100	0.0000	27,726.43 14	27,726.43 14	4.9303	0.0000	27,849.68 99
<b>Maximum</b>	<b>11.4277</b>	<b>34.5800</b>	<b>116.5163</b>	<b>0.2800</b>	<b>110.4631</b>	<b>0.4100</b>	<b>110.8731</b>	<b>17.1054</b>	<b>0.4046</b>	<b>17.5100</b>	<b>0.0000</b>	<b>27,726.43 14</b>	<b>27,726.43 14</b>	<b>4.9303</b>	<b>0.0000</b>	<b>27,849.68 99</b>

## WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	44.95	75.98	-5.05	0.00	39.97	93.00	41.61	44.04	92.53	51.33	0.00	0.00	0.00	0.00	0.00	0.00



WRTP Specific Plan EIR - Yolo County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 650

Acres of Paving: 0

Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

WRTP Specific Plan EIR - Yolo County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

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**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>3.8882</b>	<b>40.4971</b>	<b>21.1543</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.0445</b>	<b>20.1107</b>	<b>9.9307</b>	<b>1.8809</b>	<b>11.8116</b>		<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

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**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0345	0.4646	1.3700e-003	2.7848	8.5000e-004	2.7856	0.3004	7.8000e-004	0.3012		136.3748	136.3748	3.2100e-003		136.4551
<b>Total</b>	<b>0.0680</b>	<b>0.0345</b>	<b>0.4646</b>	<b>1.3700e-003</b>	<b>2.7848</b>	<b>8.5000e-004</b>	<b>2.7856</b>	<b>0.3004</b>	<b>7.8000e-004</b>	<b>0.3012</b>		<b>136.3748</b>	<b>136.3748</b>	<b>3.2100e-003</b>		<b>136.4551</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>8.1298</b>	<b>0.0621</b>	<b>8.1919</b>	<b>4.4688</b>	<b>0.0621</b>	<b>4.5309</b>	<b>0.0000</b>	<b>3,685.6569</b>	<b>3,685.6569</b>	<b>1.1920</b>		<b>3,715.4573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0345	0.4646	1.3700e-003	1.7411	8.5000e-004	1.7420	0.1936	7.8000e-004	0.1944		136.3748	136.3748	3.2100e-003		136.4551
<b>Total</b>	<b>0.0680</b>	<b>0.0345</b>	<b>0.4646</b>	<b>1.3700e-003</b>	<b>1.7411</b>	<b>8.5000e-004</b>	<b>1.7420</b>	<b>0.1936</b>	<b>7.8000e-004</b>	<b>0.1944</b>		<b>136.3748</b>	<b>136.3748</b>	<b>3.2100e-003</b>		<b>136.4551</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>4.1912</b>	<b>46.3998</b>	<b>30.8785</b>	<b>0.0620</b>	<b>8.6733</b>	<b>1.9853</b>	<b>10.6587</b>	<b>3.5965</b>	<b>1.8265</b>	<b>5.4230</b>		<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0755	0.0383	0.5162	1.5200e-003	3.0942	9.4000e-004	3.0951	0.3337	8.7000e-004	0.3346		151.5275	151.5275	3.5700e-003		151.6167
<b>Total</b>	<b>0.0755</b>	<b>0.0383</b>	<b>0.5162</b>	<b>1.5200e-003</b>	<b>3.0942</b>	<b>9.4000e-004</b>	<b>3.0951</b>	<b>0.3337</b>	<b>8.7000e-004</b>	<b>0.3346</b>		<b>151.5275</b>	<b>151.5275</b>	<b>3.5700e-003</b>		<b>151.6167</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0620</b>	<b>3.9030</b>	<b>0.1015</b>	<b>4.0045</b>	<b>1.6184</b>	<b>0.1015</b>	<b>1.7200</b>	<b>0.0000</b>	<b>6,007.0434</b>	<b>6,007.0434</b>	<b>1.9428</b>		<b>6,055.6134</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0755	0.0383	0.5162	1.5200e-003	1.9346	9.4000e-004	1.9355	0.2151	8.7000e-004	0.2160		151.5275	151.5275	3.5700e-003		151.6167
<b>Total</b>	<b>0.0755</b>	<b>0.0383</b>	<b>0.5162</b>	<b>1.5200e-003</b>	<b>1.9346</b>	<b>9.4000e-004</b>	<b>1.9355</b>	<b>0.2151</b>	<b>8.7000e-004</b>	<b>0.2160</b>		<b>151.5275</b>	<b>151.5275</b>	<b>3.5700e-003</b>		<b>151.6167</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>		<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>



WRTP Specific Plan EIR - Yolo County, Summer

**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5977	23.5403	3.7458	0.0621	24.8443	0.0526	24.8969	2.7538	0.0504	2.8041		6,506.3312	6,506.3312	0.2936		6,513.6706
Worker	2.5267	1.2804	17.2659	0.0509	103.5001	0.0316	103.5317	11.1637	0.0291	11.1928		5,068.5950	5,068.5950	0.1194		5,071.5798
<b>Total</b>	<b>3.1244</b>	<b>24.8208</b>	<b>21.0117</b>	<b>0.1130</b>	<b>128.3444</b>	<b>0.0842</b>	<b>128.4287</b>	<b>13.9174</b>	<b>0.0795</b>	<b>13.9969</b>		<b>11,574.9261</b>	<b>11,574.9261</b>	<b>0.4130</b>		<b>11,585.2503</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5867	2.7396	17.6822	0.0269		0.1120	0.1120		0.1120	0.1120	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
<b>Total</b>	<b>0.5867</b>	<b>2.7396</b>	<b>17.6822</b>	<b>0.0269</b>		<b>0.1120</b>	<b>0.1120</b>		<b>0.1120</b>	<b>0.1120</b>	<b>0.0000</b>	<b>2,553.3639</b>	<b>2,553.3639</b>	<b>0.6160</b>		<b>2,568.7643</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5977	23.5403	3.7458	0.0621	15.6312	0.0526	15.6838	1.8113	0.0504	1.8616		6,506.3312	6,506.3312	0.2936		6,513.6706
Worker	2.5267	1.2804	17.2659	0.0509	64.7110	0.0316	64.7426	7.1956	0.0291	7.2247		5,068.5950	5,068.5950	0.1194		5,071.5798
<b>Total</b>	<b>3.1244</b>	<b>24.8208</b>	<b>21.0117</b>	<b>0.1130</b>	<b>80.3422</b>	<b>0.0842</b>	<b>80.4264</b>	<b>9.0069</b>	<b>0.0795</b>	<b>9.0863</b>		<b>11,574.9261</b>	<b>11,574.9261</b>	<b>0.4130</b>		<b>11,585.2503</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.2556</b>	<b>12.9191</b>	<b>14.6532</b>	<b>0.0228</b>		<b>0.6777</b>	<b>0.6777</b>		<b>0.6235</b>	<b>0.6235</b>		<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0567	0.0287	0.3871	1.1400e-003	2.3206	7.1000e-004	2.3213	0.2503	6.5000e-004	0.2510		113.6456	113.6456	2.6800e-003		113.7126
<b>Total</b>	<b>0.0567</b>	<b>0.0287</b>	<b>0.3871</b>	<b>1.1400e-003</b>	<b>2.3206</b>	<b>7.1000e-004</b>	<b>2.3213</b>	<b>0.2503</b>	<b>6.5000e-004</b>	<b>0.2510</b>		<b>113.6456</b>	<b>113.6456</b>	<b>2.6800e-003</b>		<b>113.7126</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.2109</b>	<b>2,207.2109</b>	<b>0.7139</b>		<b>2,225.0573</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0567	0.0287	0.3871	1.1400e-003	1.4509	7.1000e-004	1.4516	0.1613	6.5000e-004	0.1620		113.6456	113.6456	2.6800e-003		113.7126
<b>Total</b>	<b>0.0567</b>	<b>0.0287</b>	<b>0.3871</b>	<b>1.1400e-003</b>	<b>1.4509</b>	<b>7.1000e-004</b>	<b>1.4516</b>	<b>0.1613</b>	<b>6.5000e-004</b>	<b>0.1620</b>		<b>113.6456</b>	<b>113.6456</b>	<b>2.6800e-003</b>		<b>113.7126</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>5.6919</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5061	0.2565	3.4583	0.0102	20.7310	6.3300e-003	20.7373	2.2361	5.8300e-003	2.2419		1,015.2343	1,015.2343	0.0239		1,015.8321
<b>Total</b>	<b>0.5061</b>	<b>0.2565</b>	<b>3.4583</b>	<b>0.0102</b>	<b>20.7310</b>	<b>6.3300e-003</b>	<b>20.7373</b>	<b>2.2361</b>	<b>5.8300e-003</b>	<b>2.2419</b>		<b>1,015.2343</b>	<b>1,015.2343</b>	<b>0.0239</b>		<b>1,015.8321</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>5.5027</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

WRTP Specific Plan EIR - Yolo County, Summer

**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5061	0.2565	3.4583	0.0102	12.9616	6.3300e-003	12.9679	1.4413	5.8300e-003	1.4471		1,015.2343	1,015.2343	0.0239		1,015.8321
<b>Total</b>	<b>0.5061</b>	<b>0.2565</b>	<b>3.4583</b>	<b>0.0102</b>	<b>12.9616</b>	<b>6.3300e-003</b>	<b>12.9679</b>	<b>1.4413</b>	<b>5.8300e-003</b>	<b>1.4471</b>		<b>1,015.2343</b>	<b>1,015.2343</b>	<b>0.0239</b>		<b>1,015.8321</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

WRTP Specific Plan EIR - Yolo County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

WRTP Specific Plan EIR - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan EIR - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391
Unmitigated	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915	0.0000	62.4258	62.4258	0.0605	0.0000	63.9391

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

WRTP Specific Plan EIR - Yolo County, Summer

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0532	0.3999	34.6905	1.8300e-003		0.1915	0.1915		0.1915	0.1915		62.4258	62.4258	0.0605		63.9391
<b>Total</b>	<b>1.0532</b>	<b>0.3999</b>	<b>34.6905</b>	<b>1.8300e-003</b>		<b>0.1915</b>	<b>0.1915</b>		<b>0.1915</b>	<b>0.1915</b>	<b>0.0000</b>	<b>62.4258</b>	<b>62.4258</b>	<b>0.0605</b>	<b>0.0000</b>	<b>63.9391</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

WRTP Specific Plan EIR - Yolo County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan EIR - Yolo County, Annual

**WRTP Specific Plan EIR**  
**Yolo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	320.25	1000sqft	1.00	320,250.00	0
Research & Development	185.74	1000sqft	10.68	185,740.00	0
Industrial Park	302.96	1000sqft	17.40	302,960.00	0
City Park	6.58	Acre	6.58	286,407.00	0
Apartments Mid Rise	130.00	Dwelling Unit	6.40	130,000.00	372
Condo/Townhouse	157.00	Dwelling Unit	13.05	157,000.00	449
Single Family Housing	132.00	Dwelling Unit	21.98	237,600.00	378
Regional Shopping Center	17.88	1000sqft	2.05	17,880.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

## WRTP Specific Plan EIR - Yolo County, Annual

## Project Characteristics -

Land Use - Construction-only run. Assumes up to 25% of total land uses could be constructed in initial year (2021).

Construction Phase - Assume all construction phases could occur concurrently throughout the Specific Plan Area.

On-road Fugitive Dust - Travel primarily on paved roads due to proximity to major roadways surrounding Specific Plan Area.

Grading -

Vehicle Trips - Construction-only run. Zeroed out operational inputs.

Woodstoves - Construction-only run. Zeroed out operational inputs.

Consumer Products - Construction-only run. Zeroed out operational inputs.

Area Coating - Construction-only run. Zeroed out operational inputs.

Landscape Equipment - Construction-only run. Zeroed out operational inputs.

Energy Use - Construction-only run. Zeroed out operational inputs.

Water And Wastewater - Construction-only run. Zeroed out operational inputs.

Solid Waste - Construction-only run. Zeroed out operational inputs.

Construction Off-road Equipment Mitigation - Construction mitigation of equipment that meets Tier 3 or better emissions standards, water exposed areas at least twice daily, reduced vehicle speed to 15mph, and clean paved roadways.

Architectural Coating - Mitigation to use "Super-Compliant" ultra-low VOC architectural coatings of 10 g/L or less.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	10.00
tblArchitecturalCoating	EF_Parking	150.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	10.00
tblAreaCoating	Area_Nonresidential_Exterior	413415	0
tblAreaCoating	Area_Nonresidential_Interior	1240245	0
tblAreaCoating	Area_Residential_Exterior	354105	0
tblAreaCoating	Area_Residential_Interior	1062315	0
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	14



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tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	260.00

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tblConstructionPhase	NumDays	1,550.00	260.00
tblConstructionPhase	NumDays	155.00	260.00
tblConstructionPhase	NumDays	110.00	260.00
tblConstructionPhase	NumDays	60.00	260.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	LightingElect	2.92	0.00
tblEnergyUse	LightingElect	3.59	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3,795.01	0.00
tblEnergyUse	NT24E	3.58	0.00
tblEnergyUse	NT24E	4.49	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	NT24NG	0.28	0.00
tblEnergyUse	NT24NG	0.82	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	3,723.00	0.00
tblEnergyUse	T24E	700.71	0.00
tblEnergyUse	T24E	711.99	0.00

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tblEnergyUse	T24E	2.62	0.00
tblEnergyUse	T24E	3.58	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	1.96	0.00
tblEnergyUse	T24E	995.93	0.00
tblEnergyUse	T24NG	8,454.86	0.00
tblEnergyUse	T24NG	14,242.58	0.00
tblEnergyUse	T24NG	12.77	0.00
tblEnergyUse	T24NG	21.96	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	17.03	0.00
tblEnergyUse	T24NG	22,422.24	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	71.50	0.00
tblFireplaces	NumberGas	86.35	0.00
tblFireplaces	NumberNoFireplace	13.00	0.00
tblFireplaces	NumberNoFireplace	15.70	0.00
tblFireplaces	NumberNoFireplace	91.08	0.00
tblFireplaces	NumberWood	45.50	0.00

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tblFireplaces	NumberWood	54.95	0.00
tblFireplaces	NumberWood	40.92	0.00
tblLandUse	LandUseSquareFeet	286,624.80	286,407.00
tblLandUse	LotAcreage	7.35	1.00
tblLandUse	LotAcreage	4.26	10.68
tblLandUse	LotAcreage	6.96	17.40
tblLandUse	LotAcreage	3.42	6.40
tblLandUse	LotAcreage	9.81	13.05
tblLandUse	LotAcreage	42.86	21.98
tblLandUse	LotAcreage	0.41	2.05
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	HaulingPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	VendorPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblOnRoadDust	WorkerPercentPave	94.00	99.00
tblSolidWaste	SolidWasteGenerationRate	59.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.57	0.00
tblSolidWaste	SolidWasteGenerationRate	72.22	0.00
tblSolidWaste	SolidWasteGenerationRate	375.67	0.00

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tblSolidWaste	SolidWasteGenerationRate	297.83	0.00
tblSolidWaste	SolidWasteGenerationRate	18.77	0.00
tblSolidWaste	SolidWasteGenerationRate	14.11	0.00
tblSolidWaste	SolidWasteGenerationRate	136.08	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	ST_TR	1.64	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblVehicleTrips	WD_TR	11.42	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	8.11	0.00

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tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	8,470,023.33	0.00
tblWater	IndoorWaterUseRate	10,229,182.02	0.00
tblWater	IndoorWaterUseRate	70,059,500.00	0.00
tblWater	IndoorWaterUseRate	56,919,232.79	0.00
tblWater	IndoorWaterUseRate	1,324,416.68	0.00
tblWater	IndoorWaterUseRate	91,327,233.75	0.00
tblWater	IndoorWaterUseRate	8,600,331.38	0.00
tblWater	OutdoorWaterUseRate	5,339,797.32	0.00
tblWater	OutdoorWaterUseRate	7,839,947.28	0.00
tblWater	OutdoorWaterUseRate	6,448,832.14	0.00
tblWater	OutdoorWaterUseRate	34,885,981.39	0.00
tblWater	OutdoorWaterUseRate	811,739.26	0.00
tblWater	OutdoorWaterUseRate	5,421,948.05	0.00
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberCatalytic	7.85	0.00
tblWoodstoves	NumberCatalytic	3.30	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	7.85	0.00
tblWoodstoves	NumberNoncatalytic	3.30	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	3,120.00	0.00

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**2.0 Emissions Summary**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	2.6449	18.7822	14.0583	0.0355	21.0173	0.7611	21.7784	3.6790	0.7040	4.3829	0.0000	3,190.1509	3,190.1509	0.5816	0.0000	3,204.6904
<b>Maximum</b>	<b>2.6449</b>	<b>18.7822</b>	<b>14.0583</b>	<b>0.0355</b>	<b>21.0173</b>	<b>0.7611</b>	<b>21.7784</b>	<b>3.6790</b>	<b>0.7040</b>	<b>4.3829</b>	<b>0.0000</b>	<b>3,190.1509</b>	<b>3,190.1509</b>	<b>0.5816</b>	<b>0.0000</b>	<b>3,204.6904</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.4319	4.5636	14.7862	0.0355	12.5740	0.0535	12.6274	2.0417	0.0527	2.0944	0.0000	3,190.1488	3,190.1488	0.5816	0.0000	3,204.6883
<b>Maximum</b>	<b>1.4319</b>	<b>4.5636</b>	<b>14.7862</b>	<b>0.0355</b>	<b>12.5740</b>	<b>0.0535</b>	<b>12.6274</b>	<b>2.0417</b>	<b>0.0527</b>	<b>2.0944</b>	<b>0.0000</b>	<b>3,190.1488</b>	<b>3,190.1488</b>	<b>0.5816</b>	<b>0.0000</b>	<b>3,204.6883</b>

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	45.86	75.70	-5.18	0.00	40.17	92.98	42.02	44.50	92.51	52.21	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	5.3099	1.4944
2	4-1-2021	6-30-2021	5.3531	1.4952
3	7-1-2021	9-30-2021	5.4120	1.5117
		Highest	5.4120	1.5117

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0948</b>	<b>0.0360</b>	<b>3.1221</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>5.0969</b>	<b>5.0969</b>	<b>4.9400e-003</b>	<b>0.0000</b>	<b>5.2204</b>



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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0948</b>	<b>0.0360</b>	<b>3.1221</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>5.0969</b>	<b>5.0969</b>	<b>4.9400e-003</b>	<b>0.0000</b>	<b>5.2204</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	12/30/2021	5	260	
2	Grading	Grading	1/1/2021	12/30/2021	5	260	
3	Building Construction	Building Construction	1/1/2021	12/30/2021	5	260	
4	Paving	Paving	1/1/2021	12/30/2021	5	260	
5	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 650**

**Acres of Paving: 0**

**Residential Indoor: 1,062,315; Residential Outdoor: 354,105; Non-Residential Indoor: 1,240,245; Non-Residential Outdoor: 413,415; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	669.00	227.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	134.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

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**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

**3.2 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5055	5.2646	2.7501	4.9400e-003		0.2658	0.2658		0.2445	0.2445	0.0000	434.6643	434.6643	0.1406	0.0000	438.1788
<b>Total</b>	<b>0.5055</b>	<b>5.2646</b>	<b>2.7501</b>	<b>4.9400e-003</b>	<b>2.3486</b>	<b>0.2658</b>	<b>2.6144</b>	<b>1.2910</b>	<b>0.2445</b>	<b>1.5355</b>	<b>0.0000</b>	<b>434.6643</b>	<b>434.6643</b>	<b>0.1406</b>	<b>0.0000</b>	<b>438.1788</b>

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**3.2 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6800e-003	4.9500e-003	0.0520	1.6000e-004	0.3105	1.1000e-004	0.3106	0.0338	1.0000e-004	0.0339	0.0000	14.5998	14.5998	3.4000e-004	0.0000	14.6083
<b>Total</b>	<b>7.6800e-003</b>	<b>4.9500e-003</b>	<b>0.0520</b>	<b>1.6000e-004</b>	<b>0.3105</b>	<b>1.1000e-004</b>	<b>0.3106</b>	<b>0.0338</b>	<b>1.0000e-004</b>	<b>0.0339</b>	<b>0.0000</b>	<b>14.5998</b>	<b>14.5998</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>14.6083</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0569	0.0000	1.0569	0.5809	0.0000	0.5809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0605	0.2623	2.7130	4.9400e-003		8.0700e-003	8.0700e-003		8.0700e-003	8.0700e-003	0.0000	434.6638	434.6638	0.1406	0.0000	438.1783
<b>Total</b>	<b>0.0605</b>	<b>0.2623</b>	<b>2.7130</b>	<b>4.9400e-003</b>	<b>1.0569</b>	<b>8.0700e-003</b>	<b>1.0650</b>	<b>0.5809</b>	<b>8.0700e-003</b>	<b>0.5890</b>	<b>0.0000</b>	<b>434.6638</b>	<b>434.6638</b>	<b>0.1406</b>	<b>0.0000</b>	<b>438.1783</b>

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**3.2 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6800e-003	4.9500e-003	0.0520	1.6000e-004	0.1947	1.1000e-004	0.1948	0.0219	1.0000e-004	0.0220	0.0000	14.5998	14.5998	3.4000e-004	0.0000	14.6083
<b>Total</b>	<b>7.6800e-003</b>	<b>4.9500e-003</b>	<b>0.0520</b>	<b>1.6000e-004</b>	<b>0.1947</b>	<b>1.1000e-004</b>	<b>0.1948</b>	<b>0.0219</b>	<b>1.0000e-004</b>	<b>0.0220</b>	<b>0.0000</b>	<b>14.5998</b>	<b>14.5998</b>	<b>3.4000e-004</b>	<b>0.0000</b>	<b>14.6083</b>

**3.3 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1275	0.0000	1.1275	0.4676	0.0000	0.4676	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5449	6.0320	4.0142	8.0600e-003		0.2581	0.2581		0.2375	0.2375	0.0000	708.4348	708.4348	0.2291	0.0000	714.1628
<b>Total</b>	<b>0.5449</b>	<b>6.0320</b>	<b>4.0142</b>	<b>8.0600e-003</b>	<b>1.1275</b>	<b>0.2581</b>	<b>1.3856</b>	<b>0.4676</b>	<b>0.2375</b>	<b>0.7050</b>	<b>0.0000</b>	<b>708.4348</b>	<b>708.4348</b>	<b>0.2291</b>	<b>0.0000</b>	<b>714.1628</b>

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**3.3 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5300e-003	5.5000e-003	0.0577	1.8000e-004	0.3450	1.2000e-004	0.3451	0.0376	1.1000e-004	0.0377	0.0000	16.2220	16.2220	3.8000e-004	0.0000	16.2314
<b>Total</b>	<b>8.5300e-003</b>	<b>5.5000e-003</b>	<b>0.0577</b>	<b>1.8000e-004</b>	<b>0.3450</b>	<b>1.2000e-004</b>	<b>0.3451</b>	<b>0.0376</b>	<b>1.1000e-004</b>	<b>0.0377</b>	<b>0.0000</b>	<b>16.2220</b>	<b>16.2220</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>16.2314</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5074	0.0000	0.5074	0.2104	0.0000	0.2104	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0990	0.4290	4.2899	8.0600e-003		0.0132	0.0132		0.0132	0.0132	0.0000	708.4339	708.4339	0.2291	0.0000	714.1620
<b>Total</b>	<b>0.0990</b>	<b>0.4290</b>	<b>4.2899</b>	<b>8.0600e-003</b>	<b>0.5074</b>	<b>0.0132</b>	<b>0.5206</b>	<b>0.2104</b>	<b>0.0132</b>	<b>0.2236</b>	<b>0.0000</b>	<b>708.4339</b>	<b>708.4339</b>	<b>0.2291</b>	<b>0.0000</b>	<b>714.1620</b>

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**3.3 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5300e-003	5.5000e-003	0.0577	1.8000e-004	0.2163	1.2000e-004	0.2164	0.0244	1.1000e-004	0.0245	0.0000	16.2220	16.2220	3.8000e-004	0.0000	16.2314
<b>Total</b>	<b>8.5300e-003</b>	<b>5.5000e-003</b>	<b>0.0577</b>	<b>1.8000e-004</b>	<b>0.2163</b>	<b>1.2000e-004</b>	<b>0.2164</b>	<b>0.0244</b>	<b>1.1000e-004</b>	<b>0.0245</b>	<b>0.0000</b>	<b>16.2220</b>	<b>16.2220</b>	<b>3.8000e-004</b>	<b>0.0000</b>	<b>16.2314</b>

**3.4 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2471	2.2662	2.1548	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.1285	301.1285	0.0727	0.0000	302.9447
<b>Total</b>	<b>0.2471</b>	<b>2.2662</b>	<b>2.1548</b>	<b>3.5000e-003</b>		<b>0.1246</b>	<b>0.1246</b>		<b>0.1172</b>	<b>0.1172</b>	<b>0.0000</b>	<b>301.1285</b>	<b>301.1285</b>	<b>0.0727</b>	<b>0.0000</b>	<b>302.9447</b>



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**3.4 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.1060	0.5277	7.9800e-003	2.7750	7.0000e-003	2.7820	0.3119	6.7000e-003	0.3186	0.0000	758.1258	758.1258	0.0365	0.0000	759.0393
Worker	0.2853	0.1840	1.9307	6.0000e-003	11.5404	4.1100e-003	11.5445	1.2572	3.7800e-003	1.2609	0.0000	542.6246	542.6246	0.0127	0.0000	542.9417
<b>Total</b>	<b>0.3646</b>	<b>3.2900</b>	<b>2.4584</b>	<b>0.0140</b>	<b>14.3154</b>	<b>0.0111</b>	<b>14.3265</b>	<b>1.5690</b>	<b>0.0105</b>	<b>1.5795</b>	<b>0.0000</b>	<b>1,300.7504</b>	<b>1,300.7504</b>	<b>0.0492</b>	<b>0.0000</b>	<b>1,301.9810</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0763	0.3562	2.2987	3.5000e-003		0.0146	0.0146		0.0146	0.0146	0.0000	301.1281	301.1281	0.0727	0.0000	302.9443
<b>Total</b>	<b>0.0763</b>	<b>0.3562</b>	<b>2.2987</b>	<b>3.5000e-003</b>		<b>0.0146</b>	<b>0.0146</b>		<b>0.0146</b>	<b>0.0146</b>	<b>0.0000</b>	<b>301.1281</b>	<b>301.1281</b>	<b>0.0727</b>	<b>0.0000</b>	<b>302.9443</b>

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**3.4 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.1060	0.5277	7.9800e-003	1.7524	7.0000e-003	1.7594	0.2070	6.7000e-003	0.2137	0.0000	758.1258	758.1258	0.0365	0.0000	759.0393
Worker	0.2853	0.1840	1.9307	6.0000e-003	7.2350	4.1100e-003	7.2391	0.8155	3.7800e-003	0.8192	0.0000	542.6246	542.6246	0.0127	0.0000	542.9417
<b>Total</b>	<b>0.3646</b>	<b>3.2900</b>	<b>2.4584</b>	<b>0.0140</b>	<b>8.9874</b>	<b>0.0111</b>	<b>8.9985</b>	<b>1.0224</b>	<b>0.0105</b>	<b>1.0329</b>	<b>0.0000</b>	<b>1,300.7504</b>	<b>1,300.7504</b>	<b>0.0492</b>	<b>0.0000</b>	<b>1,301.9810</b>

**3.5 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1632	1.6795	1.9049	2.9600e-003		0.0881	0.0881		0.0811	0.0811	0.0000	260.3052	260.3052	0.0842	0.0000	262.4099
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1632</b>	<b>1.6795</b>	<b>1.9049</b>	<b>2.9600e-003</b>		<b>0.0881</b>	<b>0.0881</b>		<b>0.0811</b>	<b>0.0811</b>	<b>0.0000</b>	<b>260.3052</b>	<b>260.3052</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4099</b>

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**3.5 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-003	4.1300e-003	0.0433	1.3000e-004	0.2588	9.0000e-005	0.2589	0.0282	8.0000e-005	0.0283	0.0000	12.1665	12.1665	2.8000e-004	0.0000	12.1736
<b>Total</b>	<b>6.4000e-003</b>	<b>4.1300e-003</b>	<b>0.0433</b>	<b>1.3000e-004</b>	<b>0.2588</b>	<b>9.0000e-005</b>	<b>0.2589</b>	<b>0.0282</b>	<b>8.0000e-005</b>	<b>0.0283</b>	<b>0.0000</b>	<b>12.1665</b>	<b>12.1665</b>	<b>2.8000e-004</b>	<b>0.0000</b>	<b>12.1736</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0365	0.1580	2.2484	2.9600e-003		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003	0.0000	260.3049	260.3049	0.0842	0.0000	262.4096
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0365</b>	<b>0.1580</b>	<b>2.2484</b>	<b>2.9600e-003</b>		<b>4.8600e-003</b>	<b>4.8600e-003</b>		<b>4.8600e-003</b>	<b>4.8600e-003</b>	<b>0.0000</b>	<b>260.3049</b>	<b>260.3049</b>	<b>0.0842</b>	<b>0.0000</b>	<b>262.4096</b>

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**3.5 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-003	4.1300e-003	0.0433	1.3000e-004	0.1622	9.0000e-005	0.1623	0.0183	8.0000e-005	0.0184	0.0000	12.1665	12.1665	2.8000e-004	0.0000	12.1736
<b>Total</b>	<b>6.4000e-003</b>	<b>4.1300e-003</b>	<b>0.0433</b>	<b>1.3000e-004</b>	<b>0.1622</b>	<b>9.0000e-005</b>	<b>0.1623</b>	<b>0.0183</b>	<b>8.0000e-005</b>	<b>0.0184</b>	<b>0.0000</b>	<b>12.1665</b>	<b>12.1665</b>	<b>2.8000e-004</b>	<b>0.0000</b>	<b>12.1736</b>

**3.6 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7115					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>0.7400</b>	<b>0.1985</b>	<b>0.2363</b>	<b>3.9000e-004</b>		<b>0.0122</b>	<b>0.0122</b>		<b>0.0122</b>	<b>0.0122</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.6 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0571	0.0369	0.3867	1.2000e-003	2.3115	8.2000e-004	2.3124	0.2518	7.6000e-004	0.2526	0.0000	108.6871	108.6871	2.5400e-003	0.0000	108.7507
<b>Total</b>	<b>0.0571</b>	<b>0.0369</b>	<b>0.3867</b>	<b>1.2000e-003</b>	<b>2.3115</b>	<b>8.2000e-004</b>	<b>2.3124</b>	<b>0.2518</b>	<b>7.6000e-004</b>	<b>0.2526</b>	<b>0.0000</b>	<b>108.6871</b>	<b>108.6871</b>	<b>2.5400e-003</b>	<b>0.0000</b>	<b>108.7507</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7115					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8600e-003	0.0167	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
<b>Total</b>	<b>0.7154</b>	<b>0.0167</b>	<b>0.2382</b>	<b>3.9000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>33.1923</b>	<b>33.1923</b>	<b>2.2800e-003</b>	<b>0.0000</b>	<b>33.2492</b>

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**3.6 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0571	0.0369	0.3867	1.2000e-003	1.4492	8.2000e-004	1.4500	0.1633	7.6000e-004	0.1641	0.0000	108.6871	108.6871	2.5400e-003	0.0000	108.7507
<b>Total</b>	<b>0.0571</b>	<b>0.0369</b>	<b>0.3867</b>	<b>1.2000e-003</b>	<b>1.4492</b>	<b>8.2000e-004</b>	<b>1.4500</b>	<b>0.1633</b>	<b>7.6000e-004</b>	<b>0.1641</b>	<b>0.0000</b>	<b>108.6871</b>	<b>108.6871</b>	<b>2.5400e-003</b>	<b>0.0000</b>	<b>108.7507</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

WRTP Specific Plan EIR - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Industrial Park	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Office Park	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
City Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Condo/Townhouse	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Industrial Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Office Park	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Regional Shopping Center	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Research & Development	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791
Single Family Housing	0.492305	0.039568	0.208718	0.119283	0.022760	0.005403	0.060505	0.041350	0.001014	0.001744	0.005799	0.000759	0.000791

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy









WRTP Specific Plan EIR - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan EIR - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204
Unmitigated	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204
<b>Total</b>	<b>0.0948</b>	<b>0.0360</b>	<b>3.1221</b>	<b>1.6000e-004</b>		<b>0.0172</b>	<b>0.0172</b>		<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>5.0969</b>	<b>5.0969</b>	<b>4.9400e-003</b>	<b>0.0000</b>	<b>5.2204</b>

WRTP Specific Plan EIR - Yolo County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0948	0.0360	3.1221	1.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	5.0969	5.0969	4.9400e-003	0.0000	5.2204
<b>Total</b>	<b>0.0948</b>	<b>0.0360</b>	<b>3.1221</b>	<b>1.6000e-004</b>		<b>0.0172</b>	<b>0.0172</b>		<b>0.0172</b>	<b>0.0172</b>	<b>0.0000</b>	<b>5.0969</b>	<b>5.0969</b>	<b>4.9400e-003</b>	<b>0.0000</b>	<b>5.2204</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

WRTP Specific Plan EIR - Yolo County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000



WRTP Specific Plan EIR - Yolo County, Annual

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

WRTP Specific Plan EIR - Yolo County, Annual

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

WRTP Specific Plan EIR - Yolo County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

WRTP Specific Plan EIR - Yolo County, Annual

**8.2 Waste by Land Use**

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Research & Development	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

WRTP Specific Plan EIR - Yolo County, Annual

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> <i>WRTP Specific Plan ROW</i>														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.80	6.04	9.15	47.88	0.38	47.50	10.22	0.34	9.88	0.01	1,351.41	0.41	0.01	1,365.83
Grading/Excavation	4.75	39.56	52.41	49.75	2.25	47.50	11.91	2.03	9.88	0.08	8,007.95	2.46	0.08	8,093.49
Drainage/Utilities/Sub-Grade	3.97	34.08	41.53	49.34	1.84	47.50	11.58	1.70	9.88	0.07	6,562.61	1.56	0.06	6,620.91
Paving	1.44	16.59	14.13	0.83	0.83	0.00	0.75	0.75	0.00	0.03	2,485.90	0.72	0.03	2,512.22
Maximum (pounds/day)	4.75	39.56	52.41	49.75	2.25	47.50	11.91	2.03	9.88	0.08	8,007.95	2.46	0.08	8,093.49
Total (tons/construction project)	0.47	4.07	5.09	5.55	0.23	5.33	1.31	0.21	1.11	0.01	793.07	0.22	0.01	800.99

Notes:  
 Project Start Year -> 2021  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 10  
 Maximum Area Disturbed/Day (acres) -> 2  
 Water Truck Used? -> No

Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	120	0
Grading/Excavation	0	0	0	0	600	0
Drainage/Utilities/Sub-Grade	0	0	0	0	520	0
Paving	0	0	0	0	360	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> <i>WRTP Specific Plan ROW</i>														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.08	0.12	0.63	0.01	0.63	0.13	0.00	0.13	0.00	17.84	0.01	0.00	16.36
Grading/Excavation	0.25	2.09	2.77	2.63	0.12	2.51	0.63	0.11	0.52	0.00	422.82	0.13	0.00	387.68
Drainage/Utilities/Sub-Grade	0.18	1.57	1.92	2.28	0.09	2.19	0.54	0.08	0.46	0.00	303.19	0.07	0.00	277.50
Paving	0.03	0.33	0.28	0.02	0.02	0.00	0.01	0.01	0.00	0.00	49.22	0.01	0.00	45.13
Maximum (tons/phase)	0.25	2.09	2.77	2.63	0.12	2.51	0.63	0.11	0.52	0.00	422.82	0.13	0.00	387.68
Total (tons/construction project)	0.47	4.07	5.09	5.55	0.23	5.33	1.31	0.21	1.11	0.01	793.07	0.22	0.01	726.66

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.  
 The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> W RTP Specific Plan ROW - Mitigated														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.46	8.53	1.44	23.82	0.07	23.75	4.99	0.05	4.94	0.02	1,515.42	0.41	0.04	1,537.56
Grading/Excavation	2.54	49.36	5.56	24.07	0.32	23.75	5.20	0.26	4.94	0.08	8,171.95	2.46	0.11	8,265.22
Drainage/Utilities/Sub-Grade	2.00	39.42	4.78	24.03	0.28	23.75	5.16	0.22	4.94	0.07	6,726.62	1.57	0.09	6,792.65
Paving	0.80	18.39	2.10	0.13	0.13	0.00	0.09	0.09	0.00	0.03	2,649.72	0.72	0.05	2,683.75
Maximum (pounds/day)	2.54	49.36	5.56	24.07	0.32	23.75	5.20	0.26	4.94	0.08	8,171.95	2.46	0.11	8,265.22
Total (tons/construction project)	0.25	4.90	0.57	2.70	0.03	2.66	0.58	0.03	0.55	0.01	814.72	0.22	0.01	823.66

Notes:  
 Project Start Year -> 2021  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 10  
 Maximum Area Disturbed/Day (acres) -> 2  
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	120	40
Grading/Excavation	0	0	0	0	600	40
Drainage/Utilities/Sub-Grade	0	0	0	0	520	40
Paving	0	0	0	0	360	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> W RTP Specific Plan ROW - Mitigated														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.11	0.02	0.31	0.00	0.31	0.07	0.00	0.07	0.00	20.00	0.01	0.00	18.41
Grading/Excavation	0.13	2.61	0.29	1.27	0.02	1.25	0.27	0.01	0.26	0.00	431.48	0.13	0.01	395.90
Drainage/Utilities/Sub-Grade	0.09	1.82	0.22	1.11	0.01	1.10	0.24	0.01	0.23	0.00	310.77	0.07	0.00	284.70
Paving	0.02	0.36	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.46	0.01	0.00	48.21
Maximum (tons/phase)	0.13	2.61	0.29	1.27	0.02	1.25	0.27	0.01	0.26	0.00	431.48	0.13	0.01	395.90
Total (tons/construction project)	0.25	4.90	0.57	2.70	0.03	2.66	0.58	0.03	0.55	0.01	814.72	0.22	0.01	747.22

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.



Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> W RTP Specific Plan Caltrans Off-site Improvement Area														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.04	9.42	11.32	74.49	0.49	74.00	15.83	0.44	15.39	0.02	1,881.89	0.57	0.02	1,901.97
Grading/Excavation	5.61	46.29	62.17	76.67	2.67	74.00	17.81	2.42	15.39	0.10	9,372.57	2.86	0.10	9,472.61
Drainage/Utilities/Sub-Grade	3.23	29.34	32.72	75.54	1.54	74.00	16.82	1.42	15.39	0.06	5,395.60	1.19	0.05	5,441.32
Paving	1.44	16.97	14.11	0.82	0.82	0.00	0.74	0.74	0.00	0.03	2,532.73	0.74	0.03	2,559.54
Maximum (pounds/day)	5.61	46.29	62.17	76.67	2.67	74.00	17.81	2.42	15.39	0.10	9,372.57	2.86	0.10	9,472.61
Total (tons/construction project)	0.49	4.26	5.22	8.54	0.23	8.30	1.94	0.21	1.73	0.01	819.14	0.23	0.01	827.33

Notes:  
 Project Start Year -> 2021  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 37  
 Maximum Area Disturbed/Day (acres) -> 4  
 Water Truck Used? -> No

Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	160	0
Grading/Excavation	0	0	0	0	760	0
Drainage/Utilities/Sub-Grade	0	0	0	0	520	0
Paving	0	0	0	0	360	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> W RTP Specific Plan Caltrans Off-site Improvement Area														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.12	0.15	0.98	0.01	0.98	0.21	0.01	0.20	0.00	24.84	0.01	0.00	22.78
Grading/Excavation	0.30	2.44	3.28	4.05	0.14	3.91	0.94	0.13	0.81	0.01	494.87	0.15	0.01	453.74
Drainage/Utilities/Sub-Grade	0.15	1.36	1.51	3.49	0.07	3.42	0.78	0.07	0.71	0.00	249.28	0.05	0.00	228.06
Paving	0.03	0.34	0.28	0.02	0.02	0.00	0.01	0.01	0.00	0.00	50.15	0.01	0.00	45.98
Maximum (tons/phase)	0.30	2.44	3.28	4.05	0.14	3.91	0.94	0.13	0.81	0.01	494.87	0.15	0.01	453.74
Total (tons/construction project)	0.49	4.26	5.22	8.54	0.23	8.30	1.94	0.21	1.73	0.01	819.14	0.23	0.01	750.55

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.  
 The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> W RTP Specific Plan Caltrans Off-site Improvement Area - Mitigated														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.04	9.42	11.32	74.49	0.49	74.00	15.83	0.44	15.39	0.02	1,881.89	0.57	0.02	1,901.97
Grading/Excavation	5.61	46.29	62.17	76.67	2.67	74.00	17.81	2.42	15.39	0.10	9,372.57	2.86	0.10	9,472.61
Drainage/Utilities/Sub-Grade	3.23	29.34	32.72	75.54	1.54	74.00	16.82	1.42	15.39	0.06	5,395.60	1.19	0.05	5,441.32
Paving	1.44	16.97	14.11	0.82	0.82	0.00	0.74	0.74	0.00	0.03	2,532.73	0.74	0.03	2,559.54
Maximum (pounds/day)	5.61	46.29	62.17	76.67	2.67	74.00	17.81	2.42	15.39	0.10	9,372.57	2.86	0.10	9,472.61
Total (tons/construction project)	0.49	4.26	5.22	8.54	0.23	8.30	1.94	0.21	1.73	0.01	819.14	0.23	0.01	827.33

Notes:  
 Project Start Year -> 2021  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 37  
 Maximum Area Disturbed/Day (acres) -> 4  
 Water Truck Used? -> No

Phase	Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	160	0
Grading/Excavation	0	0	0	0	760	0
Drainage/Utilities/Sub-Grade	0	0	0	0	520	0
Paving	0	0	0	0	360	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> W RTP Specific Plan Caltrans Off-site Improvement Area - Mitigated														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.12	0.15	0.98	0.01	0.98	0.21	0.01	0.20	0.00	24.84	0.01	0.00	22.78
Grading/Excavation	0.30	2.44	3.28	4.05	0.14	3.91	0.94	0.13	0.81	0.01	494.87	0.15	0.01	453.74
Drainage/Utilities/Sub-Grade	0.15	1.36	1.51	3.49	0.07	3.42	0.78	0.07	0.71	0.00	249.28	0.05	0.00	228.06
Paving	0.03	0.34	0.28	0.02	0.02	0.00	0.01	0.01	0.00	0.00	50.15	0.01	0.00	45.98
Maximum (tons/phase)	0.30	2.44	3.28	4.05	0.14	3.91	0.94	0.13	0.81	0.01	494.87	0.15	0.01	453.74
Total (tons/construction project)	0.49	4.26	5.22	8.54	0.23	8.30	1.94	0.21	1.73	0.01	819.14	0.23	0.01	750.55

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.  
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.  
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.  
 The CO2e emissions are reported as metric tons per phase.

WRTP Specific Plan Operations - Yolo County, Annual

**WRTP Specific Plan Operations**  
**Yolo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	294	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan Operations - Yolo County, Annual

Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60

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tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00
tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

## 2.0 Emissions Summary

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WRTP Specific Plan Operations - Yolo County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
7	4-2-2022	7-1-2022	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	131.4166	2.1162	151.8388	0.2550		19.6630	19.6630		19.6630	19.6630	1,878.8571	516.3532	2,395.2104	1.9203	0.1392	2,484.6918
Energy	0.2926	2.5725	1.5954	0.0160		0.2021	0.2021		0.2021	0.2021	0.0000	6,565.1255	6,565.1255	0.4175	0.1280	6,613.6990
Mobile	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.4142	27,689.4142	0.7896	0.0000	27,709.1544
Waste						0.0000	0.0000		0.0000	0.0000	581.4920	0.0000	581.4920	34.3652	0.0000	1,440.6218
Water						0.0000	0.0000		0.0000	0.0000	244.4919	607.4004	851.8924	25.1716	0.6053	1,661.5722
<b>Total</b>	<b>136.2447</b>	<b>56.8346</b>	<b>198.9214</b>	<b>0.5689</b>	<b>26.8295</b>	<b>19.9931</b>	<b>46.8226</b>	<b>7.2488</b>	<b>19.9847</b>	<b>27.2335</b>	<b>2,704.8410</b>	<b>35,378.2933</b>	<b>38,083.1344</b>	<b>62.6641</b>	<b>0.8725</b>	<b>39,909.7392</b>

WRTP Specific Plan Operations - Yolo County, Annual

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	131.4166	2.1162	151.8388	0.2550		19.6630	19.6630		19.6630	19.6630	1,878.8571	516.3532	2,395.2104	1.9203	0.1392	2,484.6918
Energy	0.2926	2.5725	1.5954	0.0160		0.2021	0.2021		0.2021	0.2021	0.0000	6,565.1255	6,565.1255	0.4175	0.1280	6,613.6990
Mobile	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.4142	27,689.4142	0.7896	0.0000	27,709.1544
Waste						0.0000	0.0000		0.0000	0.0000	581.4920	0.0000	581.4920	34.3652	0.0000	1,440.6218
Water						0.0000	0.0000		0.0000	0.0000	244.4919	607.4004	851.8924	25.1716	0.6053	1,661.5722
<b>Total</b>	<b>136.2447</b>	<b>56.8346</b>	<b>198.9214</b>	<b>0.5689</b>	<b>26.8295</b>	<b>19.9931</b>	<b>46.8226</b>	<b>7.2488</b>	<b>19.9847</b>	<b>27.2335</b>	<b>2,704.8410</b>	<b>35,378.2933</b>	<b>38,083.1344</b>	<b>62.6641</b>	<b>0.8725</b>	<b>39,909.7392</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

**Acres of Grading (Site Preparation Phase): 0**



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**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

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**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.8000e-004</b>	<b>0.0000</b>	<b>3.8000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

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**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.8000e-004</b>	<b>0.0000</b>	<b>3.8000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

**4.0 Operational Detail - Mobile**

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WRTP Specific Plan Operations - Yolo County, Annual

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.41 42	27,689.41 42	0.7896	0.0000	27,709.15 44
Unmitigated	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.41 42	27,689.41 42	0.7896	0.0000	27,709.15 44

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**

WRTP Specific Plan Operations - Yolo County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

WRTP Specific Plan Operations - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	3,669.7908	3,669.7908	0.3620	0.0749	3,701.1588
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	3,669.7908	3,669.7908	0.3620	0.0749	3,701.1588
NaturalGas Mitigated	0.2926	2.5725	1.5954	0.0160			0.2021	0.2021		0.2021	0.0000	2,895.3347	2,895.3347	0.0555	0.0531	2,912.5402
NaturalGas Unmitigated	0.2926	2.5725	1.5954	0.0160			0.2021	0.2021		0.2021	0.0000	2,895.3347	2,895.3347	0.0555	0.0531	2,912.5402

WRTP Specific Plan Operations - Yolo County, Annual

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.01314e+006	0.0324	0.2771	0.1179	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.8843	320.8843	6.1500e-003	5.8800e-003	322.7911
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.06223e+007	0.0573	0.4895	0.2083	3.1200e-003		0.0396	0.0396		0.0396	0.0396	0.0000	566.8487	566.8487	0.0109	0.0104	570.2172
Industrial Park	1.11732e+007	0.0603	0.5477	0.4601	3.2900e-003		0.0416	0.0416		0.0416	0.0416	0.0000	596.2421	596.2421	0.0114	0.0109	599.7853
Regional Shopping Center	1.76287e+006	9.5100e-003	0.0864	0.0726	5.2000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	94.0735	94.0735	1.8000e-003	1.7200e-003	94.6325
Research & Development	1.1709e+007	0.0631	0.5740	0.4821	3.4400e-003		0.0436	0.0436		0.0436	0.0436	0.0000	624.8395	624.8395	0.0120	0.0115	628.5526
Single Family Housing	1.2976e+007	0.0700	0.5979	0.2544	3.8200e-003		0.0483	0.0483		0.0483	0.0483	0.0000	692.4466	692.4466	0.0133	0.0127	696.5615
<b>Total</b>		<b>0.2926</b>	<b>2.5725</b>	<b>1.5954</b>	<b>0.0160</b>		<b>0.2021</b>	<b>0.2021</b>		<b>0.2021</b>	<b>0.2021</b>	<b>0.0000</b>	<b>2,895.3347</b>	<b>2,895.3347</b>	<b>0.0555</b>	<b>0.0531</b>	<b>2,912.5402</b>

WRTP Specific Plan Operations - Yolo County, Annual

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.01314e+006	0.0324	0.2771	0.1179	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.8843	320.8843	6.1500e-003	5.8800e-003	322.7911
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.06223e+007	0.0573	0.4895	0.2083	3.1200e-003		0.0396	0.0396		0.0396	0.0396	0.0000	566.8487	566.8487	0.0109	0.0104	570.2172
Industrial Park	1.11732e+007	0.0603	0.5477	0.4601	3.2900e-003		0.0416	0.0416		0.0416	0.0416	0.0000	596.2421	596.2421	0.0114	0.0109	599.7853
Regional Shopping Center	1.76287e+006	9.5100e-003	0.0864	0.0726	5.2000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	94.0735	94.0735	1.8000e-003	1.7200e-003	94.6325
Research & Development	1.1709e+007	0.0631	0.5740	0.4821	3.4400e-003		0.0436	0.0436		0.0436	0.0436	0.0000	624.8395	624.8395	0.0120	0.0115	628.5526
Single Family Housing	1.2976e+007	0.0700	0.5979	0.2544	3.8200e-003		0.0483	0.0483		0.0483	0.0483	0.0000	692.4466	692.4466	0.0133	0.0127	696.5615
<b>Total</b>		<b>0.2926</b>	<b>2.5725</b>	<b>1.5954</b>	<b>0.0160</b>		<b>0.2021</b>	<b>0.2021</b>		<b>0.2021</b>	<b>0.2021</b>	<b>0.0000</b>	<b>2,895.3347</b>	<b>2,895.3347</b>	<b>0.0555</b>	<b>0.0531</b>	<b>2,912.5402</b>



WRTP Specific Plan Operations - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.14081e+006	285.4899	0.0282	5.8300e-003	287.9301
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3.18931e+006	425.3146	0.0420	8.6800e-003	428.9500
Industrial Park	1.00946e+007	1,346.1796	0.1328	0.0275	1,357.6862
Regional Shopping Center	1.63245e+006	217.6971	0.0215	4.4400e-003	219.5579
Research & Development	6.11456e+006	815.4143	0.0804	0.0166	822.3842
Single Family Housing	4.34697e+006	579.6954	0.0572	0.0118	584.6504
<b>Total</b>		<b>3,669.7908</b>	<b>0.3620</b>	<b>0.0749</b>	<b>3,701.1588</b>

WRTP Specific Plan Operations - Yolo County, Annual

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.14081e+006	285.4899	0.0282	5.8300e-003	287.9301
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3.18931e+006	425.3146	0.0420	8.6800e-003	428.9500
Industrial Park	1.00946e+007	1,346.1796	0.1328	0.0275	1,357.6862
Regional Shopping Center	1.63245e+006	217.6971	0.0215	4.4400e-003	219.5579
Research & Development	6.11456e+006	815.4143	0.0804	0.0166	822.3842
Single Family Housing	4.34697e+006	579.6954	0.0572	0.0118	584.6504
<b>Total</b>		<b>3,669.7908</b>	<b>0.3620</b>	<b>0.0749</b>	<b>3,701.1588</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan Operations - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	131.4166	2.1162	151.8388	0.2550		19.6630	19.6630		19.6630	19.6630	1,878.8571	516.3532	2,395.2104	1.9203	0.1392	2,484.6918
Unmitigated	131.4166	2.1162	151.8388	0.2550		19.6630	19.6630		19.6630	19.6630	1,878.8571	516.3532	2,395.2104	1.9203	0.1392	2,484.6918

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.8214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	16.6778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	111.5455	1.9732	139.4402	0.2544		19.5940	19.5940		19.5940	19.5940	1,878.8571	496.0225	2,374.8796	1.9009	0.1392	2,463.8756
Landscaping	0.3720	0.1430	12.3986	6.6000e-004		0.0690	0.0690		0.0690	0.0690	0.0000	20.3308	20.3308	0.0194	0.0000	20.8162
<b>Total</b>	<b>131.4166</b>	<b>2.1162</b>	<b>151.8388</b>	<b>0.2550</b>		<b>19.6630</b>	<b>19.6630</b>		<b>19.6630</b>	<b>19.6630</b>	<b>1,878.8571</b>	<b>516.3532</b>	<b>2,395.2104</b>	<b>1.9203</b>	<b>0.1392</b>	<b>2,484.6918</b>

WRTP Specific Plan Operations - Yolo County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.8214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	16.6778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	111.5455	1.9732	139.4402	0.2544		19.5940	19.5940		19.5940	19.5940	1,878.8571	496.0225	2,374.8796	1.9009	0.1392	2,463.8756
Landscaping	0.3720	0.1430	12.3986	6.6000e-004		0.0690	0.0690		0.0690	0.0690	0.0000	20.3308	20.3308	0.0194	0.0000	20.8162
<b>Total</b>	<b>131.4166</b>	<b>2.1162</b>	<b>151.8388</b>	<b>0.2550</b>		<b>19.6630</b>	<b>19.6630</b>		<b>19.6630</b>	<b>19.6630</b>	<b>1,878.8571</b>	<b>516.3532</b>	<b>2,395.2104</b>	<b>1.9203</b>	<b>0.1392</b>	<b>2,484.6918</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

WRTP Specific Plan Operations - Yolo County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	851.8924	25.1716	0.6053	1,661.572 2
Unmitigated	851.8924	25.1716	0.6053	1,661.572 2

WRTP Specific Plan Operations - Yolo County, Annual

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	33.8149 / 21.3181	45.0786	1.1053	0.0267	80.6719
City Park	0 / 31.336	14.6260	1.4400e-003	3.0000e-004	14.7510
Condo/Townhouse	40.7864 / 25.7132	54.3723	1.3331	0.0322	97.3037
Industrial Park	280.238 / 0	291.1236	9.1515	0.2197	585.3946
Regional Shopping Center	16.1011 / 9.86844	21.3326	0.5263	0.0127	38.2794
Research & Development	365.309 / 0	379.4990	11.9296	0.2865	763.1009
Single Family Housing	34.4013 / 21.6878	45.8603	1.1244	0.0272	82.0708
<b>Total</b>		<b>851.8924</b>	<b>25.1716</b>	<b>0.6053</b>	<b>1,661.5722</b>

WRTP Specific Plan Operations - Yolo County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	33.8149 / 21.3181	45.0786	1.1053	0.0267	80.6719
City Park	0 / 31.336	14.6260	1.4400e-003	3.0000e-004	14.7510
Condo/Townhouse	40.7864 / 25.7132	54.3723	1.3331	0.0322	97.3037
Industrial Park	280.238 / 0	291.1236	9.1515	0.2197	585.3946
Regional Shopping Center	16.1011 / 9.86844	21.3326	0.5263	0.0127	38.2794
Research & Development	365.309 / 0	379.4990	11.9296	0.2865	763.1009
Single Family Housing	34.4013 / 21.6878	45.8603	1.1244	0.0272	82.0708
<b>Total</b>		<b>851.8924</b>	<b>25.1716</b>	<b>0.6053</b>	<b>1,661.5722</b>

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

WRTP Specific Plan Operations - Yolo County, Annual

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	581.4920	34.3652	0.0000	1,440.6218
Unmitigated	581.4920	34.3652	0.0000	1,440.6218



WRTP Specific Plan Operations - Yolo County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	238.74	48.4621	2.8640	0.0000	120.0627
City Park	2.26	0.4588	0.0271	0.0000	1.1366
Condo/Townhouse	287.96	58.4533	3.4545	0.0000	144.8155
Industrial Park	1502.68	305.0305	18.0268	0.0000	755.7001
Regional Shopping Center	228.24	46.3307	2.7381	0.0000	114.7822
Research & Development	56.46	11.4609	0.6773	0.0000	28.3938
Single Family Housing	548.28	111.2959	6.5774	0.0000	275.7308
<b>Total</b>		<b>581.4920</b>	<b>34.3652</b>	<b>0.0000</b>	<b>1,440.6217</b>

WRTP Specific Plan Operations - Yolo County, Annual

**8.2 Waste by Land Use**

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	238.74	48.4621	2.8640	0.0000	120.0627
City Park	2.26	0.4588	0.0271	0.0000	1.1366
Condo/Townhouse	287.96	58.4533	3.4545	0.0000	144.8155
Industrial Park	1502.68	305.0305	18.0268	0.0000	755.7001
Regional Shopping Center	228.24	46.3307	2.7381	0.0000	114.7822
Research & Development	56.46	11.4609	0.6773	0.0000	28.3938
Single Family Housing	548.28	111.2959	6.5774	0.0000	275.7308
<b>Total</b>		<b>581.4920</b>	<b>34.3652</b>	<b>0.0000</b>	<b>1,440.6217</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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WRTP Specific Plan Operations - Yolo County, Annual

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan Operations - Yolo County, Summer

**WRTP Specific Plan Operations**  
**Yolo County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	294	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan Operations - Yolo County, Summer

Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60

## WRTP Specific Plan Operations - Yolo County, Summer

tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00
tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

## 2.0 Emissions Summary

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WRTP Specific Plan Operations - Yolo County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668
<b>Total</b>	<b>2,870.0679</b>	<b>397.6720</b>	<b>3,869.6640</b>	<b>8.3264</b>	<b>178.3864</b>	<b>480.6017</b>	<b>658.9881</b>	<b>48.0590</b>	<b>480.5475</b>	<b>528.6066</b>	<b>50,514.2801</b>	<b>238,609.6487</b>	<b>289,123.9287</b>	<b>57.2511</b>	<b>4.0625</b>	<b>291,765.8213</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668
<b>Total</b>	<b>2,870.0679</b>	<b>397.6720</b>	<b>3,869.6640</b>	<b>8.3264</b>	<b>178.3864</b>	<b>480.6017</b>	<b>658.9881</b>	<b>48.0590</b>	<b>480.5475</b>	<b>528.6066</b>	<b>50,514.2801</b>	<b>238,609.6487</b>	<b>289,123.9287</b>	<b>57.2511</b>	<b>4.0625</b>	<b>291,765.8213</b>



WRTP Specific Plan Operations - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

WRTP Specific Plan Operations - Yolo County, Summer

**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3800e-003	2.6000e-004	3.5700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2182	0.2182	2.0000e-005		0.2187
<b>Total</b>	<b>1.3800e-003</b>	<b>2.6000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2182</b>	<b>0.2182</b>	<b>2.0000e-005</b>		<b>0.2187</b>

WRTP Specific Plan Operations - Yolo County, Summer

**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3800e-003	2.6000e-004	3.5700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2182	0.2182	2.0000e-005		0.2187
<b>Total</b>	<b>1.3800e-003</b>	<b>2.6000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2182</b>	<b>0.2182</b>	<b>2.0000e-005</b>		<b>0.2187</b>

**4.0 Operational Detail - Mobile**

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WRTP Specific Plan Operations - Yolo County, Summer

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668
Unmitigated	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**

WRTP Specific Plan Operations - Yolo County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

WRTP Specific Plan Operations - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
NaturalGas Unmitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234

WRTP Specific Plan Operations - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16474.4	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29102.3	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30611.4	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4829.78	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32079.6	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35550.6	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

WRTP Specific Plan Operations - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.4744	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29.1023	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30.6114	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4.82978	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32.0796	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35.5506	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



WRTP Specific Plan Operations - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Unmitigated	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,720.6217	48.1265	3,400.9806	6.2038		477.9030	477.9030		477.9030	477.9030	50,514.2801	13,335.8824	63,850.1624	51.1056	3.7419	66,242.8764
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>2,831.5989</b>	<b>49.7153</b>	<b>3,538.7432</b>	<b>6.2111</b>		<b>478.6692</b>	<b>478.6692</b>		<b>478.6692</b>	<b>478.6692</b>	<b>50,514.2801</b>	<b>13,584.8915</b>	<b>64,099.1716</b>	<b>51.3435</b>	<b>3.7419</b>	<b>66,497.8311</b>

WRTP Specific Plan Operations - Yolo County, Summer

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,720.6217	48.1265	3,400.9806	6.2038		477.9030	477.9030		477.9030	477.9030	50,514.2801	13,335.8824	63,850.1624	51.1056	3.7419	66,242.8764
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>2,831.5989</b>	<b>49.7153</b>	<b>3,538.7432</b>	<b>6.2111</b>		<b>478.6692</b>	<b>478.6692</b>		<b>478.6692</b>	<b>478.6692</b>	<b>50,514.2801</b>	<b>13,584.8915</b>	<b>64,099.1716</b>	<b>51.3435</b>	<b>3.7419</b>	<b>66,497.8311</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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WRTP Specific Plan Operations - Yolo County, Summer

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan Operations - Yolo County, Winter

**WRTP Specific Plan Operations**  
**Yolo County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	294	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan Operations - Yolo County, Winter

Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60

## WRTP Specific Plan Operations - Yolo County, Winter

tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00
tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

## 2.0 Emissions Summary

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WRTP Specific Plan Operations - Yolo County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
<b>Total</b>	<b>2,860.7529</b>	<b>404.2026</b>	<b>3,854.7399</b>	<b>8.1827</b>	<b>178.3864</b>	<b>480.6052</b>	<b>658.9916</b>	<b>48.0590</b>	<b>480.5509</b>	<b>528.6099</b>	<b>50,514.2801</b>	<b>224,117.6327</b>	<b>274,631.9128</b>	<b>57.5712</b>	<b>4.0625</b>	<b>277,281.8078</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
<b>Total</b>	<b>2,860.7529</b>	<b>404.2026</b>	<b>3,854.7399</b>	<b>8.1827</b>	<b>178.3864</b>	<b>480.6052</b>	<b>658.9916</b>	<b>48.0590</b>	<b>480.5509</b>	<b>528.6099</b>	<b>50,514.2801</b>	<b>224,117.6327</b>	<b>274,631.9128</b>	<b>57.5712</b>	<b>4.0625</b>	<b>277,281.8078</b>



WRTP Specific Plan Operations - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

WRTP Specific Plan Operations - Yolo County, Winter

**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.8000e-004	3.1000e-004	5.3700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2098	0.2098	3.0000e-005		0.2104
<b>Total</b>	<b>7.8000e-004</b>	<b>3.1000e-004</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2098</b>	<b>0.2098</b>	<b>3.0000e-005</b>		<b>0.2104</b>

WRTP Specific Plan Operations - Yolo County, Winter

**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.8000e-004	3.1000e-004	5.3700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2098	0.2098	3.0000e-005		0.2104
<b>Total</b>	<b>7.8000e-004</b>	<b>3.1000e-004</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2098</b>	<b>0.2098</b>	<b>3.0000e-005</b>		<b>0.2104</b>

**4.0 Operational Detail - Mobile**

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WRTP Specific Plan Operations - Yolo County, Winter

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
Unmitigated	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**

WRTP Specific Plan Operations - Yolo County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

WRTP Specific Plan Operations - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
NaturalGas Unmitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234

WRTP Specific Plan Operations - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16474.4	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29102.3	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30611.4	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4829.78	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32079.6	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35550.6	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

WRTP Specific Plan Operations - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.4744	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29.1023	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30.6114	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4.82978	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32.0796	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35.5506	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



WRTP Specific Plan Operations - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311
Unmitigated	2,831.5989	49.7153	3,538.7433	6.2111		478.6692	478.6692		478.6692	478.6692	50,514.2801	13,584.8915	64,099.1716	51.3435	3.7419	66,497.8311

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,720.6217	48.1265	3,400.9806	6.2038		477.9030	477.9030		477.9030	477.9030	50,514.2801	13,335.8824	63,850.1624	51.1056	3.7419	66,242.8764
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>2,831.5989</b>	<b>49.7153</b>	<b>3,538.7432</b>	<b>6.2111</b>		<b>478.6692</b>	<b>478.6692</b>		<b>478.6692</b>	<b>478.6692</b>	<b>50,514.2801</b>	<b>13,584.8915</b>	<b>64,099.1716</b>	<b>51.3435</b>	<b>3.7419</b>	<b>66,497.8311</b>

WRTP Specific Plan Operations - Yolo County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,720.6217	48.1265	3,400.9806	6.2038		477.9030	477.9030		477.9030	477.9030	50,514.2801	13,335.8824	63,850.1624	51.1056	3.7419	66,242.8764
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>2,831.5989</b>	<b>49.7153</b>	<b>3,538.7432</b>	<b>6.2111</b>		<b>478.6692</b>	<b>478.6692</b>		<b>478.6692</b>	<b>478.6692</b>	<b>50,514.2801</b>	<b>13,584.8915</b>	<b>64,099.1716</b>	<b>51.3435</b>	<b>3.7419</b>	<b>66,497.8311</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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WRTP Specific Plan Operations - Yolo County, Winter

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**WRTP Specific Plan Operations - No Wood-Burning Fireplaces  
Yolo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	294	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

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Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Woodstoves - Operational Mitigation, no wood-burning fireplaces for mitigation.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00

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tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	285.45	467.10
tblFireplaces	NumberGas	344.30	563.40
tblFireplaces	NumberGas	0.00	163.68
tblFireplaces	NumberWood	181.65	0.00
tblFireplaces	NumberWood	219.10	0.00
tblFireplaces	NumberWood	163.68	0.00
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60
tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00

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tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

**2.0 Emissions Summary**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
7	4-2-2022	7-1-2022	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	22.0056	1.2573	31.2662	0.0663		3.1562	3.1562		3.1562	3.1562	404.5835	960.9264	1,365.5099	1.9288	0.0172	1,418.8685
Energy	0.2926	2.5725	1.5954	0.0160		0.2021	0.2021		0.2021	0.2021	0.0000	6,565.1255	6,565.1255	0.4175	0.1280	6,613.6990
Mobile	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.4142	27,689.4142	0.7896	0.0000	27,709.1544
Waste						0.0000	0.0000		0.0000	0.0000	581.4920	0.0000	581.4920	34.3652	0.0000	1,440.6218
Water						0.0000	0.0000		0.0000	0.0000	244.4919	607.4004	851.8924	25.1716	0.6053	1,661.5722
<b>Total</b>	<b>26.8338</b>	<b>55.9758</b>	<b>78.3487</b>	<b>0.3801</b>	<b>26.8295</b>	<b>3.4862</b>	<b>30.3157</b>	<b>7.2488</b>	<b>3.4778</b>	<b>10.7267</b>	<b>1,230.5674</b>	<b>35,822.8665</b>	<b>37,053.4339</b>	<b>62.6727</b>	<b>0.7506</b>	<b>38,843.9159</b>

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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	22.0056	1.2573	31.2662	0.0663		3.1562	3.1562		3.1562	3.1562	404.5835	960.9264	1,365.5099	1.9288	0.0172	1,418.8685
Energy	0.2926	2.5725	1.5954	0.0160		0.2021	0.2021		0.2021	0.2021	0.0000	6,565.1255	6,565.1255	0.4175	0.1280	6,613.6990
Mobile	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.4142	27,689.4142	0.7896	0.0000	27,709.1544
Waste						0.0000	0.0000		0.0000	0.0000	581.4920	0.0000	581.4920	34.3652	0.0000	1,440.6218
Water						0.0000	0.0000		0.0000	0.0000	244.4919	607.4004	851.8924	25.1716	0.6053	1,661.5722
<b>Total</b>	<b>26.8338</b>	<b>55.9758</b>	<b>78.3487</b>	<b>0.3801</b>	<b>26.8295</b>	<b>3.4862</b>	<b>30.3157</b>	<b>7.2488</b>	<b>3.4778</b>	<b>10.7267</b>	<b>1,230.5674</b>	<b>35,822.8665</b>	<b>37,053.4339</b>	<b>62.6727</b>	<b>0.7506</b>	<b>38,843.9159</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

**Acres of Grading (Site Preparation Phase): 0**

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**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

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**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.8000e-004</b>	<b>0.0000</b>	<b>3.8000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

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**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>					<b>3.8000e-004</b>	<b>0.0000</b>	<b>3.8000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-004</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.41 42	27,689.41 42	0.7896	0.0000	27,709.15 44
Unmitigated	4.5356	52.1459	45.4871	0.2979	26.8295	0.1279	26.9575	7.2488	0.1196	7.3684	0.0000	27,689.41 42	27,689.41 42	0.7896	0.0000	27,709.15 44

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	3,669.7908	3,669.7908	0.3620	0.0749	3,701.1588
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	3,669.7908	3,669.7908	0.3620	0.0749	3,701.1588
NaturalGas Mitigated	0.2926	2.5725	1.5954	0.0160			0.2021	0.2021		0.2021	0.0000	2,895.3347	2,895.3347	0.0555	0.0531	2,912.5402
NaturalGas Unmitigated	0.2926	2.5725	1.5954	0.0160			0.2021	0.2021		0.2021	0.0000	2,895.3347	2,895.3347	0.0555	0.0531	2,912.5402



WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.01314e+006	0.0324	0.2771	0.1179	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.8843	320.8843	6.1500e-003	5.8800e-003	322.7911
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.06223e+007	0.0573	0.4895	0.2083	3.1200e-003		0.0396	0.0396		0.0396	0.0396	0.0000	566.8487	566.8487	0.0109	0.0104	570.2172
Industrial Park	1.11732e+007	0.0603	0.5477	0.4601	3.2900e-003		0.0416	0.0416		0.0416	0.0416	0.0000	596.2421	596.2421	0.0114	0.0109	599.7853
Regional Shopping Center	1.76287e+006	9.5100e-003	0.0864	0.0726	5.2000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	94.0735	94.0735	1.8000e-003	1.7200e-003	94.6325
Research & Development	1.1709e+007	0.0631	0.5740	0.4821	3.4400e-003		0.0436	0.0436		0.0436	0.0436	0.0000	624.8395	624.8395	0.0120	0.0115	628.5526
Single Family Housing	1.2976e+007	0.0700	0.5979	0.2544	3.8200e-003		0.0483	0.0483		0.0483	0.0483	0.0000	692.4466	692.4466	0.0133	0.0127	696.5615
<b>Total</b>		<b>0.2926</b>	<b>2.5725</b>	<b>1.5954</b>	<b>0.0160</b>		<b>0.2021</b>	<b>0.2021</b>		<b>0.2021</b>	<b>0.2021</b>	<b>0.0000</b>	<b>2,895.3347</b>	<b>2,895.3347</b>	<b>0.0555</b>	<b>0.0531</b>	<b>2,912.5402</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	6.01314e+006	0.0324	0.2771	0.1179	1.7700e-003		0.0224	0.0224		0.0224	0.0224	0.0000	320.8843	320.8843	6.1500e-003	5.8800e-003	322.7911
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.06223e+007	0.0573	0.4895	0.2083	3.1200e-003		0.0396	0.0396		0.0396	0.0396	0.0000	566.8487	566.8487	0.0109	0.0104	570.2172
Industrial Park	1.11732e+007	0.0603	0.5477	0.4601	3.2900e-003		0.0416	0.0416		0.0416	0.0416	0.0000	596.2421	596.2421	0.0114	0.0109	599.7853
Regional Shopping Center	1.76287e+006	9.5100e-003	0.0864	0.0726	5.2000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	94.0735	94.0735	1.8000e-003	1.7200e-003	94.6325
Research & Development	1.1709e+007	0.0631	0.5740	0.4821	3.4400e-003		0.0436	0.0436		0.0436	0.0436	0.0000	624.8395	624.8395	0.0120	0.0115	628.5526
Single Family Housing	1.2976e+007	0.0700	0.5979	0.2544	3.8200e-003		0.0483	0.0483		0.0483	0.0483	0.0000	692.4466	692.4466	0.0133	0.0127	696.5615
<b>Total</b>		<b>0.2926</b>	<b>2.5725</b>	<b>1.5954</b>	<b>0.0160</b>		<b>0.2021</b>	<b>0.2021</b>		<b>0.2021</b>	<b>0.2021</b>	<b>0.0000</b>	<b>2,895.3347</b>	<b>2,895.3347</b>	<b>0.0555</b>	<b>0.0531</b>	<b>2,912.5402</b>

## WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.14081e+006	285.4899	0.0282	5.8300e-003	287.9301
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3.18931e+006	425.3146	0.0420	8.6800e-003	428.9500
Industrial Park	1.00946e+007	1,346.1796	0.1328	0.0275	1,357.6862
Regional Shopping Center	1.63245e+006	217.6971	0.0215	4.4400e-003	219.5579
Research & Development	6.11456e+006	815.4143	0.0804	0.0166	822.3842
Single Family Housing	4.34697e+006	579.6954	0.0572	0.0118	584.6504
<b>Total</b>		<b>3,669.7908</b>	<b>0.3620</b>	<b>0.0749</b>	<b>3,701.1588</b>

## WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.14081e+006	285.4899	0.0282	5.8300e-003	287.9301
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	3.18931e+006	425.3146	0.0420	8.6800e-003	428.9500
Industrial Park	1.00946e+007	1,346.1796	0.1328	0.0275	1,357.6862
Regional Shopping Center	1.63245e+006	217.6971	0.0215	4.4400e-003	219.5579
Research & Development	6.11456e+006	815.4143	0.0804	0.0166	822.3842
Single Family Housing	4.34697e+006	579.6954	0.0572	0.0118	584.6504
<b>Total</b>		<b>3,669.7908</b>	<b>0.3620</b>	<b>0.0749</b>	<b>3,701.1588</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	22.0056	1.2573	31.2662	0.0663		3.1562	3.1562		3.1562	3.1562	404.5835	960.9264	1,365.5099	1.9288	0.0172	1,418.8685
Unmitigated	22.0056	1.2573	31.2662	0.0663		3.1562	3.1562		3.1562	3.1562	404.5835	960.9264	1,365.5099	1.9288	0.0172	1,418.8685

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.8214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	16.6778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1346	1.1143	18.8676	0.0656		3.0872	3.0872		3.0872	3.0872	404.5835	940.5957	1,345.1791	1.9094	0.0172	1,398.0523
Landscaping	0.3720	0.1430	12.3986	6.6000e-004		0.0690	0.0690		0.0690	0.0690	0.0000	20.3308	20.3308	0.0194	0.0000	20.8162
<b>Total</b>	<b>22.0056</b>	<b>1.2573</b>	<b>31.2662</b>	<b>0.0663</b>		<b>3.1562</b>	<b>3.1562</b>		<b>3.1562</b>	<b>3.1562</b>	<b>404.5835</b>	<b>960.9264</b>	<b>1,365.5099</b>	<b>1.9288</b>	<b>0.0172</b>	<b>1,418.8684</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.8214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	16.6778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1346	1.1143	18.8676	0.0656		3.0872	3.0872		3.0872	3.0872	404.5835	940.5957	1,345.1791	1.9094	0.0172	1,398.0523
Landscaping	0.3720	0.1430	12.3986	6.6000e-004		0.0690	0.0690		0.0690	0.0690	0.0000	20.3308	20.3308	0.0194	0.0000	20.8162
<b>Total</b>	<b>22.0056</b>	<b>1.2573</b>	<b>31.2662</b>	<b>0.0663</b>		<b>3.1562</b>	<b>3.1562</b>		<b>3.1562</b>	<b>3.1562</b>	<b>404.5835</b>	<b>960.9264</b>	<b>1,365.5099</b>	<b>1.9288</b>	<b>0.0172</b>	<b>1,418.8684</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	851.8924	25.1716	0.6053	1,661.572 2
Unmitigated	851.8924	25.1716	0.6053	1,661.572 2

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**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	33.8149 / 21.3181	45.0786	1.1053	0.0267	80.6719
City Park	0 / 31.336	14.6260	1.4400e-003	3.0000e-004	14.7510
Condo/Townhouse	40.7864 / 25.7132	54.3723	1.3331	0.0322	97.3037
Industrial Park	280.238 / 0	291.1236	9.1515	0.2197	585.3946
Regional Shopping Center	16.1011 / 9.86844	21.3326	0.5263	0.0127	38.2794
Research & Development	365.309 / 0	379.4990	11.9296	0.2865	763.1009
Single Family Housing	34.4013 / 21.6878	45.8603	1.1244	0.0272	82.0708
<b>Total</b>		<b>851.8924</b>	<b>25.1716</b>	<b>0.6053</b>	<b>1,661.5722</b>



## WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	33.8149 / 21.3181	45.0786	1.1053	0.0267	80.6719
City Park	0 / 31.336	14.6260	1.4400e-003	3.0000e-004	14.7510
Condo/Townhouse	40.7864 / 25.7132	54.3723	1.3331	0.0322	97.3037
Industrial Park	280.238 / 0	291.1236	9.1515	0.2197	585.3946
Regional Shopping Center	16.1011 / 9.86844	21.3326	0.5263	0.0127	38.2794
Research & Development	365.309 / 0	379.4990	11.9296	0.2865	763.1009
Single Family Housing	34.4013 / 21.6878	45.8603	1.1244	0.0272	82.0708
<b>Total</b>		<b>851.8924</b>	<b>25.1716</b>	<b>0.6053</b>	<b>1,661.5722</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	581.4920	34.3652	0.0000	1,440.6218
Unmitigated	581.4920	34.3652	0.0000	1,440.6218

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**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	238.74	48.4621	2.8640	0.0000	120.0627
City Park	2.26	0.4588	0.0271	0.0000	1.1366
Condo/Townhouse	287.96	58.4533	3.4545	0.0000	144.8155
Industrial Park	1502.68	305.0305	18.0268	0.0000	755.7001
Regional Shopping Center	228.24	46.3307	2.7381	0.0000	114.7822
Research & Development	56.46	11.4609	0.6773	0.0000	28.3938
Single Family Housing	548.28	111.2959	6.5774	0.0000	275.7308
<b>Total</b>		<b>581.4920</b>	<b>34.3652</b>	<b>0.0000</b>	<b>1,440.6217</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**8.2 Waste by Land Use**

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	238.74	48.4621	2.8640	0.0000	120.0627
City Park	2.26	0.4588	0.0271	0.0000	1.1366
Condo/Townhouse	287.96	58.4533	3.4545	0.0000	144.8155
Industrial Park	1502.68	305.0305	18.0268	0.0000	755.7001
Regional Shopping Center	228.24	46.3307	2.7381	0.0000	114.7822
Research & Development	56.46	11.4609	0.6773	0.0000	28.3938
Single Family Housing	548.28	111.2959	6.5774	0.0000	275.7308
<b>Total</b>		<b>581.4920</b>	<b>34.3652</b>	<b>0.0000</b>	<b>1,440.6217</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Annual

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**WRTP Specific Plan Operations - No Wood-Burning Fireplaces**  
**Yolo County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	294	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Woodstoves - Operational Mitigation, no wood-burning fireplaces for mitigation.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00

## WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	285.45	467.10
tblFireplaces	NumberGas	344.30	563.40
tblFireplaces	NumberGas	0.00	163.68
tblFireplaces	NumberWood	181.65	0.00
tblFireplaces	NumberWood	219.10	0.00
tblFireplaces	NumberWood	163.68	0.00
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60
tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00



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tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

**2.0 Emissions Summary**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.00 09	17,488.00 09	0.3352	0.3206	17,591.92 34
Mobile	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7 563	207,536.7 563	5.5724		207,676.0 668
<b>Total</b>	<b>201.5090</b>	<b>376.7244</b>	<b>928.8676</b>	<b>3.7230</b>	<b>178.3864</b>	<b>77.9960</b>	<b>256.3824</b>	<b>48.0590</b>	<b>77.9419</b>	<b>126.0009</b>	<b>10,877.48 64</b>	<b>250,562.2 840</b>	<b>261,439.7 704</b>	<b>57.4802</b>	<b>0.7842</b>	<b>263,110.4 769</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.00 09	17,488.00 09	0.3352	0.3206	17,591.92 34
Mobile	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7 563	207,536.7 563	5.5724		207,676.0 668
<b>Total</b>	<b>201.5090</b>	<b>376.7244</b>	<b>928.8676</b>	<b>3.7230</b>	<b>178.3864</b>	<b>77.9960</b>	<b>256.3824</b>	<b>48.0590</b>	<b>77.9419</b>	<b>126.0009</b>	<b>10,877.48 64</b>	<b>250,562.2 840</b>	<b>261,439.7 704</b>	<b>57.4802</b>	<b>0.7842</b>	<b>263,110.4 769</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3800e-003	2.6000e-004	3.5700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2182	0.2182	2.0000e-005		0.2187
<b>Total</b>	<b>1.3800e-003</b>	<b>2.6000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2182</b>	<b>0.2182</b>	<b>2.0000e-005</b>		<b>0.2187</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3800e-003	2.6000e-004	3.5700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2182	0.2182	2.0000e-005		0.2187
<b>Total</b>	<b>1.3800e-003</b>	<b>2.6000e-004</b>	<b>3.5700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2182</b>	<b>0.2182</b>	<b>2.0000e-005</b>		<b>0.2187</b>

**4.0 Operational Detail - Mobile**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668
Unmitigated	36.8660	333.8606	322.1788	2.0279	178.3864	0.8249	179.2113	48.0590	0.7708	48.8298		207,536.7563	207,536.7563	5.5724		207,676.0668

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
NaturalGas Unmitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16474.4	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29102.3	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30611.4	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4829.78	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32079.6	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35550.6	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.4744	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29.1023	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30.6114	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4.82978	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32.0796	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35.5506	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68
Unmitigated	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	52.0627	27.1789	460.1842	1.6004		75.2973	75.2973		75.2973	75.2973	10,877.48 64	25,288.51 77	36,166.00 41	51.3347	0.4636	37,587.53 20
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>163.0399</b>	<b>28.7677</b>	<b>597.9468</b>	<b>1.6077</b>		<b>76.0635</b>	<b>76.0635</b>		<b>76.0635</b>	<b>76.0635</b>	<b>10,877.48 64</b>	<b>25,537.52 68</b>	<b>36,415.01 32</b>	<b>51.5726</b>	<b>0.4636</b>	<b>37,842.48 68</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	52.0627	27.1789	460.1842	1.6004		75.2973	75.2973		75.2973	75.2973	10,877.48 64	25,288.51 77	36,166.00 41	51.3347	0.4636	37,587.53 20
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>163.0399</b>	<b>28.7677</b>	<b>597.9468</b>	<b>1.6077</b>		<b>76.0635</b>	<b>76.0635</b>		<b>76.0635</b>	<b>76.0635</b>	<b>10,877.48 64</b>	<b>25,537.52 68</b>	<b>36,415.01 32</b>	<b>51.5726</b>	<b>0.4636</b>	<b>37,842.48 68</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Summer

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**WRTP Specific Plan Operations - No Wood-Burning Fireplaces**  
**Yolo County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	742.96	1000sqft	42.70	742,960.00	0
Industrial Park	1,211.84	1000sqft	69.60	1,211,839.00	0
City Park	26.30	Acre	26.30	1,145,628.00	0
Apartments Mid Rise	519.00	Dwelling Unit	24.70	519,000.00	1497
Condo/Townhouse	626.00	Dwelling Unit	52.20	626,000.00	1803
Single Family Housing	528.00	Dwelling Unit	87.90	950,400.00	1523
Regional Shopping Center	217.37	1000sqft	12.60	217,370.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	6.8	<b>Precipitation Freq (Days)</b>	54
<b>Climate Zone</b>	3			<b>Operational Year</b>	2035
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	294	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

Project Characteristics - Utility CO2 intensity factor based on PG&E 2018 Corporate Responsibility and Sustainability Report.

Land Use - Land use based upon zoning designation and anticipated land uses under Specific Plan. Acreage not shown is ROW. Population increased by less than 1% to align with anticipated population per Specific Plan.

Construction Phase - Operational emissions run - Construction zeroed out.

Off-road Equipment - Operational emissions run - Construction zeroed out.

Trips and VMT - Operational emissions run - Construction zeroed out.

Vehicle Trips -

Road Dust - Operational mobile trips would occur on paved roadways.

Energy Use - Title-24 energy intensity adjusted to reflect 2019 standards.

Woodstoves - Operational Mitigation, no wood-burning fireplaces for mitigation.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	240.00	1.00
tblEnergyUse	NT24E	3,795.01	3,759.01
tblEnergyUse	T24E	700.71	329.33
tblEnergyUse	T24E	711.99	334.64
tblEnergyUse	T24E	2.62	1.83
tblEnergyUse	T24E	2.14	1.50
tblEnergyUse	T24E	1.96	1.37
tblEnergyUse	T24E	995.93	468.09
tblEnergyUse	T24NG	8,454.86	7,863.02
tblEnergyUse	T24NG	14,242.58	13,245.60
tblEnergyUse	T24NG	12.77	8.94
tblEnergyUse	T24NG	8.62	6.03
tblEnergyUse	T24NG	17.03	11.92
tblEnergyUse	T24NG	22,422.24	20,852.68
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00



## WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

tblFireplaces	FireplaceWoodMass	520.00	0.00
tblFireplaces	NumberGas	285.45	467.10
tblFireplaces	NumberGas	344.30	563.40
tblFireplaces	NumberGas	0.00	163.68
tblFireplaces	NumberWood	181.65	0.00
tblFireplaces	NumberWood	219.10	0.00
tblFireplaces	NumberWood	163.68	0.00
tblLandUse	LandUseSquareFeet	1,211,840.00	1,211,839.00
tblLandUse	LotAcreage	17.06	42.70
tblLandUse	LotAcreage	27.82	69.60
tblLandUse	LotAcreage	13.66	24.70
tblLandUse	LotAcreage	39.13	52.20
tblLandUse	LotAcreage	171.43	87.90
tblLandUse	LotAcreage	4.99	12.60
tblLandUse	Population	1,484.00	1,497.00
tblLandUse	Population	1,790.00	1,803.00
tblLandUse	Population	1,510.00	1,523.00
tblOffRoadEquipment	HorsePower	247.00	1.00
tblOffRoadEquipment	HorsePower	97.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblRoadDust	RoadPercentPave	94	100
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.00	0.00

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

tblTripsAndVMT	WorkerTripLength	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	1.00

**2.0 Emissions Summary**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.4864	25,537.5268	36,415.0132	51.5726	0.4636	37,842.4868
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
<b>Total</b>	<b>192.1939</b>	<b>383.2550</b>	<b>913.9435</b>	<b>3.5793</b>	<b>178.3864</b>	<b>77.9995</b>	<b>256.3859</b>	<b>48.0590</b>	<b>77.9452</b>	<b>126.0042</b>	<b>10,877.4864</b>	<b>236,070.2680</b>	<b>246,947.7544</b>	<b>57.8003</b>	<b>0.7842</b>	<b>248,626.4634</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.4864	25,537.5268	36,415.0132	51.5726	0.4636	37,842.4868
Energy	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
Mobile	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
<b>Total</b>	<b>192.1939</b>	<b>383.2550</b>	<b>913.9435</b>	<b>3.5793</b>	<b>178.3864</b>	<b>77.9995</b>	<b>256.3859</b>	<b>48.0590</b>	<b>77.9452</b>	<b>126.0042</b>	<b>10,877.4864</b>	<b>236,070.2680</b>	<b>246,947.7544</b>	<b>57.8003</b>	<b>0.7842</b>	<b>248,626.4634</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/15/2022	4/15/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	1.00	1	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	1	0.37

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	1.00	0.00	0.00	0.00	0.00	0.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.8000e-004	3.1000e-004	5.3700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2098	0.2098	3.0000e-005		0.2104
<b>Total</b>	<b>7.8000e-004</b>	<b>3.1000e-004</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2098</b>	<b>0.2098</b>	<b>3.0000e-005</b>		<b>0.2104</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**3.2 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
<b>Total</b>					<b>0.7528</b>	<b>0.0000</b>	<b>0.7528</b>	<b>0.4138</b>	<b>0.0000</b>	<b>0.4138</b>			<b>0.0000</b>			<b>0.0000</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	7.8000e-004	3.1000e-004	5.3700e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005		0.2098	0.2098	3.0000e-005		0.2104
<b>Total</b>	<b>7.8000e-004</b>	<b>3.1000e-004</b>	<b>5.3700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.2098</b>	<b>0.2098</b>	<b>3.0000e-005</b>		<b>0.2104</b>

**4.0 Operational Detail - Mobile**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533
Unmitigated	27.5509	340.3912	307.2547	1.8842	178.3864	0.8284	179.2148	48.0590	0.7741	48.8332		193,044.7403	193,044.7403	5.8925		193,192.0533

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,451.35	3,316.41	3041.34	8,852,934	8,852,934
City Park	49.71	598.33	440.26	343,881	343,881
Condo/Townhouse	3,637.06	3,549.42	3029.84	9,284,085	9,284,085
Industrial Park	8,276.87	3,017.48	884.64	16,196,680	16,196,680
Regional Shopping Center	9,281.70	10,861.98	5486.42	12,721,754	12,721,754
Research & Development	6,025.41	1,411.62	824.69	10,149,910	10,149,910
Single Family Housing	5,026.56	5,232.48	4551.36	13,090,039	13,090,039
<b>Total</b>	<b>35,748.65</b>	<b>27,987.72</b>	<b>18,258.55</b>	<b>70,639,283</b>	<b>70,639,283</b>

**4.3 Trip Type Information**



WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
City Park	10.00	5.00	7.00	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Industrial Park	10.00	5.00	7.00	59.00	28.00	13.00	79	19	2
Regional Shopping Center	10.00	5.00	7.00	16.30	64.70	19.00	54	35	11
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3
Single Family Housing	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
City Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Condo/Townhouse	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Industrial Park	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Regional Shopping Center	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Research & Development	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526
Single Family Housing	0.510775	0.034299	0.212670	0.100609	0.010702	0.004092	0.073108	0.045201	0.001012	0.001235	0.005125	0.000644	0.000526

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234
NaturalGas Unmitigated	1.6031	14.0961	8.7420	0.0874		1.1076	1.1076		1.1076	1.1076		17,488.0009	17,488.0009	0.3352	0.3206	17,591.9234

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16474.4	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29102.3	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30611.4	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4829.78	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32079.6	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35550.6	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.4744	0.1777	1.5182	0.6461	9.6900e-003		0.1228	0.1228		0.1228	0.1228		1,938.1610	1,938.1610	0.0372	0.0355	1,949.6785
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	29.1023	0.3139	2.6820	1.1413	0.0171		0.2168	0.2168		0.2168	0.2168		3,423.8013	3,423.8013	0.0656	0.0628	3,444.1473
Industrial Park	30.6114	0.3301	3.0011	2.5209	0.0180		0.2281	0.2281		0.2281	0.2281		3,601.3394	3,601.3394	0.0690	0.0660	3,622.7404
Regional Shopping Center	4.82978	0.0521	0.4735	0.3978	2.8400e-003		0.0360	0.0360		0.0360	0.0360		568.2097	568.2097	0.0109	0.0104	571.5863
Research & Development	32.0796	0.3460	3.1451	2.6419	0.0189		0.2390	0.2390		0.2390	0.2390		3,774.0692	3,774.0692	0.0723	0.0692	3,796.4966
Single Family Housing	35.5506	0.3834	3.2762	1.3941	0.0209		0.2649	0.2649		0.2649	0.2649		4,182.4203	4,182.4203	0.0802	0.0767	4,207.2744
<b>Total</b>		<b>1.6031</b>	<b>14.0961</b>	<b>8.7420</b>	<b>0.0874</b>		<b>1.1076</b>	<b>1.1076</b>		<b>1.1076</b>	<b>1.1076</b>		<b>17,488.0009</b>	<b>17,488.0009</b>	<b>0.3352</b>	<b>0.3206</b>	<b>17,591.9234</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68
Unmitigated	163.0399	28.7677	597.9469	1.6077		76.0635	76.0635		76.0635	76.0635	10,877.48 64	25,537.52 68	36,415.01 32	51.5726	0.4636	37,842.48 68

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	52.0627	27.1789	460.1842	1.6004		75.2973	75.2973		75.2973	75.2973	10,877.48 64	25,288.51 77	36,166.00 41	51.3347	0.4636	37,587.53 20
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>163.0399</b>	<b>28.7677</b>	<b>597.9468</b>	<b>1.6077</b>		<b>76.0635</b>	<b>76.0635</b>		<b>76.0635</b>	<b>76.0635</b>	<b>10,877.48 64</b>	<b>25,537.52 68</b>	<b>36,415.01 32</b>	<b>51.5726</b>	<b>0.4636</b>	<b>37,842.48 68</b>

WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	15.4594					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	91.3850					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	52.0627	27.1789	460.1842	1.6004		75.2973	75.2973		75.2973	75.2973	10,877.48 64	25,288.51 77	36,166.00 41	51.3347	0.4636	37,587.53 20
Landscaping	4.1328	1.5888	137.7627	7.3100e-003		0.7662	0.7662		0.7662	0.7662		249.0091	249.0091	0.2378		254.9547
<b>Total</b>	<b>163.0399</b>	<b>28.7677</b>	<b>597.9468</b>	<b>1.6077</b>		<b>76.0635</b>	<b>76.0635</b>		<b>76.0635</b>	<b>76.0635</b>	<b>10,877.48 64</b>	<b>25,537.52 68</b>	<b>36,415.01 32</b>	<b>51.5726</b>	<b>0.4636</b>	<b>37,842.48 68</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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WRTP Specific Plan Operations - No Wood-Burning Fireplaces - Yolo County, Winter

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## Strategic Area Project Health Effects Tool

Strategic Area Location	V. Woodland	<-- Step 1: Input the area
NOx Emissions	656	<-- Step 2: Input NOx emissions in lbs./day
ROG Emissions	656	<-- Step 3: Input ROG emissions in lbs./day
PM25 Emissions	656	<-- Step 4: Input PM2.5 emissions in lbs./day

PM2.5 Health Endpoint	Age Range <sup>1</sup>	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) <sup>2,5</sup>	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) <sup>2</sup>	Percent of Background Health Incidences Across the 5-Air-District Region <sup>3</sup>	Total Number of Health Incidences Across the 5-Air-District Region (per year) <sup>4</sup>
		(Mean)	(Mean)		
<b>Respiratory</b>					
Emergency Room Visits, Asthma	0 - 99	3.5	1.1	0.0058%	18419
Hospital Admissions, Asthma	0 - 64	0.21	0.067	0.0036%	1846
Hospital Admissions, All Respiratory	65 - 99	1.3	0.35	0.0018%	19644
<b>Cardiovascular</b>					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.44	0.18	0.00074%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00050	0.000089	0.0024%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.023	0.0077	0.0025%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.042	0.018	0.0025%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.062	0.030	0.0025%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.27	0.11	0.0022%	5052
<b>Mortality</b>					
Mortality, All Cause	30 - 99	10	2.3	0.0051%	44766
<b>Ozone Health Endpoint</b>					
Ozone Health Endpoint	Age Range <sup>1</sup>	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) <sup>2,5</sup>	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) <sup>2</sup>	Percent of Background Health Incidences Across the 5-Air-District Region <sup>3</sup>	Total Number of Health Incidences Across the 5-Air-District Region (per year) <sup>4</sup>
		(Mean)	(Mean)		
<b>Respiratory</b>					
Hospital Admissions, All Respiratory	65 - 99	0.42	0.23	0.0011%	19644
Emergency Room Visits, Asthma	0 - 17	2.1	1.3	0.022%	5859
Emergency Room Visits, Asthma	18 - 99	3.3	2.0	0.016%	12560
<b>Mortality</b>					
Mortality, Non-Accidental	0 - 99	0.26	0.14	0.00047%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.
3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.
4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.
5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*.

**Sac Metro Air District Strategic Area Project Health Effects Tool, version 2, published September 2020**





## Strategic Area Project Health Effects Tool

Strategic Area Location	V. Woodland	<-- Step 1: Input the area
NOx Emissions	383	<-- Step 2: Input NOx emissions in lbs./day
ROG Emissions	202	<-- Step 3: Input ROG emissions in lbs./day
PM25 Emissions	126	<-- Step 4: Input PM2.5 emissions in lbs./day

PM2.5 Health Endpoint	Age Range <sup>1</sup>	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) <sup>2,5</sup>	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) <sup>2</sup>	Percent of Background Health Incidences Across the 5-Air-District Region <sup>3</sup>	Total Number of Health Incidences Across the 5-Air-District Region (per year) <sup>4</sup>
		(Mean)	(Mean)		
<b>Respiratory</b>					
Emergency Room Visits, Asthma	0 - 99	0.97	0.31	0.0017%	18419
Hospital Admissions, Asthma	0 - 64	0.058	0.019	0.0010%	1846
Hospital Admissions, All Respiratory	65 - 99	0.35	0.10	0.00051%	19644
<b>Cardiovascular</b>					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.12	0.051	0.00021%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00013	0.000026	0.00068%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.0062	0.0022	0.00072%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.012	0.0053	0.00071%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.018	0.0088	0.00071%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.077	0.032	0.00064%	5052
<b>Mortality</b>					
Mortality, All Cause	30 - 99	2.7	0.65	0.0015%	44766
<b>Ozone Health Endpoint</b>					
Ozone Health Endpoint	Age Range <sup>1</sup>	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) <sup>2,5</sup>	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) <sup>2</sup>	Percent of Background Health Incidences Across the 5-Air-District Region <sup>3</sup>	Total Number of Health Incidences Across the 5-Air-District Region (per year) <sup>4</sup>
		(Mean)	(Mean)		
<b>Respiratory</b>					
Hospital Admissions, All Respiratory	65 - 99	0.23	0.13	0.00065%	19644
Emergency Room Visits, Asthma	0 - 17	1.2	0.73	0.012%	5859
Emergency Room Visits, Asthma	18 - 99	1.9	1.1	0.0090%	12560
<b>Mortality</b>					
Mortality, Non-Accidental	0 - 99	0.14	0.082	0.00027%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.
3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.
4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.
5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*.

**Sac Metro Air District Strategic Area Project Health Effects Tool, version 2, published September 2020**

**Energy Consumption Summary**

Phase	Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
<b>Construction (amortized over 30 years)</b>			
Diesel	44,505	Gallons/yr	6,146
Gasoline	11,085	Gallons/yr	1,386
		<i>Subtotal</i>	<i>7,532</i>
<b>Building Operations</b>			
Residential - High Density			
Electrical	2,140,810	KWh/yr	7,307
Natural Gas	6,013,140	kBTU/yr	6,013
Residential - Medium Density			
Electrical	3,189,310	KWh/yr	10,885
Natural Gas	10,622,300	kBTU/yr	10,622
Residential - Low Density			
Electrical	4,346,970	KWh/yr	14,836
Natural Gas	12,976,000	kBTU/yr	12,976
Research & Technology Park			
Electrical	16,209,160	KWh/yr	55,322
Natural Gas	22,882,200	kBTU/yr	22,882
Retail / Commercial			
Electrical	1,632,450	KWh/yr	5,572
Natural Gas	1,762,870	kBTU/yr	1,763
		<i>Subtotal</i>	<i>148,178</i>
<b>Operational Transportation</b>			
Diesel	331,065	Gallons/yr	45,719
Gasoline	2,618,095	Gallons/yr	327,262
		<i>Subtotal</i>	<i>372,980</i>
		<b>Total</b>	<b>528,690</b>

Notes:

Totals do not add due to rounding.  
Source: Modeled by AECOM in 2020

Conversion Factors		
Category	Amount	Units
Diesel (heat content)	5.8	MMBtu/barrel
Motor Gasoline	5.25	MMBtu/barrel
Gallons per Barrel	42	gallons/barrel

<http://www.theclimaterestory.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf>

**Energy Consumption - Construction**

Phase	Source	MT CO <sub>2</sub> e/yr <sup>a</sup>	MT CO <sub>2</sub> e/yr <sup>a</sup>	Fuel Type	Factor (MT CO <sub>2</sub> /gallon) <sup>b</sup>	Gallons/year
		(For Buildout of 25% Specific Plan Area in 2021)	(For Buildout of Entire Specific Plan Area)			
Site Prep	Offroad Equip	453.45	1,814	Diesel	0.01016	178,523
	Hauling	0.00	-	Diesel	0.01016	-
	Vendor	0.00	-	Diesel	0.01016	-
	Worker	15.70	63	Gas	0.008887	7,066
Grading	Offroad Equip	1080.15	4,321	Diesel	0.01016	425,257
	Hauling	0.00	-	Diesel	0.01016	-
	Vendor	0.00	-	Diesel	0.01016	-
	Worker	37.92	152	Gas	0.008887	17,068
Building Construction	Offroad Equip	587.65	2,351	Diesel	0.01016	231,358
	Hauling	0.00	-	Diesel	0.01016	-
	Vendor	759.04	3,036	Diesel	0.01016	298,834
	Worker	559.39	2,238	Gas	0.008887	251,780
Paving	Offroad Equip	302.66	1,211	Diesel	0.01016	119,157
	Hauling	0.00	-	Diesel	0.01016	-
	Vendor	0.00	-	Diesel	0.01016	-
	Worker	17.05	68	Gas	0.008887	7,676
Architectural Coating	Offroad Equip	33.25	133	Diesel	0.01016	13,090
	Hauling	0.00	-	Diesel	0.01016	-
	Vendor	0.00	-	Diesel	0.01016	-
	Worker	108.75	435	Gas	0.008887	48,948
Caltrans Off-site Improvement Area (Modeled in RCEM)						
	Offroad Equip + Hauling	700.31	700	Diesel	0.01016	68,928
	Worker Trips	50.24	50	Gasoline	0.008887	5,653
<b>Total Gallons</b>	All Offroad, Hauling, & Vendor	3,917	13,565	<b>Diesel</b>	<b>0.01016</b>	<b>1,335,149</b>
	All Worker	610	2,288	<b>Gasoline</b>	<b>0.008887</b>	<b>332,538</b>
<b>Amortized Demands (over 30 years)</b>	All Offroad, Hauling, & Vendor	130.55	452.17	<b>Diesel</b>	<b>0.01016</b>	<b>44,505</b>
	All Worker	20.32	76.26	<b>Gasoline</b>	<b>0.008887</b>	<b>11,085</b>

**Notes:**

Assumed amortization period is 30 years.

**Sources:**

<sup>a</sup> Modeled by AECOM in 2020.

<sup>b</sup> U.S. Energy Information Administration 2016 ([https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php))

**Energy Consumption - Buildings**

<b>Estimated Annual Electrical and Natural Gas Demand</b>		
<b>Location</b>	<b>Electrical Demand (kWh/year)</b>	<b>Natural Gas Demand (kBtu/year)</b>
Residential - High Density	2,140,810	6,013,140
Residential - Medium Density	3,189,310	10,622,300
Residential - Low Density	4,346,970	12,976,000
Research & Technology Park	16,209,160	22,882,200
Retail / Commerical	1,632,450	1,762,870
<b>Total</b>	<b>27,518,700</b>	<b>54,256,510</b>

Notes: kWh = kilowatt-hours; kBtu = thousand British thermal unit  
Source: AECOM 2020

**Energy Consumption - Operational Transportation**

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Yolo (SV)

Calendar Year: 2035

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	% VMT
Yolo (SV)	2035	All Other Buses	Aggregated	Aggregated	DSL	36.05052	1481.689	0.02%
Yolo (SV)	2035	LDA	Aggregated	Aggregated	GAS	117568.5	4565679	51.52%
Yolo (SV)	2035	LDA	Aggregated	Aggregated	DSL	1447.598	56738.48	0.64%
Yolo (SV)	2035	LDA	Aggregated	Aggregated	ELEC	6644.837	243817	2.75%
Yolo (SV)	2035	LDT1	Aggregated	Aggregated	GAS	13637.44	431925.3	4.87%
Yolo (SV)	2035	LDT1	Aggregated	Aggregated	DSL	3.127633	75.68701	0.00%
Yolo (SV)	2035	LDT1	Aggregated	Aggregated	ELEC	408.8796	15008.63	0.17%
Yolo (SV)	2035	LDT2	Aggregated	Aggregated	GAS	43245.72	1392649	15.72%
Yolo (SV)	2035	LDT2	Aggregated	Aggregated	DSL	416.544	14030.65	0.16%
Yolo (SV)	2035	LDT2	Aggregated	Aggregated	ELEC	1576.655	39873.1	0.45%
Yolo (SV)	2035	LHD1	Aggregated	Aggregated	GAS	2515.438	79066.18	0.89%
Yolo (SV)	2035	LHD1	Aggregated	Aggregated	DSL	2840.523	85808.37	0.97%
Yolo (SV)	2035	LHD2	Aggregated	Aggregated	GAS	372.2163	11826.18	0.13%
Yolo (SV)	2035	LHD2	Aggregated	Aggregated	DSL	1018.973	31389.23	0.35%
Yolo (SV)	2035	MCY	Aggregated	Aggregated	GAS	6419.523	38616.43	0.44%
Yolo (SV)	2035	MDV	Aggregated	Aggregated	GAS	28673.14	896505.1	10.12%
Yolo (SV)	2035	MDV	Aggregated	Aggregated	DSL	969.8628	31902.32	0.36%
Yolo (SV)	2035	MDV	Aggregated	Aggregated	ELEC	1087.508	27797.38	0.31%
Yolo (SV)	2035	MH	Aggregated	Aggregated	GAS	376.6781	3568.747	0.04%
Yolo (SV)	2035	MH	Aggregated	Aggregated	DSL	190.3398	1592.385	0.02%
Yolo (SV)	2035	Motor Coach	Aggregated	Aggregated	DSL	5.303702	634.5781	0.01%
Yolo (SV)	2035	OBUS	Aggregated	Aggregated	GAS	68.53568	3056.641	0.03%
Yolo (SV)	2035	SBUS	Aggregated	Aggregated	GAS	36.39383	1653.572	0.02%
Yolo (SV)	2035	SBUS	Aggregated	Aggregated	DSL	120.7787	3849.608	0.04%
Yolo (SV)	2035	T6 CAIRP heavy	Aggregated	Aggregated	DSL	45.64238	7807.067	0.09%
Yolo (SV)	2035	T6 CAIRP small	Aggregated	Aggregated	DSL	26.44403	1170.975	0.01%
Yolo (SV)	2035	T6 instate heavy	Aggregated	Aggregated	DSL	2112.085	229732	2.59%
Yolo (SV)	2035	T6 instate small	Aggregated	Aggregated	DSL	5935.195	289866.5	3.27%
Yolo (SV)	2035	T6 OOS heavy	Aggregated	Aggregated	DSL	26.43722	4554.343	0.05%
Yolo (SV)	2035	T6 OOS small	Aggregated	Aggregated	DSL	14.04269	617.3888	0.01%
Yolo (SV)	2035	T6 Public	Aggregated	Aggregated	DSL	91.15332	1347.885	0.02%
Yolo (SV)	2035	T6 utility	Aggregated	Aggregated	DSL	60.1061	1002.684	0.01%
Yolo (SV)	2035	T6TS	Aggregated	Aggregated	GAS	273.0058	14111.79	0.16%
Yolo (SV)	2035	T7 CAIRP	Aggregated	Aggregated	DSL	307.6349	65113.28	0.73%
Yolo (SV)	2035	T7 NNOOS	Aggregated	Aggregated	DSL	461.7631	79410.09	0.90%
Yolo (SV)	2035	T7 NOOS	Aggregated	Aggregated	DSL	122.3467	25571.57	0.29%
Yolo (SV)	2035	T7 other port	Aggregated	Aggregated	DSL	4.235521	664.5094	0.01%
Yolo (SV)	2035	T7 POAK	Aggregated	Aggregated	DSL	19.21624	2962.555	0.03%
Yolo (SV)	2035	T7 Public	Aggregated	Aggregated	DSL	381.4797	7733.354	0.09%
Yolo (SV)	2035	T7 Single	Aggregated	Aggregated	DSL	811.544	65927.03	0.74%
Yolo (SV)	2035	T7 SWCV	Aggregated	Aggregated	DSL	247.4513	10086.38	0.11%
Yolo (SV)	2035	T7 SWCV	Aggregated	Aggregated	NG	0.120468	4.922146	0.00%
Yolo (SV)	2035	T7 tractor	Aggregated	Aggregated	DSL	403.2116	48683.62	0.55%
Yolo (SV)	2035	T7 utility	Aggregated	Aggregated	DSL	9.658277	195.7135	0.00%
Yolo (SV)	2035	T7IS	Aggregated	Aggregated	GAS	0.986339	127.573	0.00%
Yolo (SV)	2035	UBUS	Aggregated	Aggregated	GAS	19.1689	1820.252	0.02%
Yolo (SV)	2035	UBUS	Aggregated	Aggregated	DSL	57.23198	5709.722	0.06%
Yolo (SV)	2035	UBUS	Aggregated	Aggregated	NG	183.9599	18352.68	0.21%
					DSL			12.14%
					GAS			83.97%

Category	Amount	Units
Diesel (heat content)	5.8	MMBtu/barrel
Motor Gasoline	5.25	MMBtu/barrel
Gallons per Barrel	42	gallons/barrel

Source: The Climate Registry. 2017. 2017 Climate Registry Default Emission Factors: Table 13.1 (<http://www.theclimateregistry.org/wp-content/uploads/2017/05/2017-Cliamte-Registry-Default-Emission-Factors.pdf>)

	MT CO <sub>2</sub> e <sup>yr</sup> <sup>a</sup>	% Average Fleet Mix <sup>b</sup>	Factor (MT CO <sub>2</sub> /gallon) <sup>c</sup>	Gallons/year
Operational Fuel Consumption	27,709			
Diesel		12.14%	1.02E-02	331,065
Gasoline		83.97%	8.89E-03	2,618,095

Sources:

<sup>a</sup> Modeled by AECOM in 2020.

<sup>b</sup> EMFAC2017 Web Database

<sup>c</sup> U.S. Energy Information Administration 2016 ([https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php))

# Woodland Research & Technology Park Specific Plan Cultural Resources Inventory Report

Yolo County, California



Prepared for:  
City of Woodland  
Community Development Department  
300 First Street  
Woodland, CA 95695

**AECOM**

January 2018 (Revised September 2020)



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Yolo County, California



Prepared for:  
City of Woodland  
Community Development Department  
300 First Street  
Woodland, CA 95695

Prepared by:  
AECOM  
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**AECOM**

January 2018 (Revised September 2020)





## EXECUTIVE SUMMARY

AECOM Technical Services, Inc. (AECOM) assisted the City of Woodland Community Development Department with a cultural resources inventory as part of the Environmental Impact Report for the Woodland Research & Technology Park Specific Plan. This Specific Plan Area is within one of three Specific Plan Areas (SP-1, SP-2, and SP-3) identified for new development in the City's 2035 General Plan, which was adopted on May 16, 2017. The Specific Plan Area is in Specific Plan 1 (SP-1), in the southern part of the City's planning area and within the City's Urban Limit Line and Sphere of Influence (SOI). The Specific Plan Area is a portion of SP-1 known as SP-1A, which encompasses approximately 350 acres of land area located between State Route 113 to the west and Harry Lorenzo Avenue to the east. The project in SP-1A is located outside the current city boundary and will require annexation into the City prior to development (City of Woodland General Plan Update 2035 2017:LU 2-55). This report was updated in September 2020 to account for additional off-site improvement areas including the South Regional Pond (just south of County Road 25A south of the Specific Plan Area), and the Caltrans Off-site Improvement area just west of the Specific Plan Area at the intersection of County Road 25A and State Route 113).

One cultural resources inventory had been previously conducted within the Specific Plan Area and eight cultural resources inventories had been conducted within one mile of the Specific Plan Area. Previous cultural resources inventories conducted within one mile of the Specific Plan Area identified four potentially eligible historic structures or objects. A separate cultural resource record search was conducted for the Caltrans Off-site Improvement Area by Caltrans and no previous cultural resources were identified (Caltrans 2013).

The City of Woodland conducted Native American consultation that met the requirements of Assembly Bill (AB) 52. The Yocha Dehe tribe requested and was granted a site visit. Tribal representative stated that they were not aware of any cultural resources or tribal cultural resources near the project site and no tribal monitors were required. However, the tribe did recommend cultural sensitivity training and that all work should cease within 150 feet of human remains or prehistoric cultural resources that may be discovered during project implementation.

A pedestrian cultural resources survey of the Specific Plan Area (SP-1) was conducted on August 31, 2017. Two cultural resources were identified during this survey: a historic-age site with house foundations and associated refuse deposit, and two historic-age buildings consisting of a barn and residence on a single parcel. These resources are not considered significant under California Register of Historical Resources (CRHR) criteria or as City of Woodland historical resources. Therefore, implementation of the Specific Plan and off-site improvements will not result in a substantial adverse change to an historical resource under the California Environmental Quality Act (CEQA).

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## ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AECOM	AECOM Technical Services, Inc.
APE	Area of Potential Effect
APN	Assessor's Parcel Number
BP	before Present
BP	Business Park
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
City	City of Woodland
Code	City of Woodland's Code
Commission	Historical Preservation Commission
CR	County Road
CRHR	California Register of Historical Resources
DPR	California Department of Parks and Recreation
du/ac	dwelling units per acre
EIR	Environmental Impact Report
GLO	General Land Office
HC	Highway Commercial
HDR	High Density Residential
IF	Light Industrial Flex
LDR	Low Density Residential
m	meters
MDR	Medium Density Residential
MLD	Most Likely Descendent
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OS	Open Space
SOI	Sphere of Influence
SP-1	Specific Plan 1
SPEIR	Specific Plan Environmental Impact Report
SR	State Route
TCR	Tribal Cultural Resource
UCSB	U.C. Santa Barbara
ULL	Urban Limit Line
USGS	U.S. Geological Survey
VC	Village Center

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# 1 INTRODUCTION

This report serves to provide information regarding the existing conditions concerning cultural resources within the proposed Specific Plan Area). One previous cultural resources study had been conducted within the specific plan area boundary but it was limited in scope and it was unknown if any cultural resources existed.

## 1.1 PROJECT LOCATION

The Specific Plan Area and off-site improvement areas are just outside the existing City limits of the City of Woodland, Yolo County (Figure 1). The Specific Plan Area is located in on the *Greys Bend* and *Woodland* U.S. Geological Survey (USGS) 7.5' topographic quadrangles and in Township 9N Range 2E Sections 4 and 9 (Figure 2).

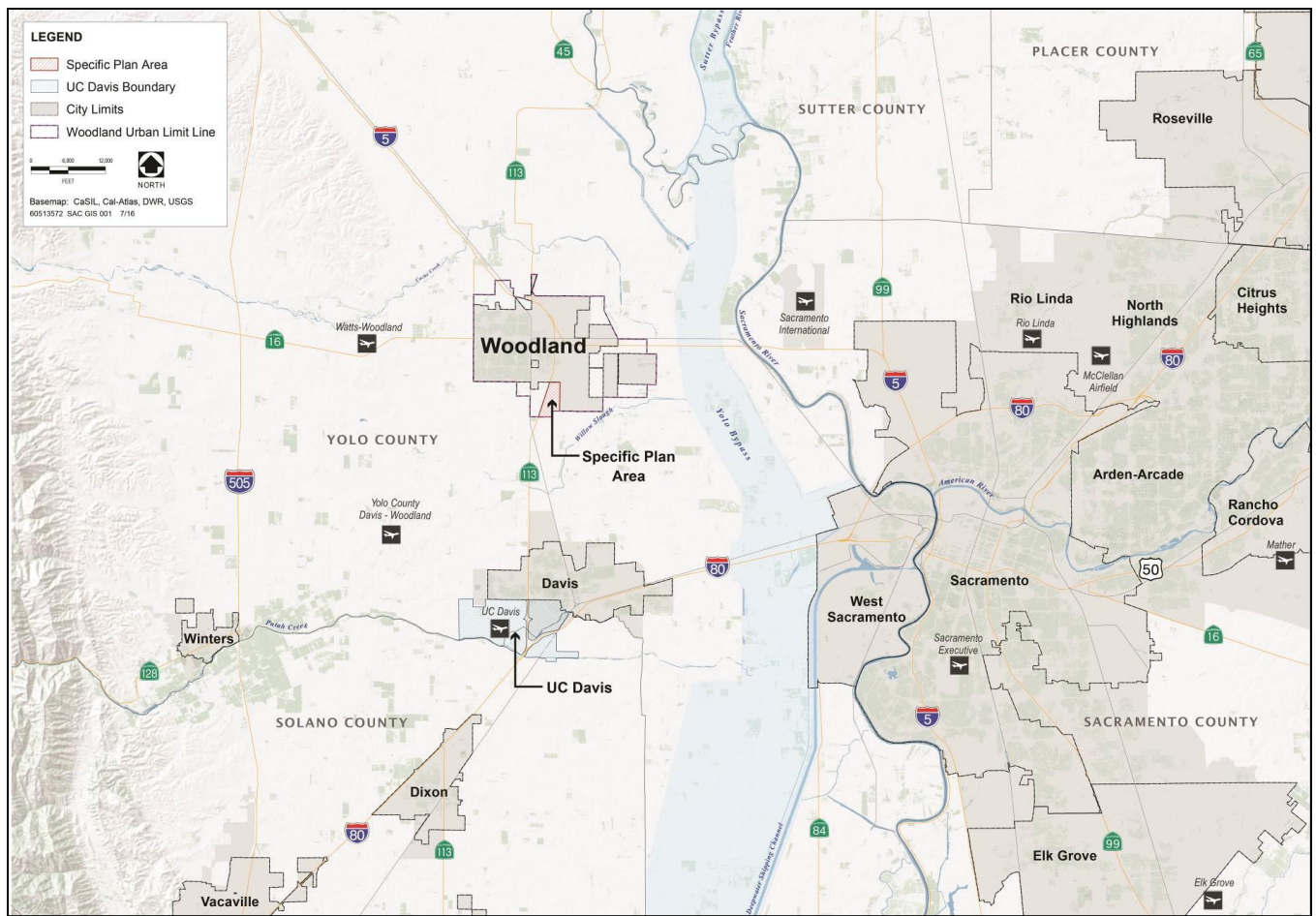
The Specific Plan Area is within one of three Specific Plan Areas (SP-1, SP-2, and SP-3) identified for new development in the City's 2035 General Plan, which was adopted on May 16, 2017. The Specific Plan Area is in Specific Plan 1 (SP-1), in the southern part of the City's planning area. The Specific Plan Area is a portion of SP-1 known as SP-1A, which encompasses approximately 350 acres of land area. The Specific Plan Area is located between State Route (SR) 113 to the west and Harry Lorenzo Avenue to the east, with the eastern portion of the southern border formed by County Road 25A and the western portion of the southern border by an unnamed agricultural road (Figure 3). The Specific Plan is located adjacent to the Spring Lake Specific Plan area to the north and east.

## 1.2 PROJECT DESCRIPTION

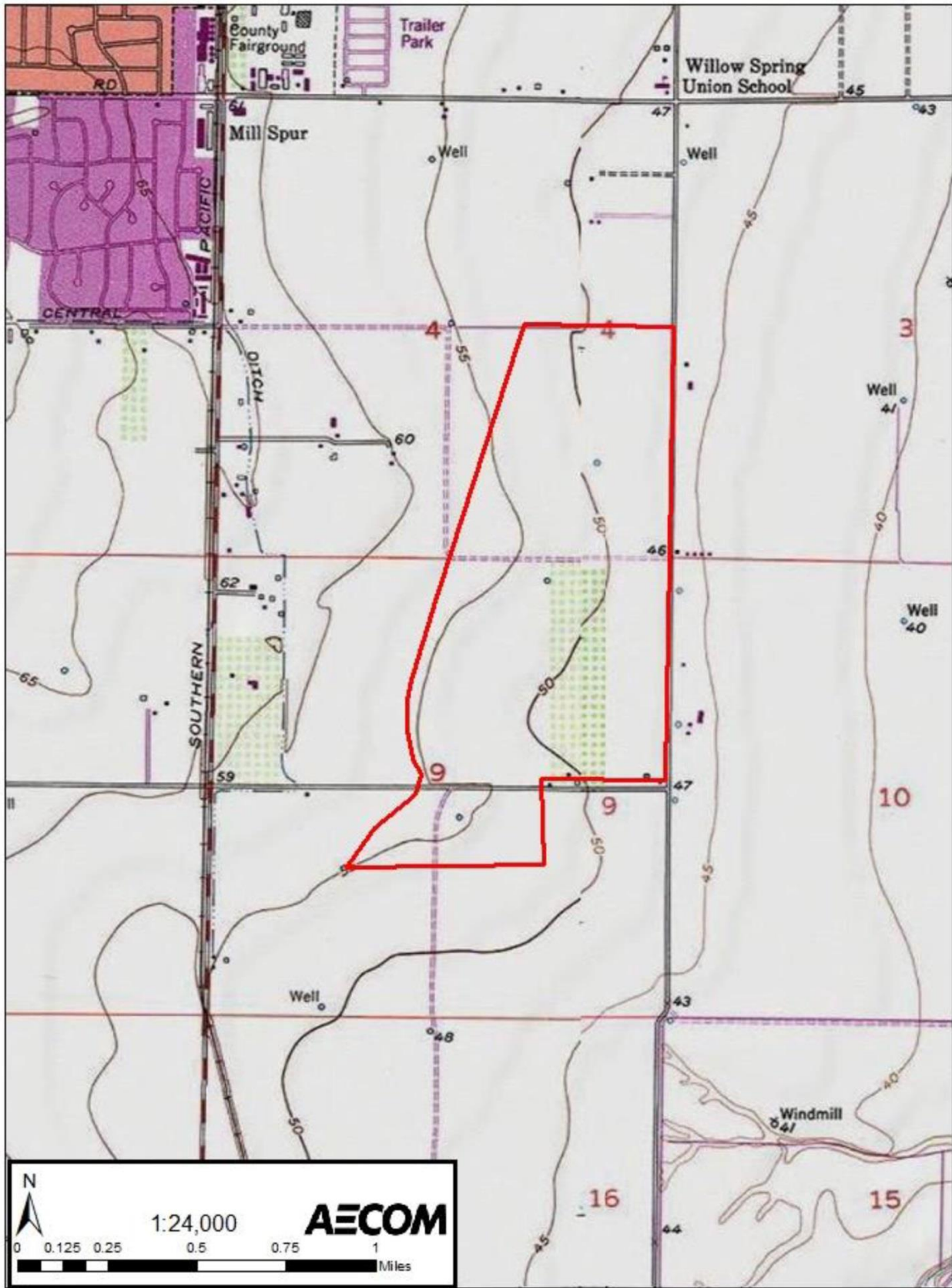
The Woodland Research and Technology Park Specific Plan would accommodate research and development, technology, and science and engineering-related uses; a commercial mixed-use town center focused around a central green; and a range of housing options, all connected by a multi-modal street network and trail system. The Specific Plan provides for approximately 1,673 dwelling units a range of residential land use classifications , approximately 2.2 million square feet of nonresidential building space, and approximately 21.8 acres of parks and Open Space (OS).

This technical report also addresses potential impacts associated with off-site improvement areas associated with the proposed project. Off-site improvement areas include a proposed approximately four-acre detention pond (i.e., South Regional Pond) immediately south of the Specific Plan Area and adjacent to County Road 25A, and the Caltrans Off-site Improvement Area, at which improvements would be made to the State Route 113 / County Road 25A interchange adjacent to the southwest corner of the Specific Plan Area. There are two alternative footprints for the Caltrans Off-site Improvement Area that are currently under analysis. Alternative 1 consists of approximately 37 acres to construct new on- and off-ramp configurations. This alternative would include widening on the overcrossing for the westbound lane, constructing a southbound loop on-ramp, and modifications to the southbound/northbound on-ramp and off-ramp and at the ramp terminus for intersections to accommodate lane configurations. Alternative 2 consists of approximately 24 acres to modify the intersections to single-lane roundabouts; it would not require widening of the existing overcrossing structure or construction of a southbound loop on-ramp. Both of the interchange improvement alternatives consist of permanent and temporary impact areas in the Caltrans right-of-way and adjacent areas outside of the Caltrans right-of-way. The off-site areas (including full extent of alternatives) are illustrated in Figure 3.





**Figure 1. Project Vicinity**



Source: Esri, USGS 2017

Figure 2. Project Location



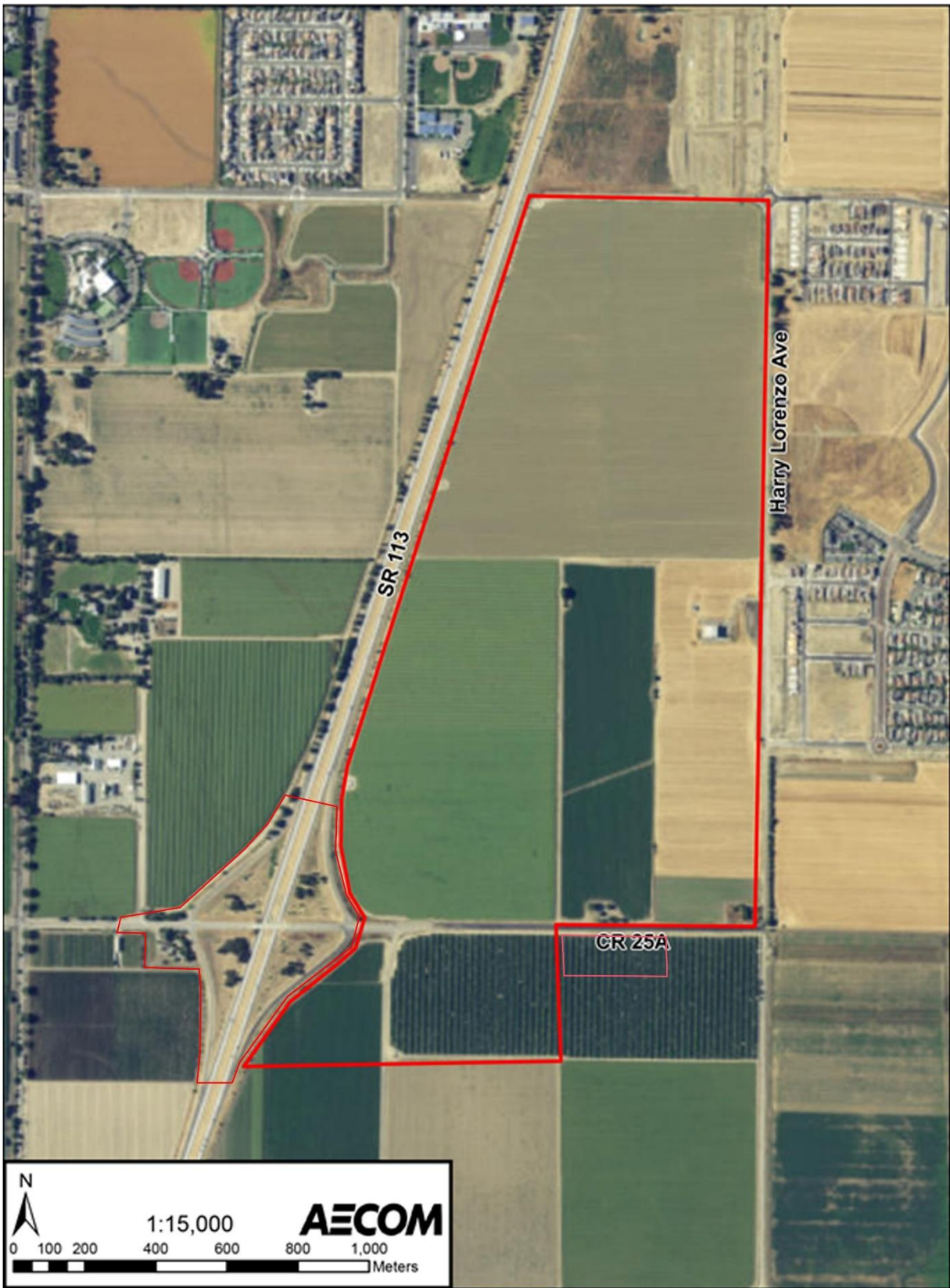


Figure 3. Specific Plan Area and Off-Site Improvement Areas

## 2 REGULATORY CONTEXT

Cultural resources in California are protected by a number of federal, State, and local regulations and ordinances. The most frequently applied legislation at the state level consists of the provisions of California Environmental Quality Act (CEQA) that provide for the documentation and protection of significant prehistoric and historic period resources.

### 2.1.1 STATE REGULATIONS

#### 2.1.1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES, CEQA GUIDELINES SECTION 15064.5(B)

Under the provisions of CEQA, “A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (California Code of Regulations [CCR] Title 14[3] Section 15064.5[b]).

CEQA defines a “historical resource” as a resource which meets one or more of the following criteria:

- ▶ Listed in, or eligible for listing in, the California Register of Historical Resources (CRHR) ;
- ▶ Listed in a local register of historical resources (as defined at California Public Resources Code Section 5020.1[k]);
- ▶ Identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
- ▶ Determined to be a historical resource by a project's lead agency (CCR Title 14[3] Section 15064.5[a]).

A historical resource consists of any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources” (CCR Title 14[3] Section 15064.5[a][3]).

CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA planning process (CCR Title 14[3] Section 15064.5; Public Resources Code Section 21083.2). If feasible, adverse effects to the significance of historical resources must be avoided, or the effects mitigated (CCR Title 14[3] Section 15064.5[b][4]). The significance of an historical resource is impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the CRHR. If there is a substantial adverse change in the significance of a historical resource, the preparation of an environmental impact report may be required (CCR Title 14(3) Section 15065(a)).

#### 2.1.1.2 CALIFORNIA REGISTER OF HISTORICAL RESOURCES, CALIFORNIA PUBLIC RESOURCES CODE SECTION 5024.1

The CRHR is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources

Code Section 5024.1[a]). The criteria for eligibility to the CRHR are consistent with the National Register of Historic Places (NRHP) criteria (California Public Resources Code Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register of Historic Resources, including California properties that are formally determined eligible for or listed in the NRHP.

To be eligible for the CRHR, an historical resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

- (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (2) is associated with the lives of persons important in our past;
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) has yielded, or may be likely to yield, information important in prehistory or history (California Public Resources Code Section 5024.1[c]).

### **2.1.1.3 ASSEMBLY BILL (AB) 52, PUBLIC RESOURCES CODE SECTION 21074**

With the adoption of Assembly Bill (AB) 52 (effective 2015), impacts to tribal cultural resources must also be addressed under CEQA. As defined in Public Resources Code Section 21074, a tribal cultural resource is a site, feature, place, cultural landscape, sacred place, or object with cultural value to a "California Native American tribe," that is either on, or eligible for inclusion in, the California Register of Historic Resources or a local historic register, or is a resource that the lead agency (in this case the City of Woodland), at its discretion and supported by substantial evidence, determines should be treated as a tribal cultural resource. AB 52 also provides both federal and non-federally recognized tribes the right to formal consultation with project lead agencies.

### **2.1.1.4 HEALTH AND SAFETY CODE, HEALTH AND SAFETY CODE SECTION 7050 THROUGH 7052**

Section 7052 of the Health and Safety Code states that disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC) in accordance with the Public Resources Code 5097 (see below).

### **2.1.1.5 CALIFORNIA NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT, HEALTH AND SAFETY CODE SECTION 8010 THROUGH 8030**

In the California Health and Safety Code, Division 7, Part 2, Chapter 5 broad provisions are made for the protection of Native American cultural resources. The Act sets the state policy to ensure that all California Native American human remains and cultural items are treated with due respect and dignity. The Act also provides the mechanism for disclosure and return of human remains and cultural items held by publicly funded agencies and museums in California. Likewise, the Act outlines the mechanism with which California Native American tribes not recognized by the federal government may file claims to human remains and cultural items held in agencies or museums.

### **2.1.1.6 NATIVE AMERICAN HISTORIC RESOURCE PROTECTION ACT, PUBLIC RESOURCES CODE 5097**

Section 5097 of the Public Resources Code addresses archaeological resources. Archaeological resources that are not “historical resources” may be “unique archaeological resources” as defined in Public Resources Code Section 21083.2, which also generally provides that “non-unique archaeological resources” are not analyzed under CEQA. Public Resources Code Section 21083.2, subdivision (g), defines “unique archaeological resource” as an archaeological artifact, object, or site that does not merely add to the current body of knowledge, but has a high probability of meeting any of the criteria identified in this section. If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on that resource will not be considered a significant effect on the environment. It is sufficient that the resource and the effects on it be noted in an EIR, but the resource need not be considered further in the CEQA process.

Additional applicable sections of the Public Resources Code include:

- ▶ **Section 5097.5:** Provides that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public lands is a misdemeanor. As used in this section, “public lands” means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority, or public corporation, or any agency thereof.
- ▶ **Section 5097.98:** Prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn, and sets penalties for such acts.

### **2.1.1.7 ASSEMBLY BILL 2641, PUBLIC RESOURCES CODE SECTIONS 5097.91 AND 5097.98**

This bill provides procedures for private land owners to follow upon discovering Native American human remains. Landowners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California Public Resources Code Section 5097.98. AB 2641 further clarifies how the landowner should protect the site both immediately after discovery and into the future.

## **2.1.2 LOCAL CODES, ORDINANCES, AND REGULATIONS**

### **2.1.2.1 CITY OF WOODLAND MUNICIPAL CODE, CHAPTER 12A**

Chapter 12A of the City of Woodland’s Code (Code) is intended to preserve areas and the physical representations of its cultural, social, economic, political and architectural history. In addition to describing the makeup and responsibilities of the Woodland Historical Preservation Commission, the Code also outlines the criteria for identification of locally recognized historic resources, which are outlined below.

#### ***Historical Importance***

The building, structure, object, particular place, vegetation or geology, has character, interest of value, as part of the development, heritage or cultural characteristics of the city, state or nation; or is the site of an historic event with an effect upon society; or is identified with a person or group of persons who had some influence on society; or exemplifies the cultural, political, economic, social or historic heritage of the community (Sec. 12A-3-1 (a)(1)).

#### ***Architectural Significance***

In order to be eligible for the local register, the building, structure, object, or particular place exemplifies the environment of a group of people in an era of history characterized by distinctive architectural style; or embodies those distinguishing characteristics of an architectural type specimen; or is the work of an architect or master builder whose individual work has influenced the development of the area; or contains elements of architectural design, detail, materials, or craftsmanship that represent a significant innovation (Sec. 12A-3-1 [a][2]).

Additionally, sections of the Code allow for an area to be designated as an historical district when it includes at least two designated historical landmarks. Such districts may include structures and sites that individually do not meet criteria for landmark status, but nevertheless have some identified historic relationship (Sec. 12A-3-1 [b]).

### ***Designation Process***

The Code stipulates that the City Council shall approve and maintain a formal historical resources list. Further, a building, structure, or object may be included on the list as a historical resource if, in the determination of the City Council, it satisfies the Historical Preservation Commission's historical resources inventory study list evaluation criteria (Sec. 12A-3-1 [c]).

The Code also outlines the processes for designation of historical landmarks, historical districts, and historical resources. The Historical Preservation Commission by resolution may recommend to the City Council designation of a landmark or historical district, or an addition to the historical resources list, upon compliance using prescribed procedures. Upon receipt of the recommendation from the Historical Preservation Commission, the City Council shall approve, modify, or disapprove the recommendation upon compliance under prescribed procedures (Sec. 12A-3-2 [a] and [b]).

The Code also stipulates that no person shall demolish, remove, move, or make alterations which affect the exterior appearance of a designated historical landmark or structure of a designated historical district, without first obtaining approval from the Historical Preservation Commission (Commission), unless the chief building official certifies that such demolition is required for the public safety due to an unsafe or dangerous condition. A property owner who desires to construct, alter, move, remove, or demolish a designated historical landmark or any structure within a designated historical district, or who desires to demolish a designated historical resource, shall file an application with the community development department upon a form prescribed by the city. When the application is filed, it shall be referred to the Commission for an appropriate level of review to be conducted pursuant to the California Environmental Quality Act ("CEQA"). After such review has been completed, the secretary of the Commission shall set the matter for hearing and shall give written notice to the applicant and shall cause publication of notice in a newspaper of general circulation in the city of the date, time, and place of the hearing. The Commission shall hold a public hearing and shall make its decision within six months from the date the application is filed with the community development department if an Environmental Impact Report (EIR) is required or within three months if a negative declaration is required or if the proposal is determined to be exempt from CEQA. Approval of the application shall require an affirmative vote of a majority of the Commission members present. If the Commission fails to act within the foregoing time periods, the application shall be considered approved unless the applicant and the Commission agree to an extension of time. At the conclusion of the hearing, the Commission shall make its decision and shall file a certificate of approval with the building official, or deny the application. No person may do any work upon a designated historical landmark or any structure within a designated historical district, or proceed to demolish a designated historical resource, which is the subject of an application, and the building official may not issue a building permit, until the Commission files a certificate of approval (Sec. 12A-4-1[a]-[b], 12A-4-2 and 12A-4-3 [a]-[b]).

## 3 BACKGROUND

### 3.1 ENVIRONMENT

The Specific Plan Area is located in the Central Valley Delta region. The Specific Plan Area is about 15 meters (m) (50 feet) above mean sea level. Geologically, the area is characterized by Yolo silt loam, Brentwood silty clay loam, Capay silty clay, Reiff very fine sandy loam and Sycamore silty clay loam (Wagner et al. 1981). The Specific Plan Area is in the Yolo Alluvial fans ecoregion within the Central California Valley. This ecoregion is characterized by Pleistocene and Holocene alluvial fan material from the Coast Ranges and the foothills on the western side of the Sacramento Valley (Griffith et al. 2016). The climate of the region is classed as Mediterranean with cool, wet winters and dry, hot summers. The Specific Plan Area is in agricultural use, with tomatoes, sunflowers, and almond trees under cultivation during 2017 field work. Prior to agricultural development, common vegetation in this ecoregion included grasslands and valley oak with cottonwoods and willow in riparian corridors. Prior to the Gold Rush and influx of settlers to the region, tule elk, mink, weasel, raccoon, and beaver were common, as were migrating waterfowl such as geese, ducks, and swans, and white pelicans, herons, ibises, cranes, cormorants, and eagles (Moratto 1984: 170).

### 3.2 PREHISTORY

This text is derived from the City of Woodland *2035 General Plan and Climate Action Plan Public Review Draft EIR* (City of Woodland 2016).

In the early 1970s, Fredrickson (1973, 1974) proposed a sequence of cultural manifestations or patterns (“Patterns”) for the central districts of the North Coast Ranges, placing them within a framework of cultural periods he believed were applicable to California as a whole. These different cultural modes could be characterized by:

- a) similar technological skills and devices (specific cultural items);
- b) similar economic modes (production, distribution, consumption), including participation in trade networks and practices surrounding wealth (often inferential); and,
- c) similar mortuary and ceremonial practices (Fredrickson 1973:118).

All three of these criteria can be examined through the study of archaeological materials.

#### 3.2.1 PALEO-INDIAN PERIOD (12,000 TO 8000 BEFORE PRESENT [B.P.])

This period saw the first demonstrated entry and spread of humans into California, with most known sites being situated along lakeshores. A developed milling tool technology may have been present at this time although evidence of this technology is scarce. The social units were not heavily dependent upon the exchange of resources, with trading activities occurring on an ad hoc, individual basis.

The Post Pattern represents the earliest known occupation of the North Coast Ranges. This Pattern is documented only at the Borax Lake site, and perhaps at the Mostin site (Moratto 1984:497). Characteristic artifacts noted in the lithic assemblages include fluted projectile points and flaked crescents. Though the artifacts representative of this Pattern have never been found within a single site in the Yolo County region, numerous occurrences of its distinctive artifacts are reported and can be affiliated with better-documented assemblages elsewhere in California and throughout North America.



### **3.2.2 LOWER ARCHAIC PERIOD (8000 TO 5000 B.P.)**

The beginning of this period coincides with that of the middle Holocene climatic shift to more arid conditions that brought about the drying up of the pluvial lakes located in northern and southern California and elsewhere in the Great Basin. Subsistence appears to have been focused more on plant foods, although hunting clearly still provided for important food and raw material sources. Settlement was semi-sedentary with emphasis on material wealth. Most tools were manufactured of local materials, and exchange remained on an individual basis. Distinctive artifact types include large projectile points, milling slabs, and handstones.

### **3.2.3 MIDDLE ARCHAIC PERIOD (5000 TO 3000 B.P.)**

This period begins at the end of mid-Holocene climatic conditions when weather patterns became similar to those of the present day. Discernible cultural change was likely brought about, in part, in response to these changes in climate and accompanying variation in available floral and faunal resources. Economic systems were more diversified and likely included the introduction of acorn processing technology. Hunting remained an important source of food and raw materials, although reliance on plant foods appears to have dominated the subsistence system. Sedentism seems to have been fully developed, and there was an overall growth in population and a general expansion in settlement activity. Little evidence is present for development of regularized exchange relations. Typologically and technologically important artifacts characteristic of this period include the bowl, mortar and pestle, and the continued use of large projectile points.

The Middle Archaic Mendocino Pattern assemblages originate in this period and are known to persist through the Upper Archaic and possibly into the Emergent Period. The Hultman Aspect identified in the Clear Lake Basin is the southernmost of two identified cultural divisions, while the Windmill Pattern is present to the north. The two share such basic material traits as basalt core tools, shaped unifaces, heavily worked bifaces, and thin, finely-flaked obsidian knives. The Hultman Aspect is distinguished by the presence of ovate scrapers, numerous simple tools, incised or drilled steatite plummets (charmstones), and the use of local and non-local obsidian for the manufacture of projectile points.

The Windmill Pattern is the earliest identified cultural pattern in the Central Valley. It has been identified at several sites along the Cosumnes and Mokelumne rivers in the Delta region. Its rich artifact assemblage is distinguished by the unique burial practice of ventrally extended interments oriented primarily to the west. Burials often include items, such as charmstones, quartz crystals, red ochre, asbestos splinters, biotite and Haliotis ornaments, rectangular Olivella shell beads, and large projectile points of various materials including chert, slate, and obsidian. Other items in the material assemblage include bone fish hooks, gorge hooks, fish spears, mortars and pestles, milling slabs and handstones, baked clay balls, and bone tubes, awls, and pins.

Also associated with this period is the Berkeley Pattern, which appears to have originated in the San Francisco Bay region during the Lower Archaic Period. However, the majority of identified components date to the Middle Archaic and continue into the Upper Archaic. This pattern has been noted at numerous sites in the Central Valley, Bay, and North Coast Range regions. Mortuary practices are characterized by tightly flexed burials with no apparent patterning in orientation and fewer artifact associations, compared to the elaborate practices evidenced in Windmill Pattern burials. Grave associations include numerous Olivella saucer and saddle beads and Haliotis ornaments. The artifact assemblage is distinguished by a highly developed bone tool industry represented by bone needles, bird and mammal bone whistles, serrated scapula saws, bone hairpins and spatulae, mammal and birdbone tubes, and other types of flaked, ground, and polished bone artifacts. Mortars and pestles dominate the milling tool assemblage with only infrequent occurrences of milling slabs and handstones. Non-stemmed obsidian projectile points and knives are abundant. Midden deposits contain large accumulations of oyster, clam, and salt-water mussel shells in the Bay Area, while freshwater mussel predominates in Central Valley sites.

### **3.2.4 UPPER ARCHAIC PERIOD (3000 TO 1500 B.P.)**

A dramatic expansion of sociopolitical complexity marks this period with the development of status distinctions based upon material wealth being well documented. Group-oriented religions emerge and may be the origins of the Kuksu religious system that arises at the end of the period. There was a greater complexity of trade systems with evidence for regular, sustained exchanges between groups. Shell beads gained in significance as possible indicators of personal status and as important trade items. This period retained the large projectile points in different forms, but the milling stone and handstone were replaced throughout most of California by the bowl mortar and pestle.

During this period, the Mendocino Pattern is present in the central and northern portions of the North Coast Ranges, and the Berkeley Pattern persisted in the Central Valley, Bay, and southern portion of the North Coast Ranges, including the Woodland area.

### **3.2.5 EMERGENT PERIOD (1500 TO 150 B.P.)**

This period is distinguished by the advent of several technological and social changes. The bow and arrow were introduced, ultimately replacing the atlatl. Territorial boundaries between groups became well established and were well documented in early historic accounts. It became increasingly common for distinctions in an individual's social status to have been linked to acquired wealth. The exchange of goods between groups became more regularized with more raw materials, along with finished products, entering into the exchange networks. In the latter portion of this period (450 B.P. to 150 B.P.), exchange relations became highly regularized and sophisticated. The clam disk bead became a monetary unit of exchange, and increasing quantities of goods are transported over greater distances. Specialists arose to govern various aspects of production and exchange.

During this period, the Augustine Pattern becomes the predominant economic/cultural manifestation in the Central Valley, Bay, and southern North Coast Ranges, with numerous regional aspects having been identified in the archaeological record. Cultural traits that distinguish this pattern include pre-interment grave-pit burning, tightly flexed burials, and cremation. Artifact assemblages include clam and Olivella tubes and flanged steatite pipes. The mortar and pestle were the predominant milling implements, and small arrow points replaced the larger projectile point forms more commonly associated with atlatls. Also found in the tool assemblages were implements, such as harpoons, bone fish hooks, and gorge hooks.

## **3.3 ETHNOGRAPHIC CONTEXT**

When Europeans first entered central California, the area west of the Sacramento River and north of Suisun Bay, which includes Woodland, was occupied by linguistically and culturally related groups or "tribelets" that appeared to lack political unity or collective identity. However, because of their linguistic similarities, Powers referred to them as Patwin, the term each group used to identify themselves.

While there is some disagreement, the majority of researchers indicate that the Patwin resided throughout Yolo County. They, along with their neighbors the Nomlake and Wintu are speakers of the Wintuan language, which is part of the larger Penutian language family that also includes Miwok, Maidu, Costanoan, and Yokuts. The Patwin occupied a strip of land about 60 kilometers wide that extended approximately 150 kilometers along the lower Sacramento River and the eastern foothills of the North Coast Range, terminating at San Pablo and Suisun Bays to the south.

The Patwin were organized into tribelets consisting of a primary village and several smaller associated villages. Each village was under the direction of a chief, who attained his office through paternal descent. However, if the chief had no son, or the son was determined incompetent, a new chief was chosen by the village elders.

The village chief was responsible for organizing economic and ceremonial activities. Economic activities involved the organization of communal groups, such as those related to hunting, and the allocation of nut, fruit, and seed gathering areas. Ceremonial activities were also under the direction of the chief who decided on “what ceremony should be held, what days should open and close the event, and what guests would be invited” (McKern 1922:246). Social structure was divided into three groups: the paternal family, the family social group, and the household. Whereas, the paternal family group included the patriarch and his brothers and sisters, sons, and daughters, married sisters and married men were not included in the social group, since they were included within other social groups. The household consisted of the family that lived under one roof and typically included a man, his wife, unmarried offspring, and married daughters and their husbands and children who had not yet acquired sufficient wealth to establish their own household.

Settlement size was generally large, with villages usually located along river or stream banks, or the borders of seasonal lakes. In the vicinity of Woodland, the nearest mapped village location (*Churup*) was located along Cache Creek, less than three miles northwest of the city (Johnson 1978:350; Kroeber 1925, 1932).

Villages were usually organized with the chief’s house at the center with a dance house at the northern or southern margin. A sweat house was either west or east of the dance house, with its door facing the dance house. A menstrual house was situated at the extreme opposite side of the dance house, and residential dwellings were located in between without any particular grouping.

Permanent houses were erected within the village, and less substantial structures were located at remote locations near exploitable resource patches. Permanent houses usually provided shelter for more than one household and were semi-subterranean, and greater than 20 feet in diameter. The door faced either east or west with a fire pit in the center between two main support beams under a smoke hole in the earthen roof. Seasonally occupied temporary shelters were brush-covered, with four corner posts and a flat roof.

Diet was varied and, dependent upon seasonal rounds, augmented by resources obtained through trade. Tule elk, deer, antelope, bear, ducks, geese, quail, turtle, fish, and other various small birds and mammals were hunted. Acorns represented a staple food item that was supplemented with seeds, nuts, berries, and fruit (Johnson 1978:355). The association of flaked stone tools and milling equipment with vernal pools appears to indicate that these features were also associated with Patwin subsistence, apparently as a result of faunal and botanical species drawn to these features.

Euro-American contact with the Patwin began with Spanish missionaries and explorers in the late 1700s. By the middle of the 19<sup>th</sup> century, many Patwin had been relocated to mission settlements, local ranches, or small reservations. Three missions drew in Patwin peoples from the surrounding landscape: Mission Dolores, San José, and Sonoma.

Old World diseases decimated much of the Patwin population at this time, and it is estimated that as much as 75 percent of the Native American population in this area died from the 1833 malaria epidemic, most likely introduced by the John Work expedition, and the 1837 smallpox outbreak. Euro-American influences within Patwin territory increased dramatically as ranching and farming became popular in the area. Euro-American settlers, especially within the Sacramento Valley, quickly made inroads into lands occupied by Native Americans. Conflicts increased, and Patwin populations continued to decline from military skirmishes, vigilante raids, and other causes.

In 1972, the Bureau of Indian Affairs listed only 11 remaining Patwin descendants. Despite the massive decline in population, the Patwin still reside in Yolo County, and many intermarried with the Wintu (Johnson 1978:352).

## **3.4 HISTORIC CONTEXT**

### **3.4.1 WOODLAND HISTORY**

The following discussion of Woodland history is modified from the City of Woodland's *2035 General Plan and Climate Action Plan Draft Environmental Impact Report* (City of Woodland 2016), unless otherwise cited.

#### **3.4.1.1 SETTLEMENT**

In the winter of 1853, Henry Wyckoff settled in a dense grove of oak trees and opened a small store in Yolo City (now Woodland). Within a couple of years, other businesses were established in the area. The favorable soil attracted other settlers who found farming a profitable venture. Among the early settlers was Major F. S. Freeman. Freeman opened a store and later offered free lots to persons who would clear the land and build a home. In 1858, Major Freeman gained permission for a Federal Post Office to be built in the town and Yolo City was renamed Woodland. On June 25, 1863, Major Freeman recorded the first plat of the City. The northern portion of present-day Woodland was divided into blocks, lots, and streets and this plat was the basis for future locations of buildings and streets. Sixth Street was designated as the eastern boundary; College Street was the western; North Street was the northern border and South Street (now Main Street) was the southern City limit. By 1870, the population of Woodland was estimated to be 1,600 residents and a year later the city was incorporated.

In September 1869, the California Pacific Railroad Company completed the construction of a rail line between Davisville and Marysville with a Woodland station in the vicinity of College Street and Lincoln Avenue. The rail line was later moved to its present location along East Street and became a part of the Southern Pacific Railroad system (now Union Pacific). The Sacramento Northern Electric Railroad Company began direct freight and passenger service to Sacramento from Woodland in 1912. In the 1920s, this line was acquired by Western Pacific.

The 1890s saw a series of misfortunes that prevented growth. In 1892, a fire destroyed two business blocks, including the Opera House, the Exchange Hotel, and one block of homes. A depression occurred between 1894 and 1896 and a failed streetcar enterprise downtown caused business failures and brought the start of a railroad strike. This depression contributed to a slight decline in population from 4,523 to 4,392, but was back to 4,589 by 1910. Following the depression, an estimated 200 homes and a number of commercial and community buildings were constructed in Woodland between 1909 and 1911.

#### **3.4.1.2 AGRICULTURE DEVELOPMENT**

Woodland has benefited greatly from the success of the agricultural industry by serving as a center for banking, shops, education, and in some instances by housing farmers and their help. Irrigation was and still is a major contributor to the agricultural success of the area. The first irrigation canal was developed in 1856 by James Moore, who owned exclusive water rights to Cache Creek.

Money earned in the gold fields of California financed the purchase of much of the farmland around Woodland. Initially, sheep and cattle grazing, grain, fruit and nut orchards, and dairy farms were the early agricultural endeavors, until crops became highly diversified into the twentieth and twenty-first centuries. Rice, sugar beets, tomatoes, seeds, wine grapes, and organic produce are commonplace today and several wineries in the county produce wine, vinegar, and brandy (Datel et al. 2011).

#### **3.4.1.3 DEVELOPMENT OF SPECIFIC PLAN AREA AND VICINITY**

The area within SP-1 with historic-age built environment was historically part of a 480-acre farm owned by William M. Jackson who settled in 1860. The Jackson home ranch was located at the current SR 113 alignment and is no longer extant. Upon Jackson's death in 1874, his wife continued the family farm until their son, Benjamin Byron,

took over operations before her death in 1903 (De Pue & Company 1879; Gregory 1913). Between 1891 and 1900, Benjamin sold 90 acres at the corner of what is now CR 25A and Harry Lorenzo Avenue / CR 101 and was subdivided into two parcels of 40 and 50 acres (Miller 1891; Ashley 1900). The 40-acre parcel is now 40766 CR 25A and the 50-acre parcel is 40966 CR 25A, (Yolo County Assessor 2017).

The 50-acre parcel at 40966 CR 25A was owned by Nora Jackson in 1900 and a house was built on the parcel by 1905 (Proctor 1915; USGS 1907). A barn to the west is visible in historic aerial imagery from the 1930s to 1950s; however, the barn was removed by 1968 and the house was demolished sometime between 1993 and 1995 (UCSB 1937, 1957; Historicaerials.com 2017). The 40-acre parcel at 40766 CR 25A has a barn constructed sometime between 1915 and 1937. The parcel appears to have been used for hay, and the barn is assumed to have been used for hay storage and for livestock. A small house was built on the property by Cortez C. Elliott and his wife Anna who moved from North Dakota and bought the property in 1935 for farming (U.S. Census 1940). The small house was later expanded to its present size between 1957 to 1968. Today, the property is still used as a residence and was planted to tomatoes during August 2017.

Review of historic maps and aerials reveals that this area south of the city of Woodland was sparsely populated, with settlement occurring along roadways that followed section lines. The region was planted to row crops and some scattered orchards in the late 1930s and 1950s (De Pue & Company 1879; USGS 1915; UCSB 1937, 1957). When the 40-acre parcel at 40766 CR 25A was developed as a rural residential farm in the mid-1930s, Yolo County was experiencing an increase in farm development. Between 1932 and 1937 the number of farms in the county increased from 1,641 to 1,844. There was a small increase in full ownership farms from 918 to 978, while the biggest increase was the number of tenant farmers from 365 to 538 (Woodland District Chamber of Commerce 1937). Barley was the primary field crop in the county, in terms of acreage and value for decades, until rice became the most valuable field crop by the late 1960s (Yolo County Department of Agriculture 1949, 1959, 1969). By the 1940s, tomatoes were the most valuable vegetable crop in the county, which continues to today. As of 2016, tomatoes, almonds, wine grapes, organic crops, and rice are the top value commodities in the county (Yolo County Agriculture Department 2016).

The off-site areas, including South Regional Pond and Caltrans area have historically been used for agriculture. Based on review of historical aerial imagery, the South Regional Pond off-site area has been planted to row crops with no built environment development. The Caltrans off-site Improvement Area was heavily disturbed for the construction of the realignment of State Route 113 as a four-lane highway with overpasses at County Road 25A in the late 1980s to 1990 (HistoricAerials 2017; California Highways 2020). Based on review of the records search results, review of historical aerial imagery, historical and contemporary maps, and other sources of information, there is no historic-age built environment within the Caltrans ROW or immediately outside of the Caltrans ROW as part of either alternative for the Caltrans off-site improvements. No prehistoric or historical archaeological sites have been identified in the proposed Caltrans off-site Improvement Area.

### **3.5 SIGNIFICANCE REQUIREMENTS**

This inventory report is intended to identify the presence of cultural resources in the Specific Plan Area and off-site areas that are considered significant under CRHR or City of Woodland historical resource criteria, and are therefore determined to be historical resources for the purposes of CEQA; determine whether the project would adversely affect any historical resources; and to provide mitigation measures to limit potential impacts on historic resources.

Given the archival information available, cultural resources likely to be located within the Specific Plan Area would be associated with the historic agricultural activities that occurred in the immediate vicinity of the proposed Specific Plan Area.

## 4 PREFIELD INVESTIGATIONS

### 4.1 RECORDS SEARCH RESULTS

Pre-field research consisted of a record search at the North Central Information Center (NCIC) of the California Historical Resources Information System, conducted on March 29, 2013 (File No. 12-1086). Records maintained by the NCIC include California Department of Parks and Recreation (DPR) Series 523 archaeological site records, site location maps, maps of previous study coverage, NRHP Nomination Forms, and relevant historical documentation and maps. The NCIC research also included a review of the following sources, all of which are on file at the information center:

- ▶ NRHP (National Park Service 1996, and computer updates 1966–present)
- ▶ CRHR (state of California, through present)
- ▶ California Points of Historical Interest (state of California, 1992 and updates)
- ▶ Historic Spots in California (state of California, 1966)
- ▶ Directory of Properties in the Historical Resources Inventory (state of California, 1976 and updates)
- ▶ Historic Property Data File (OHP)
- ▶ California Historical Landmarks (OHP, DPR 1990)
- ▶ GLO plat map (Bureau of Land Management)

This review indicated that one cultural resources investigation had occurred within the Specific Plan Area and eight have been conducted within one mile (**Error! Reference source not found.**).

**Table 1. Previously Recorded Cultural Resources Inventories within One Mile of Specific Plan Area.**

Report #	Authors	Title	Date
<b>Within Project Area</b>			
S-6532	Wiant, W.	Archaeological Survey Report for Proposed Highway Construction	1984
<b>Within One Mile of Specific Plan Area</b>			
S-30185	Peak and Associates	Cultural Resources Assessment of the Proposed Sports Park Project, City of Woodland, Yolo County, California	2005
S-26861	Derr, E.	Spring Lake Specific Plan: Water Detention Basins and Pipelines Proposals City of Woodland, Yolo County, California	2003
S-29057	Peak and Associates	Cultural Resources Assessment of the Prudler-Sievers Property, City of Woodland, Yolo County, California	2004
S-21338	Derr, E.	PacBell Mobile Services: 1250 Gum Avenue, Woodland, Yolo County, Site # SA-240-01	1998
S-31165	No author	New Tower Submission Packet, PacBell Mobile Services: 1250 Gum Avenue, Woodland, Yolo County, Site # SA-240-01	2005
S-12370	Wiberg, R.S.	Results of a Cultural Resources Assessment for the Woodland High School Site Selection EIR, Woodland, Yolo County, California	1990
S-29058	Peak and Associates	Cultural Resources Assessment of the Merritt-Murphy Property, City of Woodland, Yolo County, California	2004
S-29755	Nolte, M.L.S., and C. Baker	A Cultural Resources Inventory of the Proposed Spring Lake Development Project, City of Woodland, Yolo County, California	2005

No cultural resources have been previously recorded within the Specific Plan Area. A total of 4 historic structures or objects have been recorded within one mile of the Specific Plan Area, including the South Regional Pond and Caltrans improvement off-site areas (Table 2). These historic-age resources consist of three 19<sup>th</sup> century residences and one 20<sup>th</sup> century railroad signal that were recommended as potentially eligible. A separate cultural resource record search was conducted for the Caltrans Off-site Improvement Area by Caltrans and no previous cultural resources were identified (Caltrans 2013).

**Table 2. Previously Recorded Cultural Resources within one mile of Specific Plan Area).**

Primary #/ Trinomial #	Description	Recorded	NRHP/ CRHP Eligibility
YOL-HRI-5/167	Hansen House, 279 State Route 113, 1890 Victorian Renaissance-Eastlake Mode	1982	Potentially eligible
YOL-HRI-5/142	Mrs. C.C. Jackson House, SH 113, 1870 Italianate house	1986	Potentially eligible
YOL-HRI-5/143	Charles W. Day House, 1870 Classical Revival (remodel)	1986	Potentially eligible
YOL-HRI-5/144	Railroad Crossing Sign, 1940 neon sign	1986	Potentially eligible

## 4.2 HISTORIC MAPS

### 4.2.1 GENERAL LAND OFFICE (GLO)

A review of historic maps was conducted to define past landscape conditions and determine what buildings, structures, or other built environment elements may have existed within or near the Specific Plan Area. The 1858 GLO plat map of T9N R2E depicts a structure labeled “Deming’s” in the northeastern quad of Section 9 (see Specific Plan Area outlined in red.

Figure 4, GLO 1858). A “ditch fence” is labeled in the southeastern quadrant of Section 5. “Clanton’s Field” and Clanton’s Corral are noted outside the Specific Plan Area on the eastern edge of Sections 5 and 8. Other sections in T9N R2E, depict labeled structures in addition to the Colusa and Sacramento Road in Section 1, and various small roads, ditches, and fences. An 1872 amendment to the 1858 GLO map identified the eastern sections of the township as “Swamp and Overflowed Land.”

### 4.2.2 HISTORIC USGS TOPOGRAPHIC MAPS

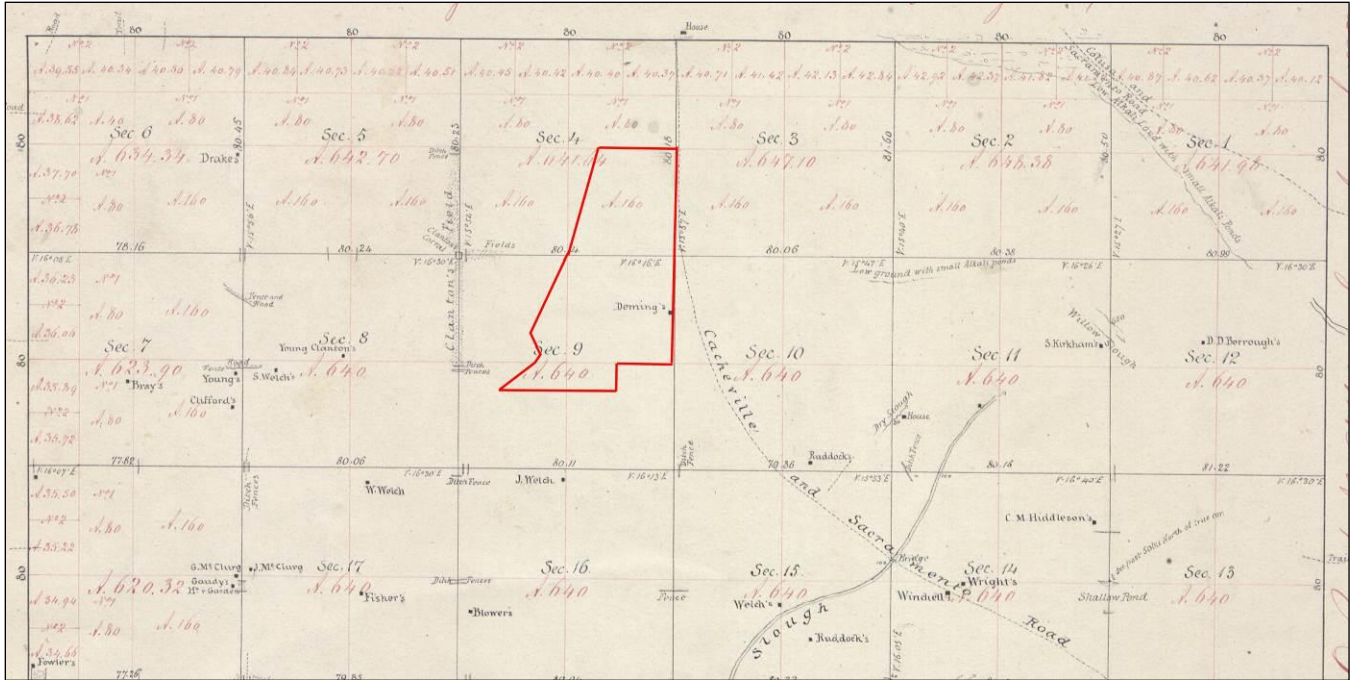
The 1907 Davisville 1:31680 scale USGS topographic map (which was surveyed in 1905) shows a house located at what is now 40966 CR 25A (no longer extant) (USGS 1907) at southeast quarter of the northeast quarter of Section 9. The 1915 Woodland and 1916 Greys Bend 1:31680 scale USGS topographic maps show the existence of the Mill Spur and a few structures in the northern half of Section 4, which are located outside of the Specific Plan Area. The Woodland map depicts a house within the Specific Plan Area in the north half of Section 9, which is no longer extant (see Figure 4). The 1952 Woodland and 1953 Grays Bend USGS topographic maps shows the barn and house located at what is now 40766 CR 25A, the construction of an additional smaller building at 40966 CR 25A, and the addition of a well in the northeastern quad of Section 9 within in the Specific Plan Area (see Figure 5).

## 4.3 NATIVE AMERICAN CONSULTATION

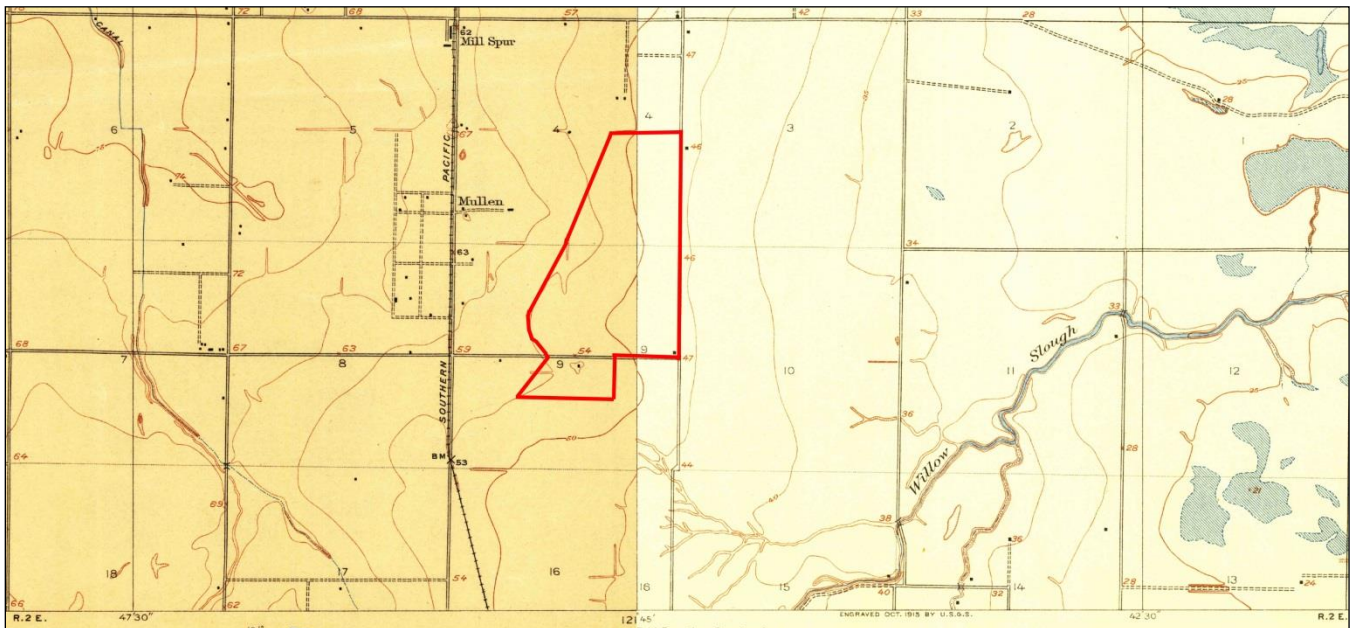
The City of Woodland conducted Native American consultation that met the requirements of AB 52. The Yocha Dehe tribe responded to the project notification on May 19, 2017 requesting a site visit to evaluate their cultural



concerns. A site visit was conducted on July 13, 2017. Following this visit, the Yocha Dehe tribe sent a letter to the City indicating that they are not aware of any cultural resources or tribal cultural resources near the project site and no tribal monitors are required. However, the tribe did recommend cultural sensitivity training and that all work should cease within 150 feet of human remains or prehistoric cultural resources that may be discovered during project implementation. See Appendix A for Native American Correspondence.



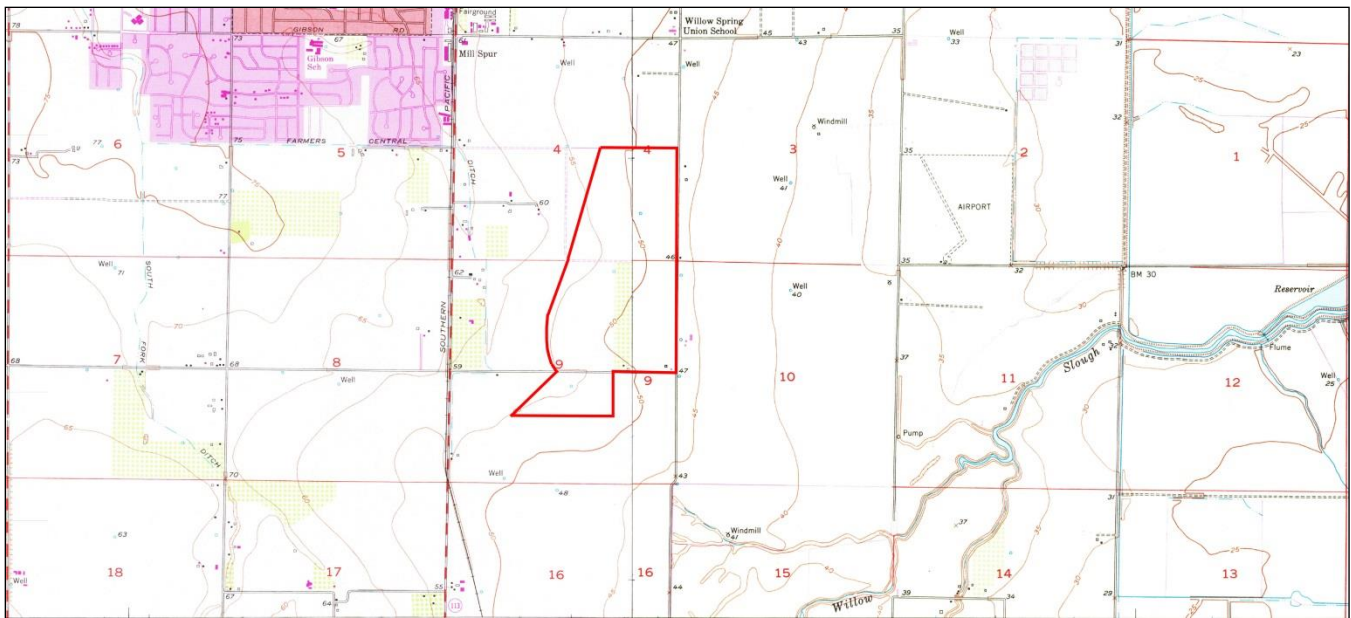
Specific Plan Area outlined in red.  
**Figure 4. T9N R2E 1858 GLO plat.**



Specific Plan Area outlined in red.



**Figure 5. T9N R2E, Sections 1-18 on USGS 1:31680 scale Woodland Quad (1915) and Grays Bend Quad (1916).**



Specific Plan Area outlined in red.

**Figure 6. T9N R2E, Sections 1-18 on USGS 7.5' Woodland Quad (1952) and Grays Bend Quad (1953).**

## 5 FIELD INVENTORY

The entire Specific Plan Area had not previously been investigated for the presence of cultural resources.

### 5.1 PEDESTRIAN SURVEY

AECOM cultural resources specialists Amy Jordan, PhD, and Laura Cook conducted the field survey on August 31, 2017.

#### 5.1.1 METHODOLOGY

AECOM cultural resource specialists conducted an intensive field survey of the proposed Specific Plan Area (Figure 2) on August 31, 2017 (using parallel 50-meter transects). Disturbed areas with ground visibility were intensively examined for artifacts or other evidence of cultural activity.

Accurate and complete survey coverage of the Specific Plan Area was ensured through the use of a Trimble GeoXH 6000 series hand-held global positioning system (GPS) unit, which was cross-checked with topographic features represented on a USGS 7.5" quadrangle map with a projected NAD 83 UTM grid, and aerial photographic images. All sites and relevant features were mapped using the same GPS technology mentioned above.

Site information was recorded on appropriate DPR Series 523 forms. A Primary Record (DPR 523A) and an Archaeological Site Record (DPR 523C) were completed for documented resources, as appropriate.

Ground surface visibility was relatively good throughout the Area of Potential Effect (APE) with 50–100 percent visibility in most of the agricultural fields and orchards. South of County Road 25A, the eastern portion of the Specific Plan Area was an almond orchard with minimal ground coverage (Figure 7) and the western portion was planted with 5 feet or higher sunflowers with irrigation between the furrows, which severely limited surface visibility. The southeastern quad of Section 4 was an alfalfa field (Figure 8) recently cut and had about 50 percent ground visibility. The east half of the northeastern quad of Section 9, excepting current and previous residences, was planted with tomatoes and had variable visibility between furrows, depending on level of irrigation (Figure 9). The west half of northeastern quad of Section 9 had recently been cleared and had 100 percent ground visibility (Figure 10).



**Figure 7. Southeastern quad of Section 9, almond orchard overview, looking south.**



**Figure 8. Southeastern quad of Section 4, alfalfa field overview, looking west.**





**Figure 9. East half of northeastern quad of Section 9 planted to tomatoes looking east.**



**Figure 10. West half of northeastern quad of Section 9 with cleared field, looking east.**

## 5.1.2 FINDINGS

The inventory of the Specific Plan Area identified one historic-age homestead site (40966 County Road 25A, Assessor's Parcel Number [APN] 041-020-017-000) and the archaeological remains of two historic-age structures, one residence and one barn, on the same parcel (40766 County Road 25A, APN 041-020-010-000). These resources are discussed below including an assessment of CRHR and local significance. Full descriptions of each resource are presented in DPR 523 series forms in Appendix B.

### 5.1.2.1 40966 COUNTY ROAD 25A

This rural residential property consists of a wood frame transverse barn and a Minimal Traditional style house on a 40-acre parcel just south of the City limits on County Road 25A. The barn was built between 1915 and 1937 and a small residence was built circa 1935-37 that was greatly expanded and modified to its current appearance between 1957 and 1968 (U.C. Santa Barbara [UCSB] 1937, 1957; [historicaerials.com](http://historicaerials.com) 2017). The house expansion was built in the Minimal Traditional style, which emerged as a popular residential type in the 1930s and proliferated in the years following World War II. The style of the house is characterized by its one-story, low pitched roof with minimal overhang and minimal detailing (McAlester 2013). In 1968, the remainder of the parcel was planted with an orchard that was still in place as of 1981, but had been removed as of 1993 ([historicaerials.com](http://historicaerials.com) 2017; USGS 1981). During field work to record this property in August 2017, the parcel was planted with tomatoes.

#### Evaluation

##### *California Register of Historical Resources (CRHR)*

Under CRHR Criterion 1, the property at 40766 CR 25A is not significant for its association with important historic events within either an agricultural or residential context. This region south of Woodland was initially settled in the 1860s as scattered farms and the original development of the parcel dates to 1915–37, when the barn was constructed to house livestock and hay. A small residence was then built on the property circa 1935–37 when the Elliott family acquired the farm. The house was later expanded after Cortez Elliot's death in 1957, and today it continues its use as a residential property and row-crop farm planted to tomatoes. This property was developed decades after the initial settlement period in this part of Woodland and the development of this property in the twentieth century as a farm and residence does not appear to have played an important role in the development of small agricultural operations or residential properties in and around Woodland. It does not appear to be associated with events that have made a significant contribution to the broad patterns of local or regional history.

Under CRHR Criterion 2, these buildings have no significant association with the lives of persons important to history. It does not appear that Snyder Croco, Agnes French, Cortez C. Elliot, or other individuals related to the development and use of this property made demonstrably important contributions to history at the local, state, or national level.

Under CRHR Criterion 3, these buildings are not significant for possessing distinctive characteristics of a type, period, or method of construction. The circa 1915–1937 barn with its gable roof, vertical wood plank siding, and a hay hood is an unexceptional and late example of a common building type found nationwide on farms during the early twentieth century. This barn incorporates design principals and materials that were in widespread use at the time of its construction. The house was initially built as a small residence circa 1935–37 and was later expanded to its present size sometime between 1957 and 1968. The house is a modest and unexceptional example of the Minimal Traditional style, a residential type that emerged in the 1930s and proliferated in the years following World War II.

Under Criterion 4, these buildings are not significant as sources (or likely sources) of important information regarding history. They do not appear to have any likelihood of yielding important information about historic construction materials or technologies.

***Integrity***

In addition to lacking historical significance, the property has also lost some historic integrity to its initial period of development (circa 1915–37) through the addition onto the house. These changes have impacted the integrity of the property’s aspects of integrity of design, materials, and workmanship. Although the property retains integrity of location, setting, feeling, and association, it does not meet any of the significance criteria necessary for eligibility for listing in the CRHR.

***City of Woodland Criteria***

The property at 40766 CR 25A in Woodland does not appear to meet the criteria for listing on the local register for either historical importance or architectural significance. The property comprised of the barn and house does not have character or interest of value as part of the development, heritage, or cultural characteristics of the city, state or nation. The property is not the site of a historic event that had any effect upon society, and is not identified with a person or group of persons who had some influence on society. The rural residential property does not exemplify the cultural, political, economic, social, or historic heritage of the community.

In addition, the barn and house at 40766 CR 25A in Woodland do not exemplify the environment of a group of people in an era of history characterized by distinctive architectural style. Neither of the buildings embodies distinguishing characteristics of an architectural type specimen, nor is there any evidence that the buildings are works of an architect or master builder whose individual work has influenced the development of the area. Neither the barn nor house contains elements of architectural design, detail, materials, or craftsmanship that represent a significant innovation.

The property at 40766 County Road 25A does not appear to meet the criteria for listing in the CRHR or as a City of Woodland historic resource.



**Figure 11. 40766 County Road 25A barn, looking southwest.**





**Figure 12. 40766 County Road 25A Minimal Traditional style house, looking north.**

### **5.1.2.2 40766 COUNTY ROAD 25A**

This site is comprised of a pre-1905 house foundation and associated trash scatter located at the intersection of CR 25A and Harry Lorenzo Avenue / CR 101 just south of the Woodland City limits on a 50-acre parcel. The site has a palm tree and other mature trees and is otherwise covered in star thistle. Due to the star thistle infestation, ground surface visibility was poor. However, red bricks, concrete, clear glass, and milled wood were noted. The house and barn located west of the house were removed by 1968 and the house was demolished sometime between 1993 and 1995 (UCSB 1937, 1957; Historicaerials.com 2017).

Neither the property nor the original owner, William M. Jackson, was associated with any events that have made a significant contribution to history (CRHR Criterion 1, 2). As the house no longer stands, and is reduced to foundations, the site embodies no distinctive architectural characteristics (CRHR Criterion 3). The site is unlikely to yield information important in history as refuse does not contain artifacts that can further add to an understanding of early to mid-twentieth century rural lifeways (CRHR Criterion 4). Nor does this particular place have character or interest of value as part of the development, heritage, or cultural characteristics of the city, state, or nation; nor is it the site of an historic event with an effect upon society; nor is it identified with a person or group of persons who had some influence on society; nor does it exemplify the cultural, political, economic, social, or historic heritage of the community. Therefore, because of a lack of archaeological data potential, this site does not possess the integrity or criteria to be considered eligible for listing on the CRHR or as a City of Woodland historic resource.



**Figure 13. 40766 County Road 25A, looking south.**

# 6 RESOURCE ELIGIBILITY SUMMARY AND RECOMMENDATIONS

## SUMMARY

Two cultural resources were identified in the Specific Plan Area and off-site improvement areas: a historic-age site with house foundations and associated refuse deposit, and two historic-age buildings consisting of a barn and residence on a single parcel. These cultural resources are not considered significant under CRHR or as City of Woodland historic resources criteria. Therefore, the proposed project will not result in a substantial adverse change to a historical resource under CEQA.

Based on the results of the records search, Native American correspondence, and pedestrian survey, the Specific Plan and off-site improvement areas have low sensitivity for archaeological resources. However, Yocha Dehe did recommend cultural sensitivity training and that all work should cease within 150 feet of human remains or prehistoric cultural resources that may be discovered during project implementation., discussed in further detail below.

## MANAGEMENT RECOMMENDATIONS

Despite the fact that the newly identified cultural resources are not considered significant under the CRHR or local register criteria, significant resources may be uncovered during ground disturbing activities.

## TREATMENT OF UNANTICIPATED ARCHAEOLOGICAL DISCOVERIES

Prior to ground-disturbing activities necessary to implement proposed development and infrastructure projects, contractors shall receive cultural resource sensitivity training to identify potential archaeological resources and that all work should cease within 150 feet of prehistoric cultural resources that may be discovered during project implementation.

During ground-disturbing activities necessary to implement proposed development and infrastructure projects, if any prehistoric or historic subsurface resources are discovered, all work within 150 feet of the resources shall be halted and a qualified archaeologist shall be consulted within 24 hours to assess the significance of the find, according to CEQA Guidelines Section 15064.5, and implement, as applicable, CEQA Guidelines Sections 15064.5(d), (e), and (f).

If any find is determined to be a unique archaeological resource according to CEQA Guidelines Section 15064.5, representatives from the City and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation. Cultural resources shall be recorded on appropriate Department of Parks and Recreation forms, and all significant cultural materials recovered shall be, as necessary and at the discretion of the qualified archaeologist and in consultation with the local Native American community if the discovery is prehistoric in age, subject to scientific analysis, professional curation, and documentation according to professional standards. If it is determined that the proposed development or infrastructure project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with Section 21083.2 of the California Public Resources Code and CEQA Guidelines Section 15126.4, with a preference for preservation in place. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out. Preservation in place may be accomplished by planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement.





If avoidance is not feasible, the qualified archaeologist shall develop and oversee the execution of a treatment plan. The treatment plan shall include, but shall not be limited to, data recovery procedures based on location and type of archaeological resources discovered and a preparation and submittal of report of findings to the Northwest Information Center of the California Historical Resources Information System. Data recovery shall be designed to recover the significant information the archaeological resource is expected to contain, based on the scientific/historical research questions that are applicable to the resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable resource questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by project proponents' actions. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical.

## **DISTURB HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE OF FORMAL CEMETERIES**

Consistent with Health and Safety Code, Section 7050 through 7052 and Health and Safety Code Section 8010 through 8030, in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery during construction, the City and contractor/s shall take the following steps:

- (1) No further excavation or disturbance of the project site or any nearby area reasonably suspected to overlie adjacent human remains will occur until:
  - (A) the coroner of Yolo County has been contacted to determine that no investigation of the cause of death is required, and
  - (B) if the coroner determines the remains to be Native American:
    1. the coroner shall contact the Native American Heritage Commission within 24 hours;
    2. the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendant from the deceased Native American; and
    3. the most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in Section 5097.98 of the Public Resources Code; or
- (2) Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance:
  - (A) the Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant fails to make a recommendation within 24 hours after being notified by the commission;
  - (B) the most likely descendant identified fails to make a recommendation; or
  - (C) the landowner or his or her authorized representative rejects the recommendation of the most likely descendant, and mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

## 7 PREPARERS' QUALIFICATIONS

The research, fieldwork, analysis, and reporting were carried out by cultural resources staff that meet the Secretary of the Interior's Professional Qualification Standards for archaeology, history, and architectural history.

- ▶ Richard Deis, Senior Archaeologist, provided quality assurance for the findings of this report. Mr. Deis has an M.A. in Anthropology and has over 27 years of experience in archaeology and cultural resources management investigations throughout California.
- ▶ Amy Jordan, Archaeologist, conducted fieldwork and research, and prepared archeological elements of this report. She has a PhD in Anthropology from the University of Washington.
- ▶ Chandra Miller, Architectural Historian, is the primary author of the built environment elements of this report and also conducted research and prepared inventory and evaluation forms. Ms. Miller has a M.A. in Public History (with Cultural Resource Management emphasis) from California State University Sacramento, and has more than 9 years of experience conducting cultural resources management investigations and historical research in California.
- ▶ Laura Cook, Archaeologist, assisted with fieldwork and research. He has a B.A. in Anthropology from University of California, Davis and has more than 9 years of experience in the western United States with an emphasis in California and Nevada.

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## **APPENDIX A**

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Native American Correspondence



# **APPENDIX B**

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Site Records



**Long-Term 24 Hour Continuous Noise Monitoring  
Model Input Sheet**



**Project:** 60543790 - Woodland Research Park EIR

**Date: Existi**            **Wednesday, August 30, 2017**

**Thursday, August 31, 2017**

**Site:** Southern Parcel, South of County Road 25A

Hour	Leq	Lmax	L50	L90
11:00	42.9	61.1	42.0	39.8
12:00	41.3	57.6	38.8	37.0
13:00	41.3	67.0	39.9	37.5
14:00	44.0	51.8	43.3	40.9
15:00	45.2	57.1	44.2	41.5
16:00	47.3	55.0	46.9	44.5
17:00	46.7	60.6	46.3	43.0
18:00	42.2	49.5	41.7	39.2
19:00	45.2	57.8	44.5	41.2
20:00	51.3	58.8	50.6	47.1
21:00	50.6	57.1	50.2	47.5
22:00	50.4	60.4	49.5	46.7
23:00	50.7	61.5	49.5	45.9
0:00	48.1	56.9	47.1	44.1
1:00	47.6	54.9	46.5	43.7
2:00	47.3	52.8	46.7	43.7
3:00	45.4	56.2	45.0	42.3
4:00	46.7	54.5	45.8	42.9
5:00	49.5	55.8	49.2	45.7
6:00	52.0	66.3	51.3	48.9
7:00	54.0	69.5	52.7	50.3
8:00	52.3	60.4	51.8	46.1
9:00	44.5	58.6	43.7	42.5
10:00	45.3	60.7	44.7	42.3

Daytime (7 a.m. - 10 p.m.)  
Nighttime (10 p.m. - 7 a.m.)

<b>Averages</b>			
Leq	Lmax	L50	L90
48.2	58.8	45.4	42.7
49.1	57.7	47.8	44.9

Daytime (7 a.m. - 10 p.m.)  
Nighttime (10 p.m. - 7 a.m.)

<b>Uppermost-Level</b>			
Leq	Lmax	L50	L90
54.0	69.5	52.7	50.3
52.0	66.3	51.3	48.9

<b>Percentage of Energy</b>	
Daytime	57%
Nighttime	43%

<b>Calculated L<sub>dn</sub>, dBA</b>
55.4

**Long-Term 24 Hour Continuous Noise Monitoring  
Model Input Sheet**



**Project:** 60543790 - Woodland Research Park EIR

**Date: Existi**      **Wednesday, August 30, 2017**      **Thursday, August 31, 2017**

**Site:** Northern Parcel, North of County Road 25A

Hour	Leq	Lmax	L50	L90
12:00	56.5	85.3	40.6	38.2
13:00	47.9	78.0	39.8	38.0
14:00	45.1	74.5	40.9	39.1
15:00	46.5	73.7	41.7	39.8
16:00	50.6	79.8	44.4	41.8
17:00	49.2	69.5	47.9	45.1
18:00	52.5	77.1	49.8	46.4
19:00	50.0	60.0	48.8	45.3
20:00	52.7	62.4	51.3	48.0
21:00	51.4	58.3	50.9	48.3
22:00	51.0	67.5	49.7	47.2
23:00	51.9	61.5	51.2	47.2
0:00	52.9	57.4	53.0	48.3
1:00	50.5	56.7	50.4	44.8
2:00	49.9	56.8	47.7	43.0
3:00	51.4	65.1	49.0	44.1
4:00	55.4	61.8	54.4	49.0
5:00	55.8	60.8	55.7	52.5
6:00	57.6	71.0	57.1	54.2
7:00	58.2	72.1	57.8	55.5
8:00	54.4	65.7	51.8	48.3
9:00	47.1	60.1	46.4	45.1
10:00	61.2	92.8	44.8	43.0
11:00	57.1	86.0	49.9	47.2

Daytime (7 a.m. - 10 p.m.)  
Nighttime (10 p.m. - 7 a.m.)

Averages			
Leq	Lmax	L50	L90
54.5	73.0	47.1	44.6
53.7	62.1	52.0	47.8

Daytime (7 a.m. - 10 p.m.)  
Nighttime (10 p.m. - 7 a.m.)

Uppermost-Level			
Leq	Lmax	L50	L90
61.2	92.8	57.8	55.5
57.6	71.0	57.1	54.2

Percentage of Energy	
Daytime	66%
Nighttime	34%

**Calculated L<sub>dn</sub>, dBA**  

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60.3

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing  
**Ground Type :** Hard  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Leq

**K Factor :** NA  
**Traffic Desc. (Peak or ADT) :** Peak

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	519	45	100	93	2	5	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	201	45	100	93	2	5	87	0	13	
	CR 25A	Road A	Road B	0	45	100		2	5	87	0		
	CR 25A	Road B	Road D	0	45	100		2	5	87	0		
	CR 25A	Road D	CR 102	0	45	100		2	5	87	0		
	Road B	CR 25A	Road C	0	45	100		2	5	87	0		
	Road B	Road E	Parkland Avenue	0	45	100		2	5	87	0		
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	811	45	100	93	2	5	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	296	45	100	93	2	5	87	0	13	
	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	0	45	100		2	5	87	0		



**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing + Construction Traffic  
**Ground Type :** Hard  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Leq

**K Factor :** NA  
**Traffic Desc. (Peak or ADT) :** Peak

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	584	45	100	93	2	5	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	266	45	100	93	2	5	87	0	13	
3	CR 25A	Road A	Road B	65	45	100	93	2	5	87	0	13	
4	CR 25A	Road B	Road D	65	45	100	93	2	5	87	0	13	
5	CR 25A	Road D	CR 102	65	45	100	93	2	5	87	0	13	
6	Road B	CR 25A	Road C	65	45	100	93	2	5	87	0	13	
7	Road B	Road E	Parkland Avenue	65	45	100	93	2	5	87	0	13	
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	876	45	100	93	2	5	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	361	45	100	93	2	5	87	0	13	
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	65	45	100	93	2	5	87	0	13	

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Predicted Noise Levels**



**Project Name :** 60543790 - Woodland Research Park EIR

**Project Number :** 60543790

**Modeling Condition :** Existing + Construction Traffic

**Metric (Leq, Ldn, CNEL) :** Leq

Segment	Roadway	Segment		Noise Levels, dB Leq				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	CR 25A	East Street	SR 113 SB Ramp	61.8	53.3	61.8	65.1	32	103	324	1025	3242
2	CR 25A	SR 113 NB Ramp	Road A	58.4	49.9	58.4	61.7	15	47	148	467	1477
3	CR 25A	Road A	Road B	52.2	43.8	52.3	55.6	4	11	36	114	361
4	CR 25A	Road B	Road D	52.2	43.8	52.3	55.6	4	11	36	114	361
5	CR 25A	Road D	CR 102	52.2	43.8	52.3	55.6	4	11	36	114	361
6	Road B	CR 25A	Road C	52.2	43.8	52.3	55.6	4	11	36	114	361
7	Road B	Road E	Parkland Avenue	52.2	43.8	52.3	55.6	4	11	36	114	361
8	Pioneer Ave	Gibson Road	Farmer's Central F	63.5	55.1	63.6	66.9	49	154	486	1538	4863
9	Heritage Pkwy	Campos Avenue	CR 102	59.7	51.3	59.7	63.0	20	63	200	634	2004
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central F	52.2	43.8	52.3	55.6	4	11	36	114	361



**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing  
**Ground Type :** Hard  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Ldn

**K Factor :** NA  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	5190	45	100	97	2	1	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	2010	45	100	97	2	1	87	0	13	
	CR 25A	Road A	Road B	0	45	100		2	1	87	0		
	CR 25A	Road B	Road D	0	45	100		2	1	87	0		
	CR 25A	Road D	CR 102	0	45	100		2	1	87	0		
	Road B	CR 25A	Road C	0	45	100		2	1	87	0		
	Road B	Road E	Parkland Avenue	0	45	100		2	1	87	0		
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	8110	45	100	97	2	1	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	2960	45	100	97	2	1	87	0	13	
	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	0	45	100		2	1	87	0		



**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing + Project Traffic  
**Ground Type :** Hard  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Ldn

**K Factor :** NA  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	9100	45	100	97	2	1	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	20200	45	100	97	2	1	87	0	13	
3	CR 25A	Road A	Road B	18200	45	100	97	2	1	87	0	13	
4	CR 25A	Road B	Road D	5900	45	100	97	2	1	87	0	13	
5	CR 25A	Road D	CR 102	-	45	100	97	2	1	87	0	13	
6	Road B	CR 25A	Road C	11800	45	100	97	2	1	87	0	13	
7	Road B	Road E	Parkland Avenue	9900	45	100	97	2	1	87	0	13	
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	13900	45	100	97	2	1	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	4800	45	100	97	2	1	87	0	13	
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	3700	45	100	97	2	1	87	0	13	

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Predicted Noise Levels**



**Project Name :** 60543790 - Woodland Research Park EIR

**Project Number :** 60543790

**Modeling Condition :** Existing + Project Traffic

**Metric (Leq, Ldn, CNEL) :** Ldn

Segment	Roadway	Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	CR 25A	East Street	SR 113 SB Ramp	63.4	54.8	56.3	64.7	29	93	294	931	2944
2	CR 25A	SR 113 NB Ramp	Road A	66.9	58.3	59.8	68.2	65	207	653	2066	6534
3	CR 25A	Road A	Road B	66.5	57.8	59.3	67.7	59	186	589	1862	5887
4	CR 25A	Road B	Road D	61.6	53.0	54.4	62.8	19	60	191	604	1908
5	CR 25A	Road D	CR 102	#VALUE!	#####	#####	#VALUE!	#####	#####	#####	#####	#####
6	Road B	CR 25A	Road C	64.6	56.0	57.5	65.8	38	121	382	1207	3817
7	Road B	Road E	Parkland Avenue	63.8	55.2	56.7	65.1	32	101	320	1013	3202
8	Pioneer Ave	Gibson Road	Farmer's Central F	65.3	56.7	58.2	66.5	45	142	450	1422	4496
9	Heritage Pkwy	Campos Avenue	CR 102	60.7	52.1	53.5	61.9	16	49	155	491	1553
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central F	59.5	50.9	52.4	60.8	12	38	120	378	1197

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing + Approved + Project Traffic  
**Ground Type :** Hard **K Factor :** NA  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Ldn **Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	7800	45	100	97	2	1	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	6100	45	100	97	2	1	87	0	13	
3	CR 25A	Road A	Road B	6100	45	100	97	2	1	87	0	13	
4	CR 25A	Road B	Road D	6100	45	100	97	2	1	87	0	13	
5	CR 25A	Road D	CR 102	3000	45	100	97	2	1	87	0	13	
6	Road B	CR 25A	Road C	-	45	100	97	2	1	87	0	13	
7	Road B	Road E	Parkland Avenue	-	45	100	97	2	1	87	0	13	
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	18400	45	100	97	2	1	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	5000	45	100	97	2	1	87	0	13	
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	2000	45	100	97	2	1	87	0	13	

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Predicted Noise Levels**



**Project Name :** 60543790 - Woodland Research Park EIR

**Project Number :** 60543790

**Modeling Condition :** Existing + Approved + Project Traffic

**Metric (Leq, Ldn, CNEL) :** Ldn

Segment	Roadway	Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	CR 25A	East Street	SR 113 SB Ramp	62.8	54.2	55.7	64.0	25	80	252	798	2523
2	CR 25A	SR 113 NB Ramp	Road A	61.7	53.1	54.6	63.0	20	62	197	624	1973
3	CR 25A	Road A	Road B	61.7	53.1	54.6	63.0	20	62	197	624	1973
4	CR 25A	Road B	Road D	61.7	53.1	54.6	63.0	20	62	197	624	1973
5	CR 25A	Road D	CR 102	58.6	50.0	51.5	59.9	10	31	97	307	970
6	Road B	CR 25A	Road C	#VALUE!	#####	#####	#VALUE!	#####	#####	#####	#####	#####
7	Road B	Road E	Parkland Avenue	#VALUE!	#####	#####	#VALUE!	#####	#####	#####	#####	#####
8	Pioneer Ave	Gibson Road	Farmer's Central F	66.5	57.9	59.4	67.7	60	188	595	1882	5952
9	Heritage Pkwy	Campos Avenue	CR 102	60.8	52.2	53.7	62.1	16	51	162	511	1617
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central F	56.9	48.3	49.7	58.1	6	20	65	205	647

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing + Approved + Project Traffic  
**Ground Type :** Hard **K Factor :** NA  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Ldn **Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	11600	45	100	97	2	1	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	23100	45	100	97	2	1	87	0	13	
3	CR 25A	Road A	Road B	21100	45	100	97	2	1	87	0	13	
4	CR 25A	Road B	Road D	8900	45	100	97	2	1	87	0	13	
5	CR 25A	Road D	CR 102	9000	45	100	97	2	1	87	0	13	
6	Road B	CR 25A	Road C	13600	45	100	97	2	1	87	0	13	
7	Road B	Road E	Parkland Avenue	9800	45	100	97	2	1	87	0	13	
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	25900	45	100	97	2	1	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	4900	45	100	97	2	1	87	0	13	
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	2900	45	100	97	2	1	87	0	13	

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Predicted Noise Levels**



**Project Name :** 60543790 - Woodland Research Park EIR

**Project Number :** 60543790

**Modeling Condition :** Existing + Approved + Project Traffic

**Metric (Leq, Ldn, CNEL) :** Ldn

Segment	Roadway	Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	CR 25A	East Street	SR 113 SB Ramp	64.5	55.9	57.4	65.7	38	119	375	1187	3752
2	CR 25A	SR 113 NB Ramp	Road A	67.5	58.9	60.4	68.7	75	236	747	2363	7472
3	CR 25A	Road A	Road B	67.1	58.5	60.0	68.3	68	216	683	2158	6825
4	CR 25A	Road B	Road D	63.3	54.7	56.2	64.6	29	91	288	910	2879
5	CR 25A	Road D	CR 102	63.4	54.8	56.3	64.6	29	92	291	921	2911
6	Road B	CR 25A	Road C	65.2	56.6	58.1	66.4	44	139	440	1391	4399
7	Road B	Road E	Parkland Avenue	63.8	55.2	56.6	65.0	32	100	317	1002	3170
8	Pioneer Ave	Gibson Road	Farmer's Central F	68.0	59.4	60.9	69.2	84	265	838	2649	8378
9	Heritage Pkwy	Campos Avenue	CR 102	60.8	52.1	53.6	62.0	16	50	158	501	1585
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central F	58.5	49.9	51.4	59.7	9	30	94	297	938



**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Model Input Sheet**



**Project Name :** 60543790 - Woodland Research Park EIR  
**Project Number :** 60543790  
**Modeling Condition :** Existing + Approved + Project Traffic  
**Ground Type :** Hard **K Factor :** NA  
**Metric (L<sub>eq</sub>, L<sub>dn</sub>, CNEL) :** Ldn **Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	Segment		Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	Offset (dB)
		From	To										
1	CR 25A	East Street	SR 113 SB Ramps	16700	45	100	97	2	1	87	0	13	
2	CR 25A	SR 113 NB Ramps	Road A	23400	45	100	97	2	1	87	0	13	
3	CR 25A	Road A	Road B	22100	45	100	97	2	1	87	0	13	
4	CR 25A	Road B	Road D	11100	45	100	97	2	1	87	0	13	
	CR 25A	Road D	CR 102	0	45	100		2	1	87	0		
6	Road B	CR 25A	Road C	10300	45	100	97	2	1	87	0	13	
7	Road B	Road E	Parkland Avenue	12100	45	100	97	2	1	87	0	13	
8	Pioneer Ave	Gibson Road	Farmer's Central Rd	13600	45	100	97	2	1	87	0	13	
9	Heritage Pkwy	Campos Avenue	CR 102	24300	45	100	97	2	1	87	0	13	
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central Road	8800	45	100	97	2	1	87	0	13	

**Traffic Noise Prediction Model, (FHWA RD-77-108)**  
**Predicted Noise Levels**



**Project Name** : 60543790 - Woodland Research Park EIR

**Project Number** : 60543790

**Modeling Condition** : Existing + Approved + Project Traffic

**Metric (Leq, Ldn, CNEL)** : Ldn

Segment	Roadway	Segment		Noise Levels, dB Ldn				Distance to Traffic Noise Contours, Feet				
		From	To	Auto	MT	HT	Total	70 dB	65 dB	60 dB	55 dB	50 dB
1	CR 25A	East Street	SR 113 SB Ramp	66.1	57.5	59.0	67.3	54	171	540	1708	5402
2	CR 25A	SR 113 NB Ramp	Road A	67.5	58.9	60.4	68.8	76	239	757	2394	7569
3	CR 25A	Road A	Road B	67.3	58.7	60.2	68.5	71	226	715	2261	7149
4	CR 25A	Road B	Road D	64.3	55.7	57.2	65.6	36	114	359	1135	3590
	CR 25A	Road D	CR 102									
6	Road B	CR 25A	Road C	64.0	55.4	56.9	65.2	33	105	333	1054	3332
7	Road B	Road E	Parkland Avenue	64.7	56.1	57.6	65.9	39	124	391	1238	3914
8	Pioneer Ave	Gibson Road	Farmer's Central F	65.2	56.6	58.1	66.4	44	139	440	1391	4399
9	Heritage Pkwy	Campos Avenue	CR 102	67.7	59.1	60.6	69.0	79	249	786	2486	7860
10	Harry Lorenzo Avenue	Gibson Road	Farmer's Central F	63.3	54.7	56.2	64.5	28	90	285	900	2847

# Woodland Research and Technology Park Specific Plan

## Transportation Impact Study

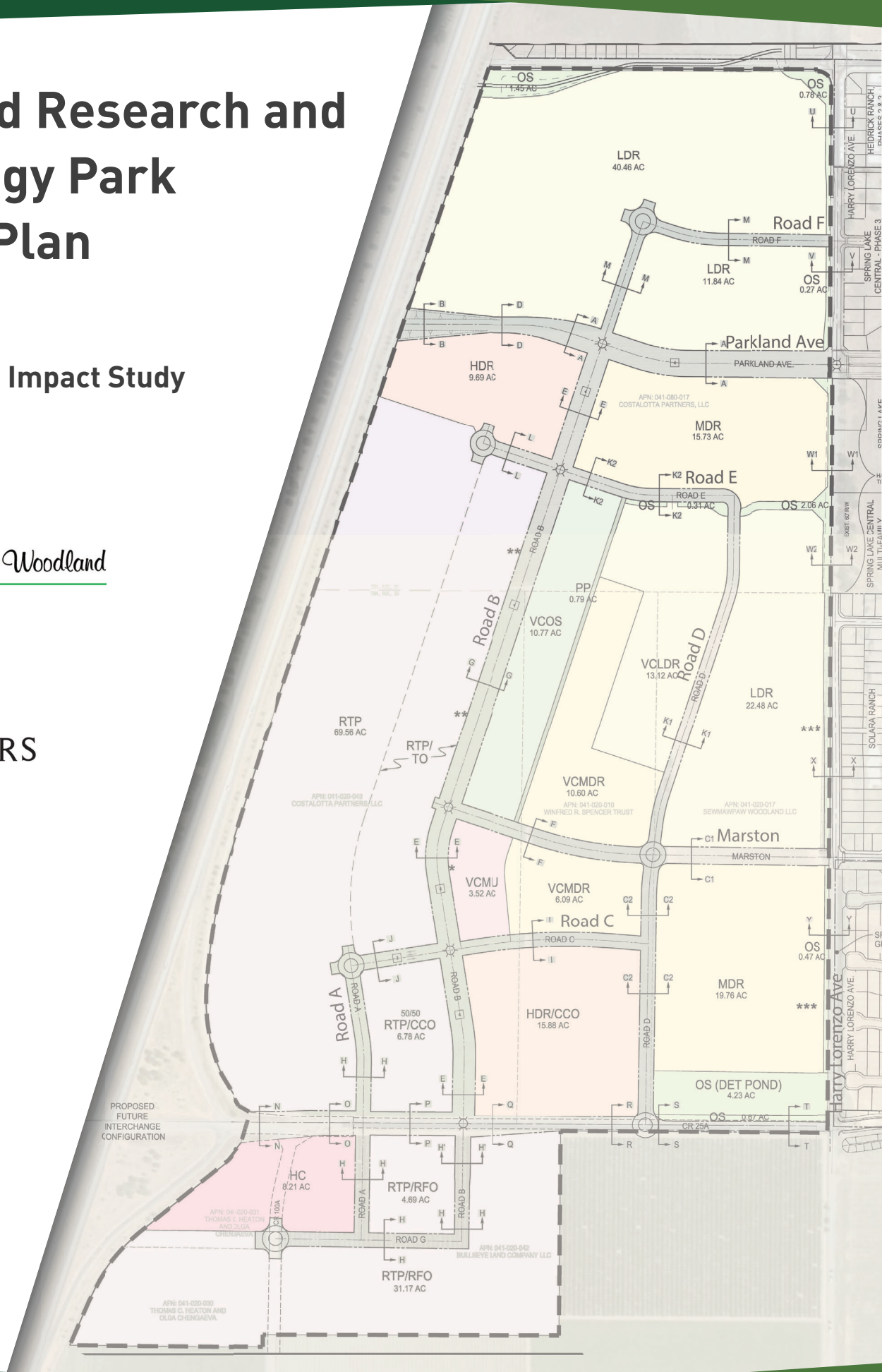
Prepared for:



Prepared by:



April 2021





# **Woodland Research and Technology Park Specific Plan Transportation Impact Study**

Prepared for:  
City of Woodland

April 2, 2021

RS17-3589

FEHR  PEERS



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# 1. Introduction

This study describes the existing transportation system near the Specific Plan (i.e., project) site and evaluates the potential impacts on the system associated with implementation of the project. Roadway, transit, bicycle, and pedestrian components of the overall transportation system are included in the analysis. Level of Service (LOS) is evaluated for General Plan consistency and to identify feasible improvements to meet the General Plan Vehicle LOS Standard. Vehicle LOS is not used to make CEQA impact determinations, rather to identify potential improvement projects that may be included in conditions of approval for the project entitlements. The traffic analysis focuses on a specific project study area for transportation and circulation, which is defined in Section 4, “Existing Conditions,” below.

The proposed land use program and transportation network for the Woodland Research and Technology Park (WRTP) Specific Plan are consistent with the City of Woodland General Plan 2035 (General Plan). The WRTP Specific Plan includes a Comprehensive Transportation Demand Management/Vehicle Miles Traveled Reduction (“TDM/VMT Program”) element that requires the project “achieve a 10 percent reduction in Plan Area VMT per capita compared to baseline conditions by 2035” as required for new development in General Plan Policy 3.A.4 (Reduce Vehicle Miles Traveled (VMT)) as well as “financing strategies, sources, and mechanisms to ensure short-term and long-term funding for implementation and monitoring of the TDM/VMT measures”. The City of Woodland General Plan 2035 EIR notes the City’s intent to make full use of the streamlining allowed under Public Resources Code 21083.3 and CEQA Guidelines 15183 to analyze impacts of projects that could be accommodated under the plan, and limit later project-level analysis to site-specific issues. The transportation network described in the WRTP Specific Plan is consistent with the planned Citywide Circulation Diagram (Figure 3-2) in the General Plan Transportation and Circulation Element as follows. The General Plan Citywide Circulation Diagram shows planned arterial and collector streets for the South Growth Area (SP-1) in which the WRTP is located. This includes Parkland Avenue (a new east-west principal arterial between East Street and Pioneer Avenue), a new North-South Road designated as Road B in the WRTP Specific Plan (a new north-south minor arterial between CR 25A and Parkland Avenue), an extension of Marston Road (east-west collector street, new segment between Parkland Avenue and Road B), and widening of CR 25A (east-west minor arterial, widening between Road B and SR 113). Planned bikeways shown on Figure 3-3 in the General Plan Transportation and Circulation Element include Class I and II facilities on portions of Parkland Avenue, CR 25A, and Road B as well as a Class I bicycle facility on Marston Road. All of these streets and bicycle facilities are included in the WRTP Specific Plan, as show on the network alignment and street cross-sections. Chapter 2 of the WRTP Specific Plan EIR provides a detailed description of how the WRTP Specific Plan is consistent with the land uses and development densities established by the General Plan. As a project that is consistent with the General Plan land use program and circulation element, and includes a TDM/VMT Program and funding to achieve the 10 percent

VMT reduction required for new projects in General Plan Policy 3.A.4, the project CEQA evaluation is not required to provide a VMT analysis.

## 1.1 Purpose

This study summarizes the results of traffic analysis prepared for the proposed Woodland Research and Technology Park project in the City of Woodland. The project or Specific Plan area is bounded on the west by State Route (SR) 113, on the south by the city urban limit line just south of County Road (CR) 25A, on the east by Harry Lorenzo Avenue, and on the north by Farmer's Central Road. This analysis examines the transportation impacts to roadway, transit, bicycle, and pedestrian systems that would result from the addition of vehicle traffic generated by the proposed project.

## 1.2 Project Description

The property is approximately 350 acres with approximately 300 acres proposed for development. The developed acreage would include approximately 2,200,000 square feet of commercial uses and 1,600 residential uses. The commercial uses include approximately 1,400,000 square feet of business park uses, 300,000 square feet of light industrial uses, 300,000 square feet of retail uses, and 200 hotel rooms (200,000 square feet). For the purposes of this study, the residential uses are assumed to include approximately 1,100 single family units and 500 multi-family units. Access to the project would be provided by three new north-south roads that would connect to CR 25A including Road A, Road B, and Road D. CR 25A would be widened from two to four lanes from SR 113 to just east of Road B. Road B would extend continuously as a four-lane street through the site in a north-south alignment and connect to an extension of Parkland Avenue near the northern edge of the business park uses. At the project's eastern edge, Marston Road would be extended to the west into the project site to Road B. This traffic analysis considers impacts associated with the full build-out of the described project.

## 1.3 LOS Evaluation Scenarios

For the LOS evaluation in Section 8, the following scenarios are analyzed:

1. Existing Conditions – represents conditions in October and November of 2017.
2. Existing plus Project Conditions – represents existing conditions with proposed project implementation.
3. Existing plus Approved Conditions – represents conditions for an interim scenario, which includes approved projects, without proposed project implementation.

4. Existing plus Approved plus Project Conditions - represents conditions for an interim scenario, which includes approved projects, and proposed project implementation.
5. Cumulative Plus Project Conditions – represents conditions for a cumulative scenario, which includes reasonably foreseeable land uses, planned transportation improvement projects, and proposed project build-out.

## 1.4 Analysis Methodology

The impact analysis pertains to roadway, transit, bicycle, and pedestrian components of the transportation system. The specific methodology for roadway system impact analysis is described below. The impact analysis on transit, bicycle, and pedestrian systems of the proposed project was evaluated for consistency with existing and planned service and facilities as well as consistency with related policies of the City of Woodland and the YCTD.

The proposed land use program for the Woodland Research and Technology Park Specific Plan, which includes approximately 1,672 residential units and 2.2 million square feet of commercial uses, is similar to the land use alternatives in the Woodland General Plan and Climate Action Plan (CAP) 2035<sup>1</sup>. The transportation assessment in the 2035 General Plan and CAP EIR, certified in 2018, evaluated 203 road segments (including 14 freeway segments on I-5 and SR 113) as well as five intersections. These road segments and intersections were evaluated for two land use alternatives: an East Alternative and a South Alternative. No significant impacts were identified for either alternative for the I-5 or SR 113 freeway segments. Unacceptable LOS conditions, based on the prior 2002 General Plan LOS C threshold, were identified for six local roads for the East Alternative and for four local roads for the South Alternative. All but one of those road segments were projected to operate at LOS D (the revised minimum LOS threshold in the 2035 General Plan) conditions with build-out of the General Plan land use alternatives. The segment of East Gum from Bourn Drive to Pioneer Avenue was projected to operate at LOS E conditions.

Although the project is similar to the land use alternatives in the Woodland General Plan 2035 adopted in 2018, this transportation impact study includes additional focused cumulative analysis in Section 7 of this document. The freeway analysis conducted in the 2035 General Plan and CAP EIR is updated for 2050 cumulative conditions for two segments of SR 113, immediately adjacent to the CR 25A interchange that borders the project. An LOS review is conducted for 2050 cumulative conditions for 21 intersections.

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<sup>1</sup> SP-1A land use, Tables 3.7-3 and 3.7-4, pages 3-19 and 3-20, *2035 General Plan and CAP Public Review Draft Environmental Impact Report*, City of Woodland, September 2016.



## 2. Environmental Setting

This section provides a brief summary of the environmental setting in the 2035 General Plan and CAP EIR, changes that have occurred since that document was prepared, and the setting of the Specific Plan Area as it pertains to potentially significant impacts of the project. A description of existing transportation conditions is provided in Section 4.

### 2.1 General Plan EIR Setting

The Environmental Setting for Transportation and Circulation is described on pages 4.13-1 through 4.13-6 of the 2035 General Plan and CAP EIR. The Transportation and Circulation setting describes the roadway system functional classifications, with the number of through travel lanes on roadways and freeways shown in Exhibit 4.13-1. A description of key elements of the regional roadway system – I-5, SR 113, and SR 16 – is provided. The setting provides a general description of pedestrian facilities including existing sidewalk coverage by roadway functional classification. Bikeway classifications are described and shown on Exhibit 4.13-3. Existing bus service provided by Yolobus is described and routes shown on Exhibits 4.13-4A and 4.13-4B.

### 2.2 Updates to General Plan EIR Setting

Most of the transportation network and services described in the setting of the 2035 General Plan and CAP EIR remain unchanged. The following is a summary of changes to the transportation network since 2013.

- Roadway Network – several roads have been extended as planned in the Spring Lake Specific Plan area including Farmer’s Central Road, Marston Road, and Parkland Avenue.
- Yolobus Bus Routes – Route 209 (County Fair Mall Transit Center to Spring Lake community) has been eliminated, and new service provided on new Routes 45X (Spring Lake Express), 46 (Spring Lake Express) and 243 (Woodland/UC Davis Commute).

### 2.3 Specific Plan Area Setting

The 2035 General Plan and CAP EIR evaluates Level of Service for over 150 road segments, with a focused LOS analysis of six intersections. The study intersections are located along Main Street and County Road 102, all located some distance from the project. This Transportation Impact Study provides an evaluation of additional study intersections – primarily bounded by East Street, Main Street, CR 102, and CR 25A – that were not addressed in the 2035 General Plan and CAP EIR.



The project transportation network improvements and project land use are consistent with the 2050 Build-Out Alternative in the 2035 General Plan and CAP EIR. As such, this Transportation Impact Study references the analysis conducted in the 2035 General Plan and CAP EIR, and provides additional focused cumulative analysis to complement the General Plan and CAP EIR assessment.

## 3. Regulatory Framework

The 2035 General Plan CAP EIR summarizes the federal, State, regional, and local regulatory framework related to transportation and circulation issues on pages 4.13-6 through 4.13-8. Those aspects of the existing regulatory framework that are relevant to potential impacts of the Specific Plan are briefly highlighted below. Please see Section 4.13 of the 2035 General Plan and CAP EIR for more detail.

### 3.1 Federal Plans, Policies, Regulations and Laws

No federal plans, policies, regulations, or laws related to transportation and circulation are applicable to Woodland Research and Technology Park Specific Plan project.

### 3.2 State Plans, Policies, Regulations and Laws

#### 3.2.1 Senate Bill 743

With the passage of SB 743 (September 27, 2013) and the subsequent adoption of revised *California Environmental Quality Act (CEQA) Guidelines* in 2019, level of service (LOS) can no longer be used as a criterion for identifying significant transportation impacts for most projects under CEQA. LOS measures the average amount of delay experienced by vehicle drivers at an intersection during the most congested time of day, while the new CEQA metric (Vehicle Miles Traveled or VMT) measures the total number of daily miles traveled by vehicles on the roadway network and thereby the impacts on the environment from those miles traveled.

In other words, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. Land use projects with one or more of the following characteristics would have lesser VMT impacts:

- Higher land use densities
- Mix of project uses
- Support of a citywide jobs-housing balance (i.e., provide housing in a job rich area, or vice versa)
- Proximity to the core of a region
- Proximity to high quality transit service
- Located in highly walkable or bikeable areas



This shift in transportation impact criteria is expected to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. Specific to SB 743, Section 15064.3(c) of the revised Guidelines states that, "a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide." However, CEQA Statute Section 21099(b)(2) states that, "upon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the Guidelines."

Although the State's Office of Planning and Research provides recommendations for adopting new VMT analysis guidelines, lead agencies have the final say in designing their methodology. Lead agencies must select their preferred method of estimating and forecasting VMT, their preferred significance thresholds for baseline and cumulative conditions, and the mitigation strategies they consider feasible. Lead agencies must prove that their selected analysis methodology aligns with SB 743's goals to promote infill development, reduce GHGs, and reduce VMT.

As a project that is consistent with the General Plan land use program and circulation element, and includes a TDM/VMT Program and funding to achieve the 10 percent VMT reduction required for new projects in General Plan Policy 3.A.4, the project CEQA evaluation is not required to provide a VMT analysis.

## **3.3 Regional Plans and Programs**

### **3.3.1 Sacramento Area Council of Governments**

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of Sacramento, El Dorado, Placer, Sutter, Yolo, and Yuba as well as 22 cities. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG assists in planning for transit, bicycle networks, clean air, and airport land uses.

### **3.3.2 SACOG 2020 MTP/SCS**

The 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2020) is a federally mandated long-range fiscally constrained transportation plan for the six-county area. To receive federal funding, transportation projects nominated by cities, counties, and agencies must be consistent with the MTP/SCS.

The Metropolitan Transportation Improvement Program (MTIP) is a list of transportation projects that receive federal funds, require a federal action, or are regionally significant. The 2019-2022 MTIP adopted by SACOG covers four years of programming: federal fiscal years (FFY) 2019 through 2022. The document also identifies prior year funding and estimated future funding (beyond the four program years) for projects for information. SACOG submits this document to Caltrans and amends the program on a quarterly cycle.

## **3.4 Local Plans, Policies, Regulations, and Ordinances**

### **3.4.1 City of Woodland General Plan**

The City of Woodland General Plan 2035 was adopted on May 16, 2017. It sets forth overarching goals and objectives related to transportation and circulation in the context of planned land use within the City. The General Plan guides the development of new roads and roadway modifications to serve long-term needs of Woodland through the year 2035. The General Plan also provides direction for multimodal implementation.

All of the study intersections are evaluated in Section 8 for consistency with the City of Woodland level of service (LOS) standards. As noted earlier, this LOS analysis is not used as the basis for determining CEQA impacts. The City of Woodland General Plan identifies LOS D conditions as the AM and PM peak hour threshold service level throughout the City, except at certain locations explained below.

- LOS E is acceptable at all freeway ramp terminal intersections except Pioneer Avenue/E. Main Street/I-5 SB On-Ramp and E. Main Street/I-5 NB Off-Ramp
- LOS E is also acceptable on E. Gum Avenue between Bourn Drive and Pioneer Avenue
- LOS F is acceptable in the downtown core (Main Street from 6th Street to Cleveland Street) and on Maxwell Avenue between Farnham Avenue and County Road 102
- LOS C is acceptable on Kentucky Avenue between County Road 98 and East Street

In addition to intersection LOS standards, the City's General Plan also contains a policy regarding reduction of vehicle-miles traveled (VMT). The policy states that new development projects must achieve a 10 percent reduction in VMT per service population compared to the "General Plan 2035 VMT performance."

Relevant transportation goal and policy statements from the Transportation and Circulation Element of the General Plan are provided below.

- Goal 3.A - Multimodal Transportation System. Develop and maintain a multi-modal transportation system that provides for the efficient movement of people and goods, supports vibrant neighborhoods and districts, and reduces air pollution and greenhouse gas emissions.
- Goal 3.B - Complete Streets. Provide complete streets that accommodate driving, walking, bicycling, and public transit and that are designed to enable safe, attractive, comfortable access and travel for users of all ages and abilities.
- Goal 3.C - Roadway Functional Classification and Street Typology. Provide an efficient, interconnected street system that identifies which modes of travel should be accommodated on each street based on its unique geographic setting, adjacent land uses, and functional classification.
- Goal 3.D - Residential Streets. Protect residential areas from high-volume and high-speed traffic and its effects, and promote bicycling and walking on residential streets.
- Goal 3.E - Comprehensive Pedestrian System. Provide a comprehensive, and integrated pedestrian system that encourages walking and creates an enjoyable way to experience Woodland.
- Goal 3.F - Comprehensive Bicycle System. Provide a comprehensive and integrated bicycle system that facilitates bicycling as a viable mode of travel for short trips, commute trips, and recreation.
  - General Plan policy 3.F.1 states that the planned bicycle routes in the General Plan (Figure 3-3) are the most up-to-date.
- Goal 3.G - Effective Transit System. Promote a transit system that serves as a viable alternative to the automobile for those without access to a vehicle and those that choose to live and work in areas where land use density and intensity are supportive of transit.
- Goal 3.H - Managed Parking. Provide the minimum amount of parking necessary to serve existing and new development throughout the city while balancing competing community values.
- Goal 3.I - Safe and Efficient Movement of Goods. Plan and maintain a transportation system that provides for the safe and efficient movement of goods.

## 3.4.2 City of Woodland Major Projects Financing Plan

The City's Major Project Financing Plan (MPFP) was most recently updated in 2019. This Plan describes the major public infrastructure projects that are programmed to occur through 2035 and identifies the cost, timing, and funding sources for each project. The MPFP is the basis for development impact fees that are

levied by the City to fund new development's fair share of future infrastructure costs. The City's impact fees are applicable to the project, in addition to any mitigation identified in this transportation impact study.

### **3.4.3 City of Woodland Engineering Standards**

The City's Engineering Standards document was updated in 2016. This document establishes requirements and mandatory guidance in development, design, construction, and operation of public facilities. Developers are required to ensure that all applicable City requirements are met.

### **3.4.4 Yolo County Transportation District**

The Yolo County Transportation District (YCTD) provides public transit service (Yolobus) in the City of Woodland. The 2006 Short Range Transit Plan (SRTP) sets the stage for implementing short-term service improvements while establishing a long-term transit vision. The SRTP does not identify any short-term transit enhancements near the project site.

YCTD completed the Woodland Transit Study in 2016. The intent of the study was to evaluate the specific needs for transit services within Woodland, as well as to develop plans for improvements and service revisions for Yolobus services which specifically serve Woodland. This study recommended development of a Downtown Transit Center in Woodland, and the City of Woodland and YCTD are proceeding with planning for the new center.

YCTD initiated a Comprehensive Operational Analysis (COA) in 2019, but no documents have yet been released that describe any planned change in service.

## 4. Existing Conditions

This section describes the existing environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The baseline for this study represents conditions based on data collection and field observations conducted in October 2017. The environmental setting for transportation includes baseline descriptions for roadway, bicycle, pedestrian, and transit facilities.

### 4.1 Project Study Area

The study area was developed based on consideration the following factors: the project's expected travel characteristics (including number of vehicle trips and directionality of those trips), primary travel routes to/from the project vicinity, and a project-area assignment using a modified version of SACOG's SACMET regional travel demand forecasting model. **Figure 1** shows the location and extent of the project location relative to the rest of the City of Woodland. **Figure 2** shows the project site plan. **Figure 3** shows the study intersections selected for analysis. The study area for intersections is bounded by East Street to the west, East Main Street to the north, County Road 102 to the east, and County Road 25A to the south. This study also addresses bicycle, pedestrian, and transit facilities near the project.

### 4.2 Roadway Network

The following major roadways would provide access to the proposed project site.

- Interstate 5 (I-5) is a four-lane north-south freeway facility that provides a major linkage between the City of Woodland and the Sacramento region. I-5 is also a major interstate that links northern California with southern California, Oregon and Washington. Near the project, I-5 has a roughly east-west orientation. Near the study area, access to I-5 is provided at CR 102, E. Main Street, and State Route 113.
- State Route 113 (SR 113) is a four-lane north-south freeway between I-5 and I-80. SR 113 is a key transportation corridor between the City of Woodland and the City of Davis. North of the I-5, SR 113 becomes a two-lane undivided highway. Access to SR 113 is provided at County Road 25A and Gibson Road near the study area.
- County Road 102 (CR 102) is a north-south principal arterial that links Woodland with Davis to the south and Knights Landing to the north. CR 102 is a two-lane facility from Heritage Parkway to East Gibson Road, and a four lane facility from East Gibson Road to East Main Street.
- E. Main Street is a four-lane east-west arterial through the study area that divides the City of Woodland from its more industrial land uses in the northeast part of the City. From East Street to

County Road 102, East Main Street is designated as a principal arterial. Main Street also provides connectivity between commercial uses along Interstate 5, downtown Woodland, and residential neighborhoods east of State Route 113.

- East Gibson Road is a four-lane, east-west principal arterial along the segment between East Street and CR 102. West of East Street, Gibson Road is designated as a minor arterial. East Gibson Road connects the Spring Lake Community and the Southeast Area Specific Plan (north of East Gibson Road) with the balance of Woodland located west of SR 113.
- Pioneer Avenue is a four-lane, north-south minor arterial that serves the Spring Lake community, residential neighborhoods between Spring Lake and East Main Street, and the industrial area north of E. Main Street.
- County Road 25A is an east-west two-lane road running from County Road 98 to Harry Lorenzo Avenue. It is designated as a minor arterial from East Street to CR 102.
- East Street is a north-south two-lane road from CR 25A north to just south of Gibson Road, where it transitions to a four-lane road. It is classified as a principal arterial from County Road 25A to Gibson Road.
- Harry Lorenzo Avenue (formerly County Road 101) is designated a north-south collector road from East Gibson Road to Parkland Avenue, South of Farmer's Central Road, it forms the east boundary of the project site.
- Marston Road is an east-west collector road that currently connects Harry Lorenzo Avenue to Miekle Avenue.
- Parkland Avenue is a four-lane principal arterial that currently connects Pioneer Avenue to Marston Road.

## 4.3 Traffic Data Collection

Peak hour intersection and roadway segment counts were collected in October and November, 2017. During all counts, weather conditions generally dry, no unusual traffic patterns were observed, and Pioneer High School and Woodland Community College were in session. **Figure 4** shows existing intersection counts.

## 4.4 Study Periods

Study intersections are evaluated for weekday AM and PM peak hour conditions, as these time periods represent the greatest level of activity when combining existing traffic, traffic generated by reasonably foreseeable land uses, and traffic generated by implementation of the proposed project.

## 4.5 Level of Service Definitions

This study analyzes traffic operating conditions using level of service (LOS). Vehicle LOS is a qualitative measure of traffic flow from the perspective of motorists and are an indication of the comfort and convenience associated with driving. The LOS analysis uses procedures identified in the *2010 Highway Capacity Manual* (HCM) published by the Transportation Research Board of the National Academies of Science. The HCM defines six levels of service ranging from LOS A (representing free-flow vehicular traffic conditions with little to no congestion) to LOS F (oversaturated conditions where traffic demand exceeds capacity resulting in long queues and delays).

The LOS at signalized intersections is based on the average delay experienced by all motorists traveling through the intersection. At unsignalized intersections, the LOS is based on the movement with the greatest average delay. **Table 1** presents the delay range for each LOS category for signalized and unsignalized intersections as presented in 2010 HCM.

This study used the SimTraffic microsimulation model software at all study intersections. This was especially key at the Pioneer Avenue/E. Main Street and County Road 102/E. Main Street intersections given that these intersections are affected by traffic conditions at the adjacent SR 113 and I-5 interchanges. The SimTraffic software considers the effects of signal coordination, vehicle queue spillbacks between intersections, and variation in driver and vehicle types.

**Table 2** shows maximum road segment capacities by functional classification and Level of Service. The road segment capacities were derived for the City of Woodland Street Master Plan. They were developed specifically for the Street Master Plan using procedures and methodology contained in the Highway Capacity Manual (HCM), Transportation Research Board (2003). Separate capacity estimates are identified for LOS "A" through "F" according to the City of Woodland's four roadway functional classifications: (1) principal arterials; (2) minor arterials; (3) collectors; and (4) local streets. These capacities are used to perform peak hour traffic operations analysis for the study road segments.



**Table 1: Level of Service Definitions – Intersections**

Level of Service	Description (at Signalized Intersections)	Average Control Delay <sup>1</sup>	
		Signalized	Unsignalized
A	Volume-to-capacity ratio is low and either progression is exceptionally favorable or cycle length is very short. Most vehicles arrive during the green phase and travel through the intersection without stopping.	≤ 10	< 10.0
B	Volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	> 10 to 20	> 10.0 to 15.0
C	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	> 20 to 35	> 15.0 to 25.0
D	Volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55	> 25.0 to 35.0
E	Volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	> 55 to 80	> 35.0 to 50.0
F	Volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80	> 50.0

Notes: <sup>1</sup>Average control delay presented in seconds per vehicle. Delay values are rounded to the nearest second.

Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

**Table 2: Peak Hour Road Segment Capacities by Functional Classification and LOS**

Functional Classification	Lanes	Maximum Road Segment Capacity by LOS Value			
		B	C	D	E
Principal Arterial	2	-	1,280	2,080	2,320
	4	-	2,450	4,390	4,780
	6	-	4,100	6,730	7,250
Minor Arterial	2	-	1,090	1,890	2,170
	4	-	2,270	4,000	4,450
Collector	2	630	920	1,040	1,110
	4	1,370	1,960	2,140	2,280
Local Street	2	-	450	600	660

Source: *City of Woodland Street Master Plan Update*, Table 1, September 2009, Fehr & Peers.



## 4.6 Existing Roadway Conditions

The following section provides information on existing conditions for study road segments and intersections as well as the results of a peak hour signal warrant analysis for unsignalized intersections.

### 4.6.1 Existing Road Segment Operations

A total of 10 road segments, four of which are existing and six planned, are evaluated. **Table 3** shows weekday PM peak hour LOS for the four existing study road segments. All of the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- The four existing roadway segments all operate at LOS C conditions

**Table 3: Existing Road Segment LOS – PM Peak Hour**

Roadway	Segment	Classification	Lanes	Capacity	Volume	LOS
CR 25A	East St. to SR 113 SB Ramps	Minor Arterial	2	2,170	519	C
CR 25A	East of SR 113 NB Ramps	Minor Arterial	2	2,170	201	C
Pioneer Ave	Gibson Rd to Farmer’s Central Rd	Minor Arterial	4	4,450	811	C
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	296	C

Source: Fehr & Peers, 2018.

### 4.6.2 Existing Intersection Operations

**Table 4** summarizes existing weekday AM and PM peak hour traffic operations analysis results at the study intersections (refer to Appendix B for detailed calculation sheets). The following is a summary of the results of the analysis.

- The intersection of East Main Street/SR 113 NB Ramps operates at LOS E during the PM peak hour and the intersections of East Main Street/Pioneer Avenue/I-5 SB On-Ramp and East Main Street/I-5 NB Off-Ramp operate at LOS E during the AM peak hour. Those are acceptable conditions based on the General Plan LOS threshold.
- All other intersections operate at or below LOS D conditions



**Table 4: Peak Hour Intersection LOS – Existing Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing Conditions	
				Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	15	B
			PM	20	C
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	26	C
			PM	34	C
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	13	B
			PM	59	E
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	59	E
			PM	43	D
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	55	E
			PM	11	B
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	17	B
			PM	22	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	5	A
			PM	7	A
8. East Street/Gibson Road	Signal	D	AM	20	B
			PM	20	B
9. E. Gibson Road/Matmor Road	Signal	D	AM	26	C
			PM	24	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B
			PM	12	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B
			PM	10	B
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	7 (26)	A (D)
			PM	9 (11)	A (B)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	41	D
			PM	36	D
14. E. Gibson Road-County Road 24/County Road 102 <sup>3</sup>	Signal	D	AM	19	B
			PM	32	C
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	9	A
			PM	12	B
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A
			PM	11	B
17. E. Heritage Parkway/Parkland Avenue	Signal	D	AM	9	A



**Table 4: Peak Hour Intersection LOS – Existing Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing Conditions	
				Delay	LOS
18. E. Heritage Parkway/County Road 102	Signal	D	PM	8	A
			AM	9	A
			PM	10	B
19. Parkland Avenue/Marston Drive	RB	D	AM	4	A
			PM	4	A
20. CR 25A/East St	AWSC	D	AM	12	B
			PM	8	A
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)
			PM	2 (4)	A (A)
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)
			PM	4 (6)	A (A)

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

**Bold text** indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2018.

### 4.6.3 Existing Signal Warrant Analysis

The California Manual on Uniform Traffic Control Devices (MUTCD) contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for both the AM and PM peak hours at all unsignalized study intersections. Where the posted speed limit is greater than 40 miles per hour, the “rural” peak hour warrant analysis is applied.

The signal warrant analysis presented in this transportation assessment is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared against one of nine standard traffic signal warrants recommended in the MUTCD. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon

one or two warrants, since the installation of traffic signals when not justified can lead to an increase in certain types of collisions. Prior to implementation, evaluation of the full set of warrants should be undertaken based on the latest traffic counts and collision data to make a determination that a traffic signal is warranted.

The following is a summary of the peak hour signal warrant analysis for existing conditions for the stop-controlled study intersections. As noted above, evaluation of the full set of traffic signal warrants should be performed prior to requiring implementation of a traffic signal.

- The following stop-controlled intersection meets the peak hour signal warrant criteria:
  - East Gibson Road/Harry Lorenzo Avenue-Bourn Drive – met during AM peak hour
- The remaining stop-controlled intersections do not meet the peak hour signal warrant criteria

## 4.7 Transit System

The Yolo County Transportation District (YCTD) provides public transit service (Yolobus) in the City of Woodland. Local bus routes operate along several major roadways, including Main Street, Gibson Road, East Street, Cottonwood Street, Pioneer Avenue, Gum Avenue, Beamer Street, and others. Regional service is provided between Woodland, Davis, West Sacramento, Sacramento, and the Sacramento International Airport via Routes 42A and 42B. There are also commuter or express service buses that provide service to Davis or downtown Sacramento. All Yolobus buses are equipped with bike racks to help facilitate the use of transit and bicycling for longer distance trips.

**Figure 5** shows existing transit routes in and near the study area. Buses do not currently run adjacent to the project site. The nearest bus routes are Route 45X and Route 46 (Spring Lake Express), which provide one morning and one afternoon commute trip each between Woodland and downtown Sacramento. The nearest stop to the project site is at Farmer's Central Road and Pioneer Avenue.

## 4.8 Bicycle Facilities

The 2002 Bikeway Master Plan adopted by the City of Woodland identified existing and planned bikeway facilities. An updated facilities map can be seen in the 2035 General Plan. **Figure 6** shows existing bikeways in and near the study area, in accordance with the following definitions.

- Class I Bikeway – Dedicated bike paths within an exclusive right of way
- Class II Bikeway – Striped bike lanes on roadways

- Class III Bikeway – Bike routes shared either with motor vehicles on street or with pedestrians on sidewalks

Class I paths are located on several streets in the Spring Lake Community including on both sides of Heritage Parkway, the south side of Gibson Road between Pioneer Avenue and CR 102, the west side of CR 102 from East Gibson Road south to CR 25A, the east side of Pioneer Avenue from Farmer’s Central Road to Gibson Road, the north side of Farmer’s Central Road from Pioneer Avenue to CR 102, and the south side of Marston Road. A north-south greenbelt path parallels Mickle Avenue between Ortiz Avenue and Marston Road.

Class II bike lanes are located along East Heritage Parkway, Gibson Road, and County Road 102 as well as on Farmer’s Central Road from Pioneer Avenue to Mickle Avenue.

Class III bike routes are located along on East Street from Sport Park Drive to Main Street.

## 4.9 Pedestrian Facilities

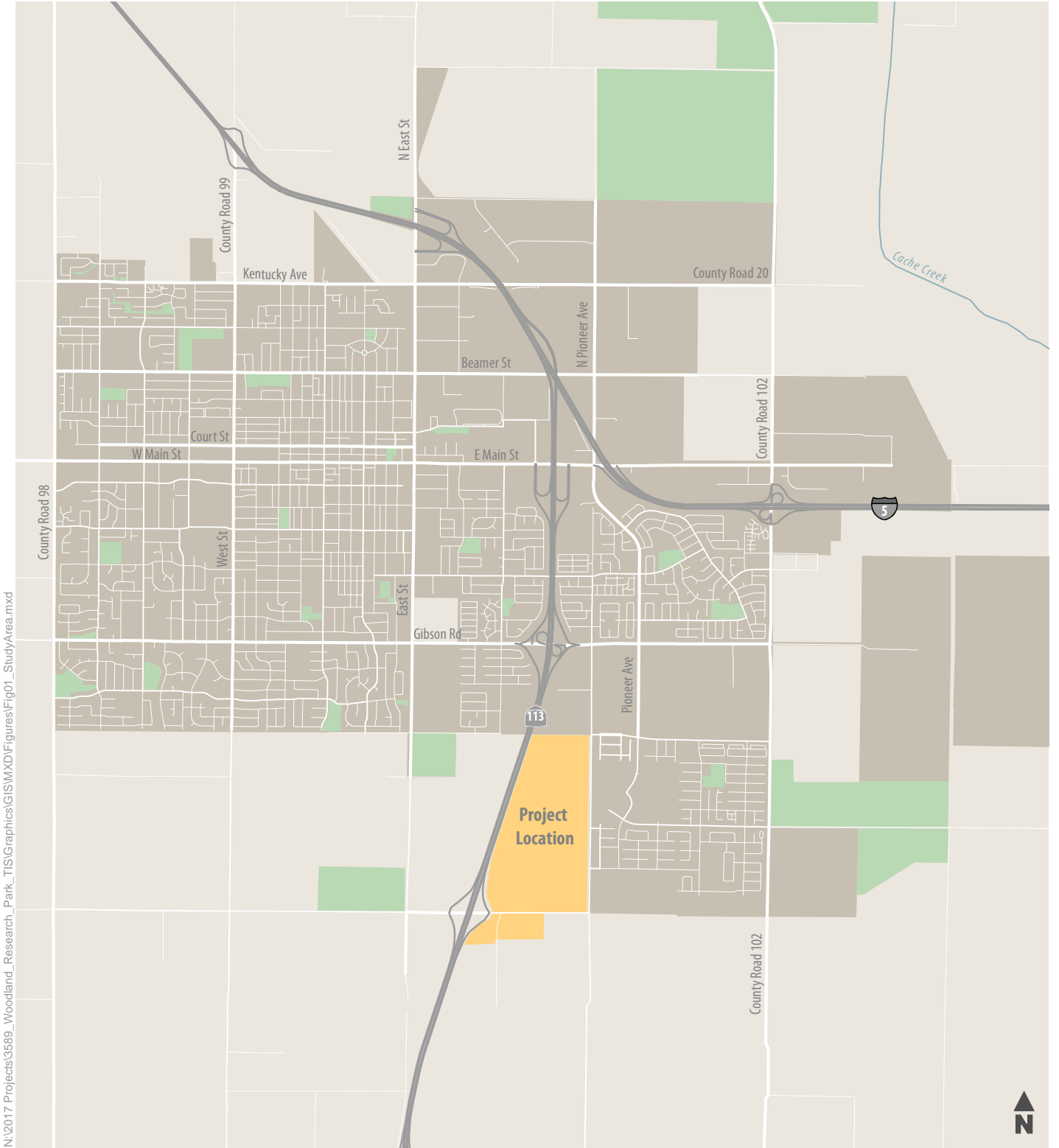
The project site is currently used for agriculture purposes and there are no sidewalks. There are currently approximately eight foot shoulders, but no sidewalks on the CR 25A overpass of SR 113.

The closest sidewalk is along a developed section of Harry Lorenzo Avenue from Marston Road to approximately ¼ mile north of Marston Road. Sidewalks are also provided along other nearby streets in the Spring Lake community including Marston Road, Parkland Avenue, and East Heritage Parkway.

## 4.10 Rail System

In the project study area, the California Northern Railroad (CFNR) rail line is located on the west side of East Street and the Sierra Northern Railway (SERA) is located along the north side of East Main Street. Rail activity is relatively low along both these lines. Advanced pavement markings and signs, gates, and warning lights are present at at-grade street crossings of these rail lines.

The nearest at-grade rail crossing to the project is on the west leg of the East Street/CR 25A intersection. Additional crossings are located along the East Street Corridor at CR 24A, Gibson Road, and East Main Streets. Along the East Main Street Corridor, at-grade rail crossings are located at Industrial Way/SB SR 113 Ramps, Pioneer Avenue, and CR 102.



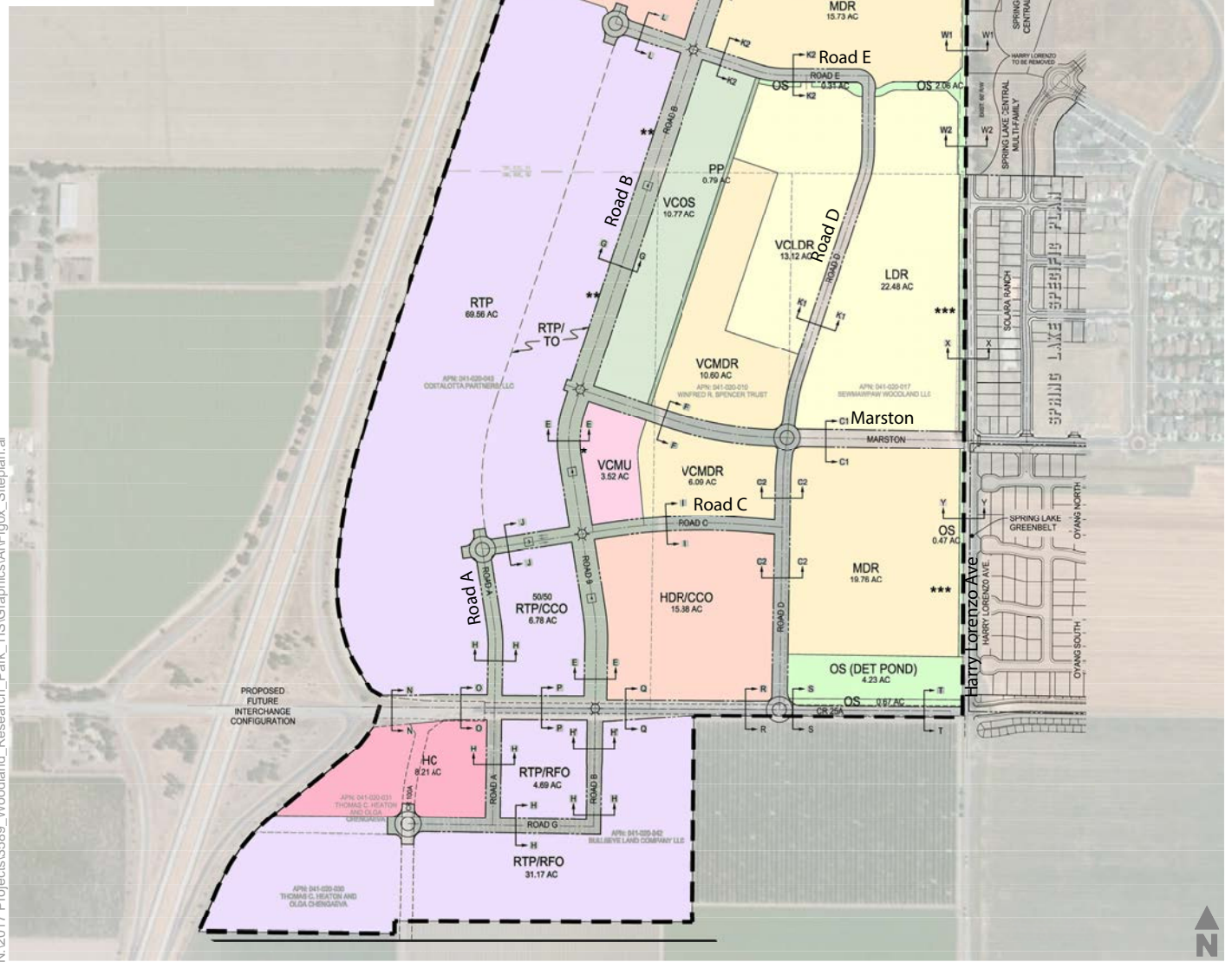
N:\2017 Projects\3589\_Woodland\_Research\_Park\_TIS\Graphics\GIS\MXD\Figures\Fig01\_StudyArea.mxd

City of Woodland City Limits



Figure 1  
Study Area

- LDR LOW DENSITY RESIDENTIAL
- MDR MEDIUM DENSITY RESIDENTIAL
- HDR HIGH DENSITY RESIDENTIAL
- HDR/CCO HIGH DENSITY RESIDENTIAL WITH COMMUNITY COMMERCIAL OVERLAY
- VCMU VILLAGE CENTER MIXED USE
- RTP RESEARCH AND TECHNOLOGY PARK
- RTP/TO RESEARCH AND TECHNOLOGY PARK WITH TRANSITIONAL OVERLAY
- RTP/CCO RESEARCH AND TECHNOLOGY PARK WITH COMMUNITY COMMERCIAL OVERLAY
- RTP/RFO RESEARCH AND TECHNOLOGY PARK WITH RESEARCH FLEX OVERLAY
- HC HIGHWAY COMMERCIAL
- OS GREENBELTS AND OPEN SPACE
- VCOS VILLAGE CENTER OPEN SPACE
- PP PEDESTRIAN PROMENADE - HARDSCAPE TBD

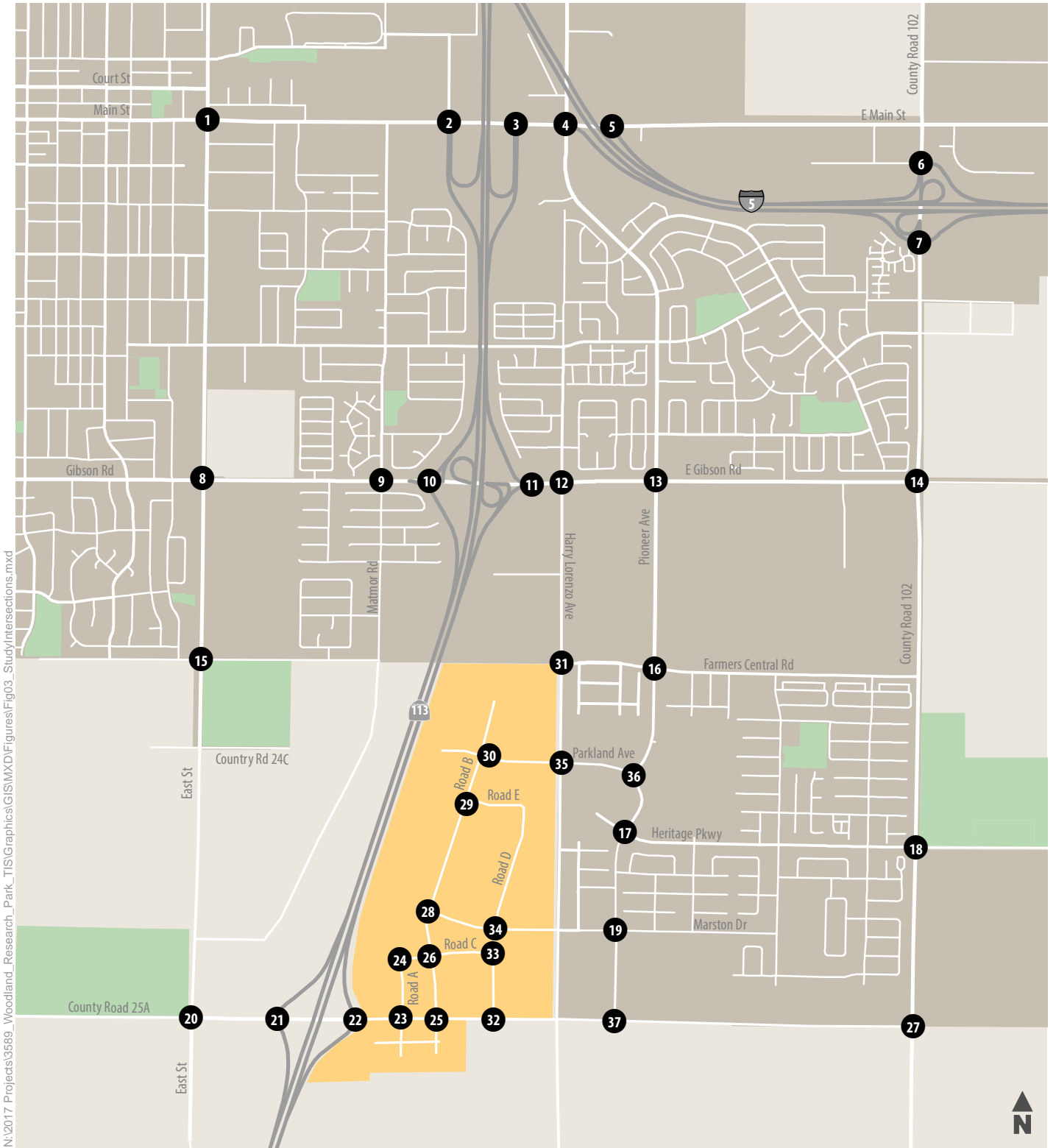


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Figure 2  
Project Site Plan





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- 1 Study Intersection
- Project Location
- City of Woodland City Limits

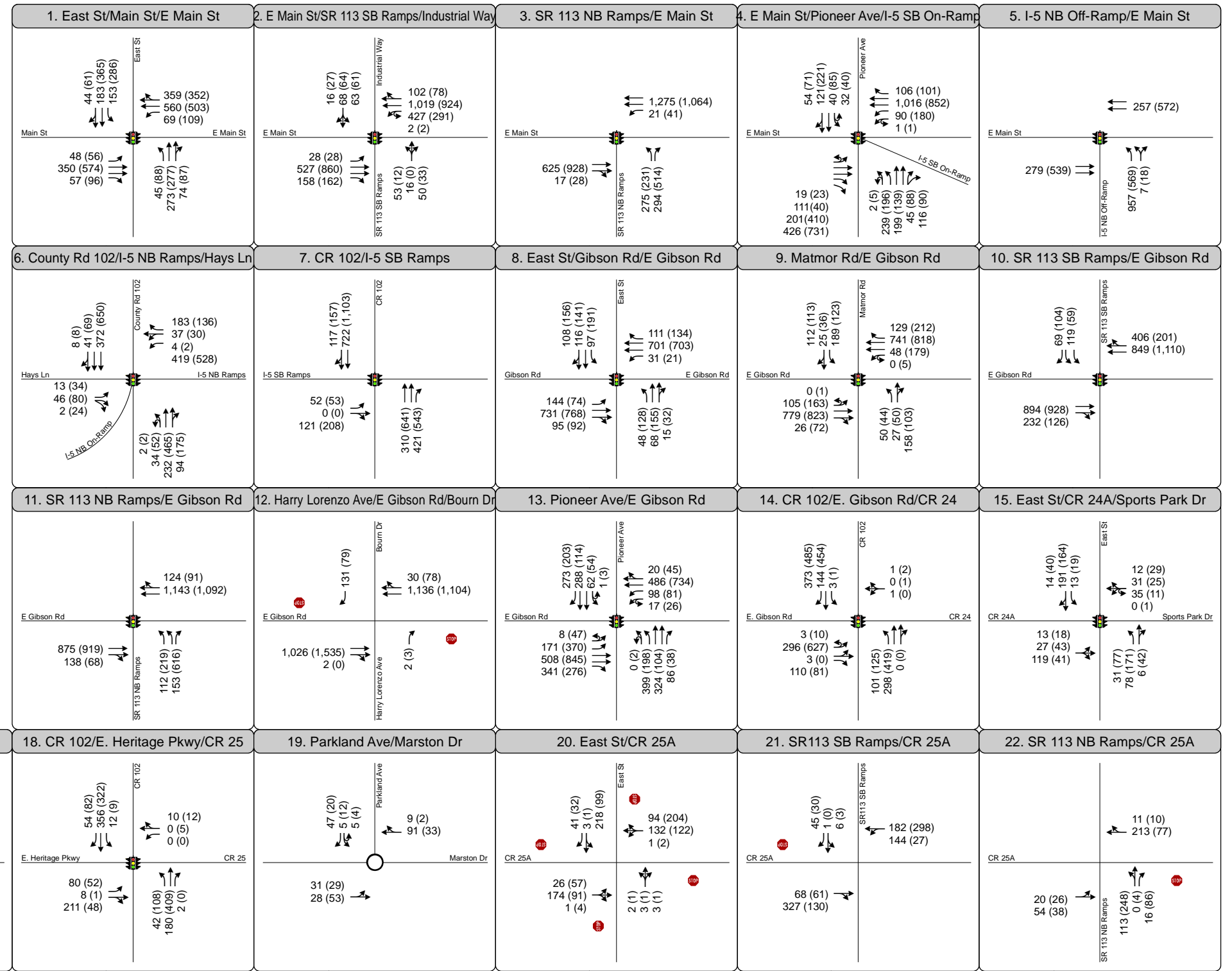
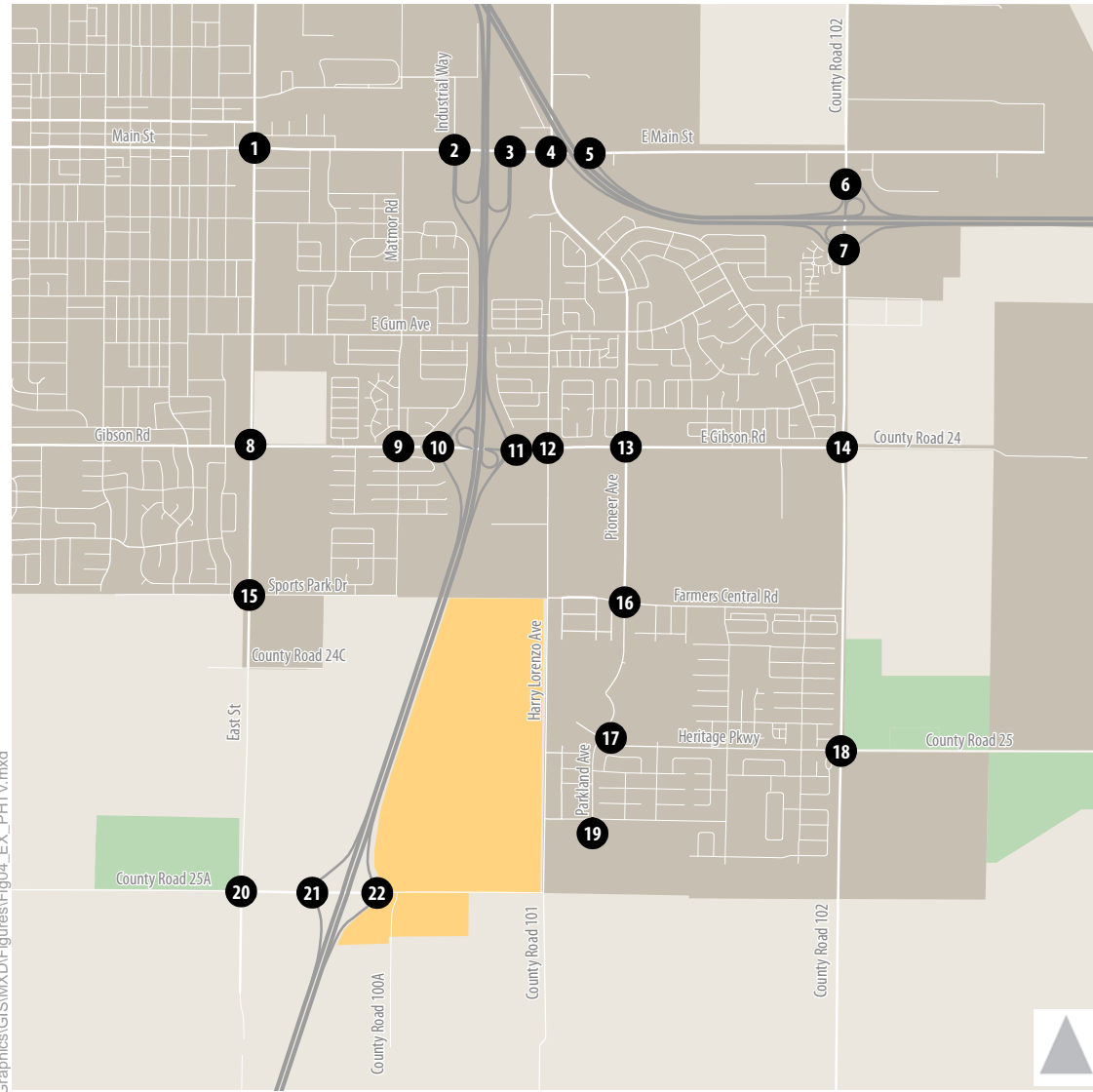


Figure 3

## Study Intersections



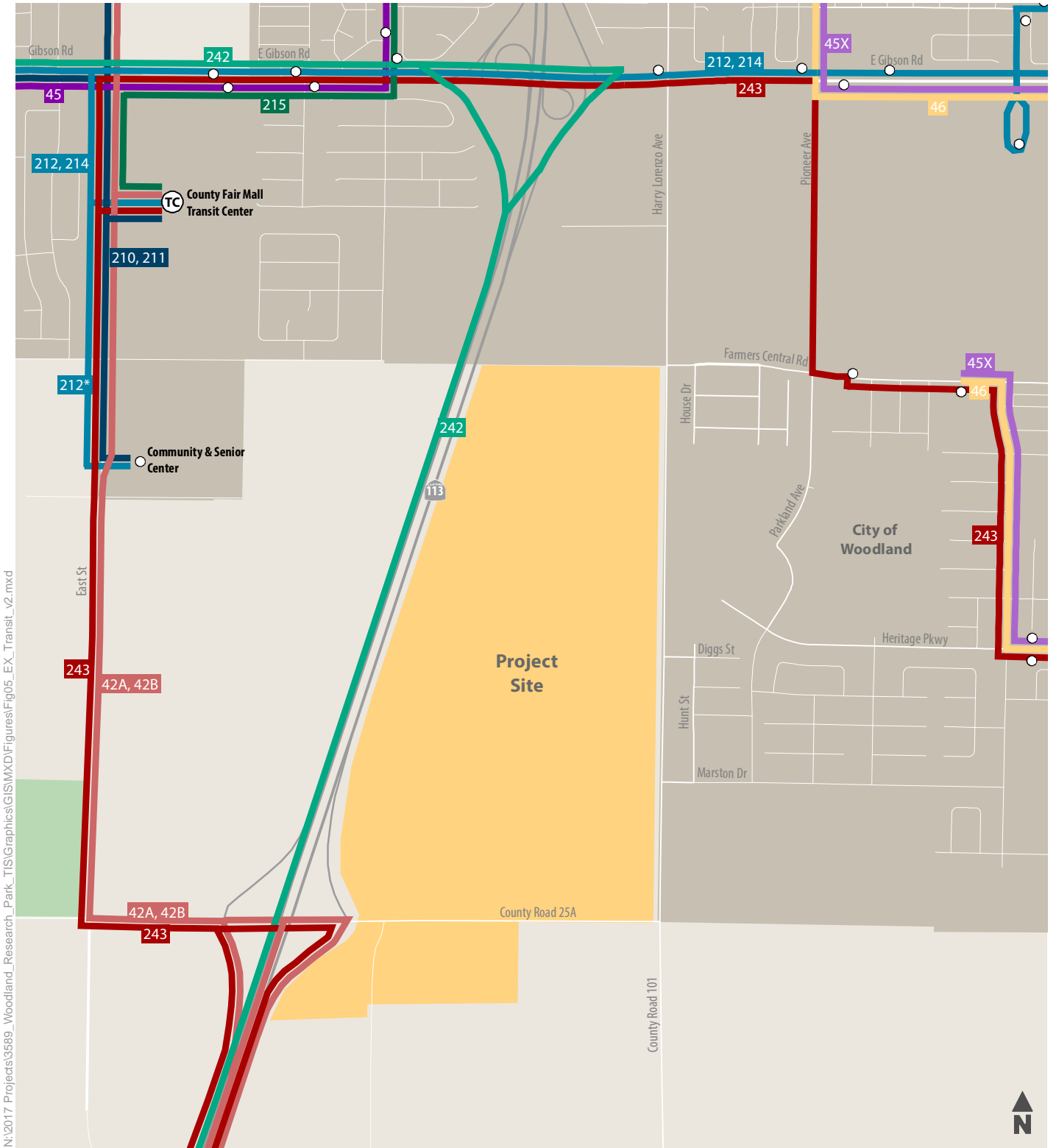
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- Study Intersection
  - Project Location
  - City of Woodland City Limits
  - Turn Lane
  - Traffic Signal
  - Stop Sign
- AM (PM) Peak Hour Traffic Volume



Figure 4  
Peak Hour Traffic Volumes  
and Lane Configurations -  
Existing Conditions



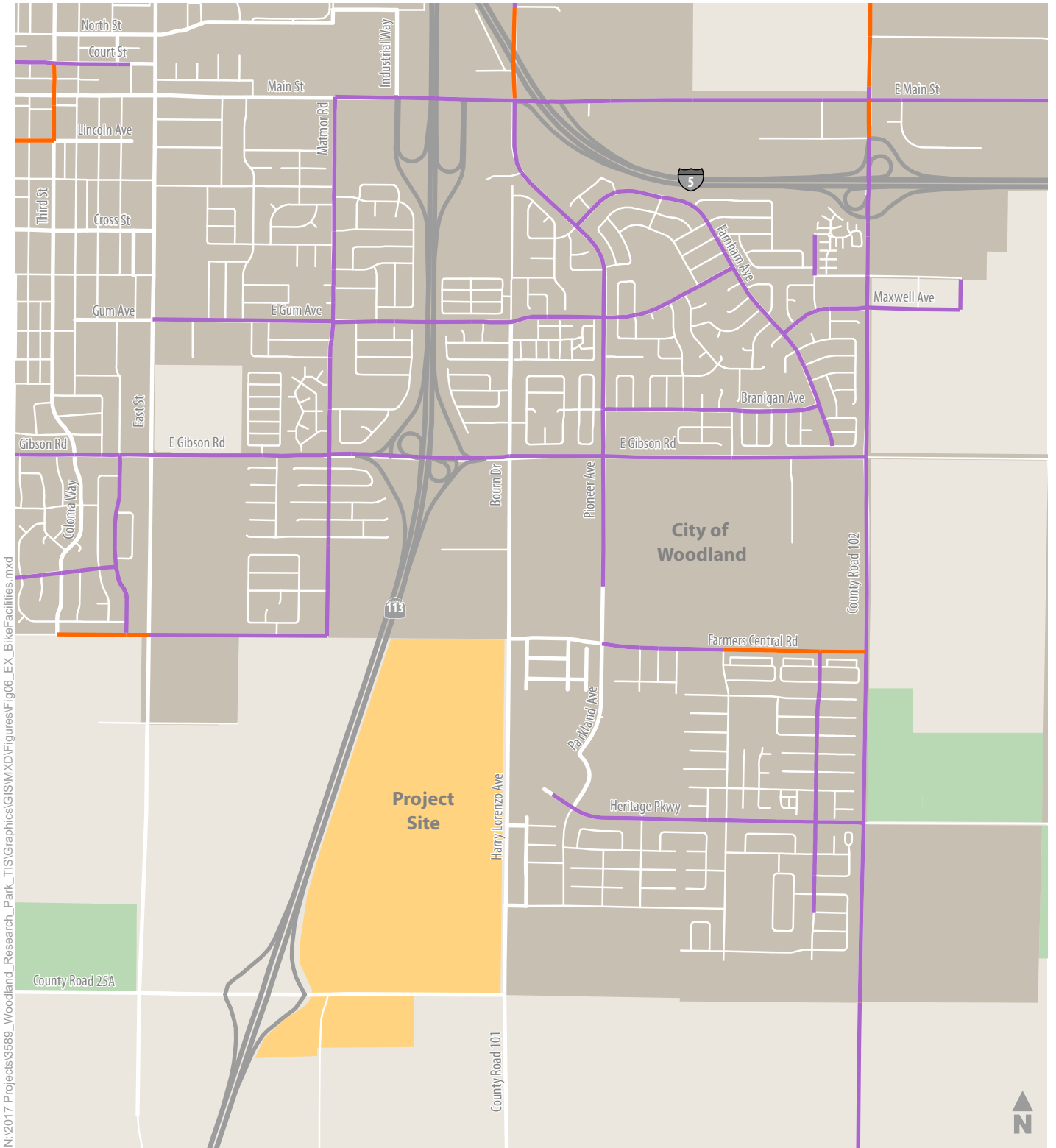
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- |  |                |  |          |  |          |  |     |
|--|----------------|--|----------|--|----------|--|-----|
|  | Transit Center |  | 210, 211 |  | 242      |  | 45  |
|  | Bus Stop       |  | 212, 214 |  | 243      |  | 45X |
|  |                |  | 215      |  | 42A, 42B |  | 46  |

Note: (\*) Only route 212 (not 214) stops at the Community & Senior Center.



Figure 05  
Transit Service



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- Existing Bicycle Facilities
- Class II Bike Lane
  - Class III Bike Route



Figure 6  
Bicycle Facilities



## 5. Project Travel Characteristics

This chapter presents the methods used to estimate the amount of traffic generated by the proposed development and how it will be distributed to the roadway system.

Travel forecasts for all the study scenarios were prepared using the new City of Woodland citywide travel model developed for the 2035 General Plan and CAP EIR. The travel model tiers off the SACOG regional travel model, with network and land use details for the six county SACOG planning area.

### 5.1 Trip Generation

The purpose of this vehicle trip generation forecast is to identify the number of new vehicle trips entering and exiting the project site for various purposes (e.g., residential, employee, and visitor trips) during a selected time period. The proposed project includes a mix of land uses including business park, light industrial, retail, hotel, and residential uses.

As noted above, the travel forecasts prepared for all the future study scenarios were developed using the new City of Woodland citywide travel model. As the city model pivots off the SACOG regional travel model, the external vehicle trips generated by the project area and assigned to the network are based on the person trip rates, mode share, and trip assignment rates and procedures developed by SACOG.

The most common methodology for developing trip generation forecasts for development projects is the application of trip rates in the Institute of Transportation Engineers' (ITE) Trip Generation manual. These trip rates are based on data collected primarily at suburban, single-use, freestanding sites. These defining characteristics limit their applicability to mixed-use development projects such as the proposed project. The citywide travel model is a better tool for identifying internal trip making and the appropriate mode share.

The project would generate a total of approximately 49,700 daily trips, 4,040 trips during the AM peak hour, and 4,440 trips during the PM peak hour. These trip totals include both internal and external trips.

### 5.2 Trip Distribution

The assignment of both approved and project trips, for all future scenarios, was done using the new City of Woodland citywide travel model developed for the 2035 General Plan and CAP EIR. The travel model tiers off the SACOG regional travel model, with network and land use details for the six county SACOG planning area.

## 6. Environmental Impacts and Mitigation Measures

This section provides a description of the methodology applied for the impact assessment, thresholds of significance, local roadway network assessment, transit impact assessment, bicycle impact assessment, and pedestrian impact assessment.

### 6.1 Methodology

The 2035 General Plan and CAP EIR addresses impacts of development of the City's planning area including this Specific Plan Area. The following analysis focuses on project-specific significant effects of the Specific Plan that are peculiar to the Specific Plan or the Site that were not addressed in the 2035 General Plan and CAP EIR, consistent with Section 15183(b) of the CEQA Guidelines.

According to Section 15183(b): "In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

1. Are peculiar to the project or the parcel on which the project would be located,
2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan with which the plan is consistent,
3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or
4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR."

### 6.2 Thresholds of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. For the purposes of this analysis, an impact is considered significant if implementation of the project would have any of the effects described below.

The standards of significance in this analysis are based upon the current practice of the appropriate regulatory agencies. For most areas related to transportation and circulation, policies from the City of Woodland General Plan 2035 have been used.

This study includes a Roadway System Level of Service assessment in Section 8, not for CEQA impact determination, but for General Plan policy consistency purposes. To this end, the project would be responsible for achieving VMT reductions required in the General Plan as well as contributing to planned roadway capacity expansion within the framework (i.e., functional classification and number of future through travel lanes) identified in the General Plan.

## 6.2.1 Local Roadway Network

An impact to the roadway system would be considered significant if implementation of the proposed project would trigger any of the following conditions.

- Create inconsistencies with the road system policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans, including the Congestion Management Plan
- Add substantial vehicle trips to a roadway facility that does not meet applicable design standards
- Create conflicts between modes (e.g., vehicles and bicycles)

A Roadway System LOS assessment is provided in Section 8.

## 6.2.2 Transit System

An impact to the transit system would be considered significant if the proposed project would trigger any of the following conditions.

- Create demand for public transit services above that which is provided, or planned to be provided by the YCTD
- Disrupt existing YCTD transit services or facilities
- Interfere with planned YCTD transit services or facilities
- Create an inconsistency with the transit policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans

## 6.2.3 Bicycle and Pedestrian Facilities

An impact to the bicycle or pedestrian system would be considered significant if the proposed project would trigger any of the following conditions.

- Disrupt existing bicycle or pedestrian facilities
- Interfere with planned bicycle or pedestrian facilities
- Create an inconsistency with the bikeway or pedestrian policies or standards of plans adopted by the City of Woodland, Yolo County, the YCTD, or Caltrans

## 6.3 Impact Analysis

The section addresses potential transportation impacts related to local roadway network, transit services, bicycle facilities, pedestrian facilities, and construction traffic.

### 6.3.1 Local Roadway Network

Road system policies documented in the City of Woodland 2035 General Plan and CAP include developing a multi-modal transportation system (Goal 3.A) and providing complete streets (Goal 3.B). Roadway functional classification and street typology are described in Goal 3.C. Other key policies address protecting residential streets (Goal 3.D), providing a comprehensive pedestrian system (3.E) and bicycle system (3.F), promoting an effective transit system (3.G), and maintaining the safe and efficient movement of goods (3.I).

The proposed road network for the project is consistent with the functional classification and street typology identified in the General Plan based on proposed street cross-sections for CR 25A, Parkland Avenue, Road B and Marston Avenue. In the vicinity of the project, Parkland Avenue is designated as a two-lane principal arterial in the General Plan. CR 25A and Road B are designated as minor arterials, and Marston Avenue is designated as a collector. Goal 3.B (Complete Streets) in the General Plan calls for the provision of “complete streets that accommodate driving, walking, bicycling, and public transit that are designed to enable safe, attractive, comfortable access and travel for users of all ages and abilities”. The proposed cross-sections for CR 25A, Parkland Avenue, and Road B include provision of a combination of on-street and off-street bicycle facilities. The proposed cross-section for Marston Avenue includes provision of an off-street bike path. All street cross-sections include new pedestrian facilities.

The General Plan calls for new development to provide interconnected street networks with walkable blocks that allow and encourage active multimodal transportation. The proposed road network would provide an interconnected street network when complete. A phasing plan for the road network is not provided, though,

so an assessment of the adequacy of individual phases of the project is not provided in this evaluation. To determine impacts to the roadway system, analysis is completed as though the entire project is built out at one time. However, this project would be built in several phases over a period of many years, as has been the case with the adjacent Spring Lake community. As a result, the situation shown in the Existing plus Project conditions analysis would not occur for several years after the initial construction of the project. In addition to build-out of the project land use, the project's proposed road network improvements include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The project would also remove the segment of Harry Lorenzo Avenue from Parkland Avenue to CR 25A, except for a 1,000 foot segment from Marston Road to approximately 1,000 feet north of Marston Road that serves fronting residential units.

The Land Use Plan Layout and street cross-sections for the Woodland Research and Technology Park include all the roadway network facilities as identified in the 2035 General Plan.

Project impacts to the local roadway network are considered **less-than-significant**. No mitigations are required.

## 6.3.2 Transit System

The mix and density of land uses, and the total residential and employment population of the Specific Plan area at build-out, would result in a substantial demand for transit service. The proposed project would increase demand for public transit service to an area that is not currently served by Yolobus. The proposed project does not identify specific transit facilities (such as sheltered transit stops or pullouts). The increase in demand for public transit service in an area not currently served by a public transit system would not conflict with any relevant policy or lead to any adverse physical environmental effect. However, the WRTP would be required to contribute toward operating and maintenance requirements for public transit.

The operating and maintenance requirements of public transit service are funded mainly through a portion of sales tax revenue that is returned to each county through the Transportation Development Act for the purpose of providing transit service. Therefore, the proposed project would contribute towards operating and maintenance requirements for public transit in the same way as previously approved developments.

Project impacts to the transit system are considered **less-than-significant**. No mitigations are required.

## 6.3.3 Bicycle Facilities

The 2035 General Plan shows the following planned bicycle facilities both within and immediately adjacent to the project site.



- Class II bike lane on CR 25A between East Street and Road B
- Class I path and Class II bike lane along CR 25A between Road B and CR 102
- Class I path and Class II bike lane on Parkland Avenue from Road B to Pioneer Avenue
- Class II bike lane on Road B from CR 25A to Parkland Avenue
- Class I path on Marston Road
- Class I path along Harry Lorenzo Avenue right-of-way between Parkland Avenue and CR 25A

Draft street cross-sections for the Woodland Research and Technology Park include all of the bicycle facilities as identified in the 2035 General Plan. Project impacts to bicycle facilities are considered **less-than-significant**. No mitigations are required.

### 6.3.4 Pedestrian Facilities

The proposed project identifies sidewalks on all streets within the project site, on the north side of CR 25A (southern project boundary), and on both sides of Parkland Avenue. Sidewalks and paths on streets within the project site range from 4.5 to 10 feet in width. Project impacts to pedestrian facilities are considered **less-than-significant**. No mitigations are required.

### 6.3.5 Construction Traffic

Construction of the proposed project, including site preparation and construction, and delivery activities, would generate employee trips and a variety of construction-related vehicles. Construction activities would include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. This may impact the movement of agricultural vehicles and equipment during construction. Bicycle and transit access may also be disrupted. These activities could result in degraded roadway conditions.

#### IMPACT 1 – Construction Traffic

The effect of construction traffic generated by the proposed project is considered a **significant impact**.

**Mitigation Measure 1: Construction Traffic Control Plan.** Prior to any construction activities for the proposed project, the applicant shall prepare a detailed Construction Traffic Control Plan and submit it for review and approval by the City Department of Public Works. The applicant and the City shall consult with Caltrans, Yolobus, and local emergency service providers for their input prior to approving the Plan. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained during construction. At a minimum, the plan shall include:

- The number of truck trips, time, and day of street closures

- Time of day of arrival and departure of trucks
- Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting
- Provision of a truck circulation pattern
- Provision of a driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas)
- Maintain safe and efficient access routes for emergency vehicles
- Maintain safe and efficient access routes for farming equipment and vehicles
- Manual traffic control when necessary
- Proper advance warning and posted signage concerning street closures
- Provisions for pedestrian safety

A copy of the construction traffic control plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct roadways.

Mitigation Measure 3 would reduce the construction traffic impacts to a less-than-significant level.

**Significance after Mitigation:** Less than significant

## 7. Cumulative Conditions

The purpose of the following cumulative assessment is to provide additional focused analysis to complement analysis conducted for the Woodland 2035 General Plan and CAP EIR. The freeway analysis conducted in the 2035 General Plan and CAP EIR is updated in this section for 2050 cumulative conditions for two segments of SR 113, immediately adjacent to the CR 25A interchange that borders the project. An LOS analysis is provided for 2050 cumulative conditions for 21 intersections.

The 2035 General Plan and CAP EIR evaluated cumulative conditions for an East Alternative and a South Alternative. The proposed land use and roadway circulation network for the Woodland Research and Technology Park project is consistent with the analysis conducted for the South Alternative. As such, analysis of cumulative roadway and intersection conditions was not conducted for this study.

The following is a summary of the transportation-related impact analysis described in the 2035 General Plan and CAP EIR.

- Roadway LOS impacts were identified as less than significant for the South Alternative. Four road segments were identified as operating at LOS D conditions under 2035, including County Road 102 from East Gibson Road to Farmers Central Road.
- Mitigation Measure 4.13-1c recommended modified language to Policy 3.A.4 Reduce Vehicle Miles Traveled (VMT). The revised language requires new development projects to achieve a 10 percent reduction in VMT per capita or service population compared to general plan 2035 VMT performance, or a 10 percent reduction compared to baseline conditions for similar land uses.
- A potentially significant freeway LOS impact was identified for I-5 east of County Road 102. Mitigation Measure 4.13-1b, which called for modification of the City's Vehicle LOS standard, and other vehicle trip reduction policies were identified to mitigate the freeway LOS impact.
- A potentially significant impact to LOS on CMP network roadways was identified for CR 102 from East Gibson Road to Farmers Central Road. Mitigation 4-13-3b called for modification of the circulation diagram to designate this segment of CR 102 as a 4-lane principal arterial.
- Impact were identified as less than significant for air traffic patterns, traffic hazards, emergency access, public transit, bicycle facilities, and pedestrian facilities.

The 2035 General Plan identifies the following functional classifications and future lane designations for key roadways in the study area.

- East Main Street (East Street to CR 102): 4 lane principal arterial
- East Gibson Road (East Street to CR 102): 4 lane principal arterial

- Parkland Avenue (East Street to Pioneer Avenue): 2 lane principal arterial
- East Heritage Parkway (Parkland Avenue to CR 102): 2 lane principal arterial
- CR 25A (East Street to Road B): 4 lane minor arterial
- CR 25A (Road B to CR 102): 2 lane minor arterial
- East Street (Main Street to Gibson Road): 4 lane minor arterial
- East Street (Gibson Road to Sports Park Drive): 4 lane principal arterial
- East Street (Sports Park Drive to East Street): 2 lane principal arterial
- Road B (Parkland Avenue to CR 25A): 2 lane minor arterial
- Pioneer Avenue (Main Street to Parkland Avenue): 4 lane minor arterial
- CR 102 (Main Street to Farmers Central Road): 4 lane principal arterial
- CR 102 (Farmers Central Road to CR 25A): 2 lane principal arterial
- Harry Lorenzo Avenue (Gibson Road to Parkland Avenue): 2 lane collector

### **7.1.1 Cumulative Freeway Conditions**

The purpose of the following freeway assessment is to determine whether segments of State Route 113 adjacent to the Specific Plan area would operate at acceptable LOS D or better operations under cumulative conditions.

The travel forecasts for cumulative freeway and intersections conditions presented in this and the following section were developed for year 2050 conditions. The cumulative (Year 2050) buildout intersection turning movement were developed using the travel demand model that was developed for the Woodland 2035 General Plan and CAP EIR. Near the study area, the buildout year model includes buildout of Specific Plan Areas 1A, 1B, and 1C, as well as the construction of the Parkland Avenue overcrossing of SR 113. Elsewhere in the City, the model also includes Specific Plan Areas 2, 3a, and 3b. The projected growth in AM and PM Peak Hour model turning movement forecasts, between the 2050 buildout year model and the 2017 base year model, were added to existing 2017 traffic counts to obtain buildout year intersection and freeway segment forecasts.

The cumulative forecasts include build-out of the Woodland Research and Technology Park Specific Plan area including 1,600 residential units (1,148 single family and 452 multi-family units) and about 2.16 million square feet of commercial uses (including approximately 1.4 million square feet of business park uses, 342,000 square feet of light industrial uses, 224,000 square feet of retail uses, and 200 hotel rooms). A total of 4,843 employees are assumed to occupy the 2.16 million square feet of commercial uses in the Specific Plan area at build-out.

The land use included in the cumulative forecasts for build-out of Specific Plan Areas 1B and 1C, on the west side of SR 113, are as follows.

- Specific Plan Area 1B: 1,500 residential units (1,125 single family and 375 multi-family units) and 1,172,123 square feet of commercial uses
- Specific Plan Area 1C: 388 single family dwelling units

The following roadway improvements are included in version of the 2050 citywide travel model used to develop forecasts for Cumulative conditions.

- SACOG 2020 MTP/SCS project list including the following:
  - I-5/SR 113 Connector Phase 2 Improvement (NB I-5 to SB SR 113 connection)
  - County Road 102 – widen to four lanes from East Gibson Road to Farmers Central Road, East Main Street to Kentucky Avenue
  - County Road 25A – new 2 lane arterial from Parkland Avenue to County Road 102
  - County Road 25A – widen to 4 lanes from East Street to SR 113 interchange
  - Parkland Avenue – new 2 lane arterial from Pioneer Avenue to East Street
  - Matmor Road Extension – new 2 lane collector from Sports Park Drive to SP1 E-W Road
  - Marston Road Extension – new 2 lane collector from Parkland Avenue to Road B
- 2035 Woodland General Plan network build-out including the following:
  - Build-out of the Spring Lake street network
  - Parkland Avenue overpass of SR 113
- Woodland Research and Technology Park Specific Plan network build-out

**Table 5** summarizes the freeway segment density and LOS results for the cumulative buildout analysis. Detailed calculations are included in Appendix B. As shown, all freeway segments would operate at LOS D or better conditions during both AM and PM peak hours. In the peak direction of travel, two of the three study segments would operate at LOS D on southbound SR 113 during the AM peak hour and on northbound SR 113 during the PM peak hour.

The SR 113 freeway segments shown in **Table 5** would operate at acceptable conditions for the cumulative scenario.

**Table 5: Peak Hour Freeway Operations – Cumulative Conditions**

Segment	Segment Type	LOS / Density (pc/mi/ln <sup>1</sup> )	
		AM Peak Hr	PM Peak Hr
<b>Northbound</b>			
County Road 27 to County Road 25A	Basic	B / 17.8	D / 28.1
SR 113 Off-Ramp to County Road 25A	Diverge	C / 24.2	D / 34.4
County Road 25A to E. Gibson Road	Basic	B / 13.5	C / 20.1
<b>Southbound</b>			
E. Gibson Road to County Road 25A	Basic	C / 18.7	B / 15.2
SR 113 On-Ramp at County Road 25A	Merge	D / 30.5	C / 22.5
County Road 27 to County Road 25A	Basic	D / 28.4	B / 17.6

Notes: <sup>1</sup>pc/mi/ln = passenger car per mile per lane.  
 Source: Fehr & Peers, 2018.

## 7.1.2 Cumulative Intersection Conditions

The purpose of the following intersection assessment is to determine whether intersections adjacent to the Specific Plan area would operate at LOS D or better operations under cumulative conditions, assuming implementation of proposed Woodland Research and Technology Park Specific Plan roadway improvements and mitigations identified for Existing plus Project and Existing plus Approved plus Project scenarios.

An evaluation of cumulative LOS conditions indicate that six of the 21 intersections would not meet General Plan LOS goals. Additional capacity improvements that would improve intersection operations to acceptable LOS D conditions or better could be provided at three of those seven intersections as identified below.

- SR 113 NB Ramps/E. Gibson Road – addition of a 2<sup>nd</sup> right turn lane on the northbound off-ramp
  - Implementation – add improvement measure to MPFP
- East Street/County Road 25A – widening northbound leg (one left turn lane, one through lane, and one exclusive right lane lane), southbound leg (2 left turn lanes, one through lane, and one exclusive right turn lane), eastbound leg (one left turn lane, one combined through/right lane), and westbound leg (one left turn lane, one through lane, and one exclusive right turn lane)
  - Implementation – these improvements would be required to serve Specific Plan Areas 1B and 1C, and would be addressed in future environmental and entitlement evaluations for those projects assumed in the cumulative scenario
- East Street/Gibson Road – addition of exclusive northbound right turn lane

- Implementation - this improvement would be required to serve Specific Plan Areas 1B and 1C, and would be addressed in future environmental and entitlement evaluations for those projects assumed in the cumulative scenario

Capacity improvements at E. Gibson Road/County Road 102, as identified below, would improve intersection operations to acceptable LOS D conditions during the AM peak hour only.

- County Road 102/E. Gibson Road – widening to westbound leg (left turn lane, through only lane, and through/right lanes) and east leg (addition of 2<sup>nd</sup> left turn lane)
  - Implementation – these improvements would be required to provide access to a planned future business park on the east side of CR 102, and would be addressed in future environmental and entitlement evaluations for that future project assumed in the cumulative scenario

**Table 6** summarizes the cumulative buildout conditions levels of service (LOS) at the study intersections with the improvement measures and mitigation measures described above. Table 12 shows that eighteen (18) of the twenty-one (21) intersections, (86 percent) would meet General Plan LOS D goal based on the volumes and intersection geometrics shown in **Figure 7**.

The following intersections would not meet the General Plan LOS D goal, which is not mandatory, with the proposed geometrics under cumulative conditions. Additional widening of the roadway at these locations would be inconsistent with the General Plan policies that prioritize VMT reduction over widening roadways beyond the General Plan circulation diagram designations to achieve LOS reduction.

- E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive during the AM peak hour (LOS E)
- E. Gibson Road/Pioneer Avenue during the AM peak hour (LOS E)
- E. Gibson Road/County Road 24/County Road 102 during the PM peak hour (LOS F)



**Table 6: Peak Hour Intersection Operations – Cumulative Conditions**

Intersection	Control Type <sup>1</sup>	LOS / Average Delay <sup>1, 2, 3</sup>	
		AM Peak Hr	PM Peak Hr
E. Gibson Road/SR 113 NB Ramps	Signal	B / 13	C / 29
E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	Signal	<b>E / 76</b>	D / 50
E. Gibson Road/Pioneer Avenue	Signal	<b>E / 58</b>	D / 49
E. Gibson Road-County Road 24/County Road 102 <sup>3</sup>	Signal	D / 38	<b>F / 82</b>
East Street/County Road 24C	Signal	B / 10	C / 27
Parkland Avenue/Matmor Road	RB	B / 12	B / 13
Road B/Road F/Parkland Ave	Signal	D / 54	D / 43
Parkland Avenue/Pioneer Avenue <sup>3</sup>	Signal	C / 35	C / 31
Road B/Road E	Signal	C / 26	C / 23
Road B/Marston Drive	Signal	C / 21	C / 20
Road D/Marston Drive	RB	A / 5	A / 5
Road B/Road C	Signal	C / 23	C / 24
County Road 25A/East St	Signal	C / 23	C / 22
County Road 25A/SR 113 SB Ramps	Signal Option	A / 10	B / 11
	RB Option	C / 23	A / 7
County Road 25A/SR 113 NB Ramps	Signal Option	B / 20	B / 18
	RB Option	B / 13	A / 7
County Road 25A/Road A	SSSC	A (D) / 5 (31)	A (B) / 3 (11)
County Road 25A/ Road B	Signal	C / 30	C / 32
County Road 25A/Road D	RB	B / 13	B / 11
County Road 25A/Parkland Avenue	RB	B / 11	B / 11
County Road 102/County Road 25A	Signal	B / 11	A / 10
East Street/Gibson Road	Signal	C / 33	D / 47

Notes:

<sup>1</sup> LOS = Level of Service. SSSC = Side-Street Stop Control. RB = Roundabout.

**Bold** indicates that intersection would not meet General Plan LOS goals.

<sup>2</sup> For signalized, roundabout, and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the highest delay movement and for the entire intersection (shown in parentheses).

<sup>3</sup> The HCM 2010 methodology in Synchro does not provide delay or LOS when signal timing includes a pedestrian-only phase or non-NEMA standard phasing. Thus, the results for intersections are based on HCM 2000 methodology.

Source: Fehr & Peers, 2020.



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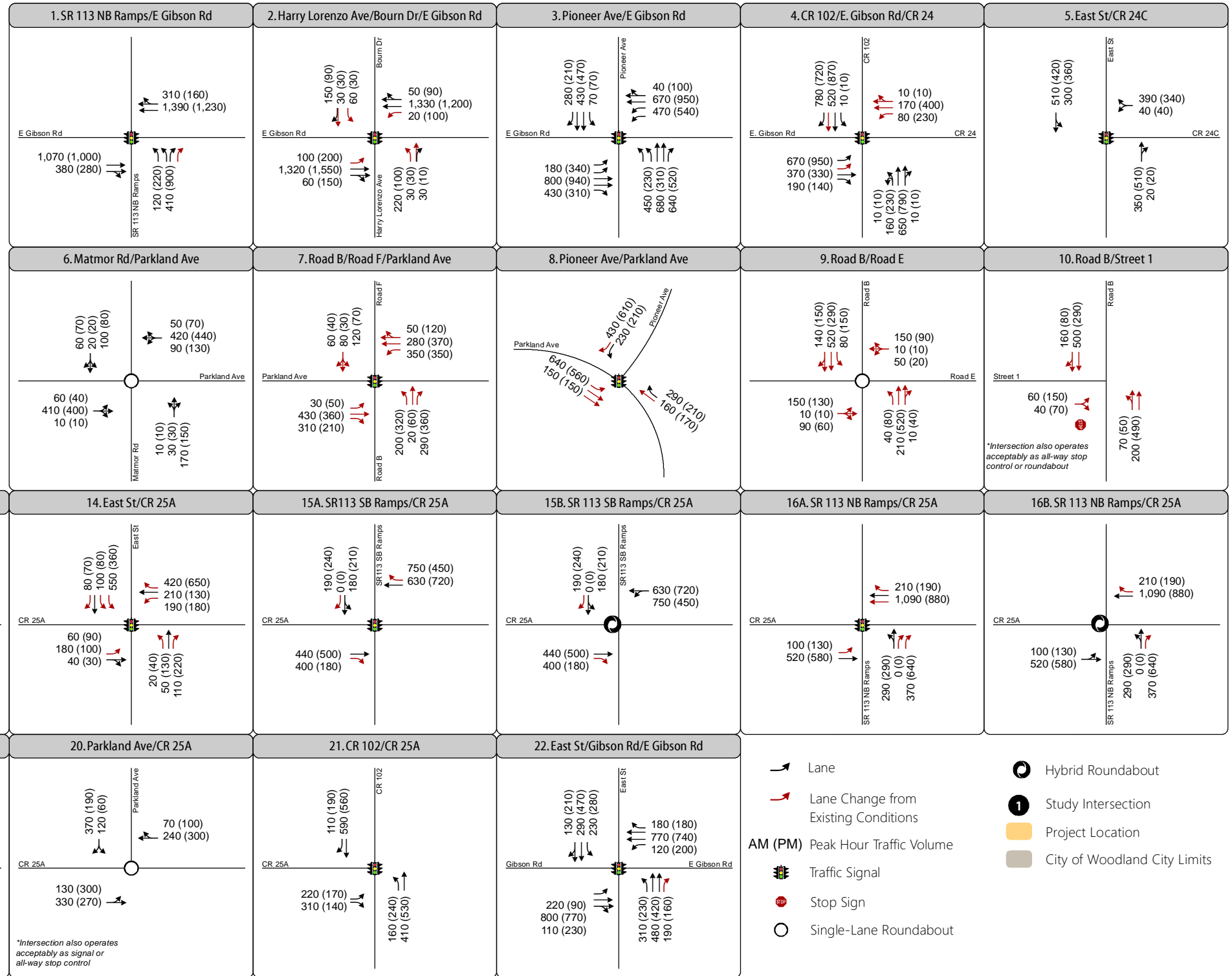
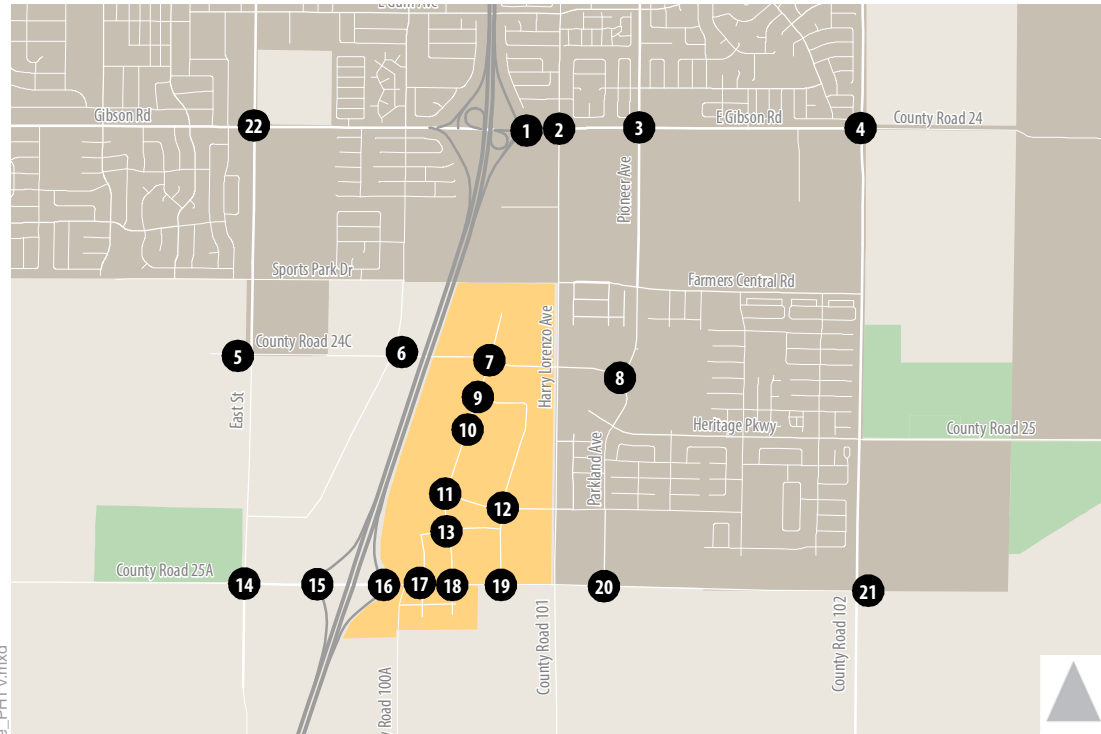


Figure 7  
Peak Hour Traffic Volumes  
and Lane Configurations -  
Cumulative Build-Out Conditions



## 8. Roadway System Level of Service

The purpose of the following section is to evaluate Vehicle Level of Service (LOS) for near-term conditions for General Plan consistency and to identify feasible improvements to meet the General Plan Vehicle LOS Standard. This information is not used to make CEQA impact determinations, rather to identify potential improvement projects that may be included in conditions of approval for the project entitlements.

### 8.1 Methodology

The following Roadway System LOS assessment addresses peak hour operations at 10 road segments and 36 intersections for the following scenarios.

1. Existing plus Project Conditions
2. Existing plus Approved Conditions
3. Existing plus Approved plus Project Conditions

### 8.2 LOS Policy

The 2035 General Plan and CAP EIR includes the following Vehicle LOS Standard, identified as Policy 3.A.1.

**Vehicle Level of Service (LOS) Standard.** Strive to develop and manage the roadway system to maintain LOS D or better as defined in the latest edition of the Highway Capacity Manual (Transportation Research Board) during weekday AM and PM peak hour conditions with the following exceptions described below and mapped on Figure 3-1.

- A. LOS C – Kentucky Ave from East Street to County Road 98. This level of service is required to accommodate the mix of commercial/industrial truck traffic with residential driveways.
- B. LOS E – Freeway ramp terminal intersections and E. Gum Avenue from Bourn Drive to Pioneer Avenue.
- C. LOS F - LOS F is allowed for the following roadway segments where the City finds that the improvements or other measures required to achieve the LOS standard are unacceptable because of their impact on other community values.
  - Main Street from 6<sup>th</sup> St to Cleveland St
  - Maxwell Ave from Farnham Ave to County Road 102

As noted previously, the General Plan LOS goal is not mandatory and other community values are considered in determining whether improvements or other measures are recommended to address future conditions that do not meet the LOS thresholds.

## 8.3 LOS Analysis

### 8.3.1 Existing Plus Project Traffic Conditions

This discussion presents LOS conditions on the surrounding transportation system under Existing plus Project conditions. Existing plus Project conditions are defined as Existing conditions with completion of the project. The following assessment assumes the entire project is built out at one time. However, this project would be built in several phases over a period of many years, as has been the case with the adjacent Spring Lake community. As a result, the situation shown in the Existing plus Project conditions analysis would not occur for several years after the initial construction of the project. In addition to build-out of the project land use, the Existing plus Project conditions also include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The project would also remove the segment of Harry Lorenzo Avenue from Parkland Avenue to CR 25A with the exception of a 1,000 foot segment from Marston Road to approximately 1,000 feet north of Marston Road that serves fronting residential units. No other off-site roadway improvements are assumed for this scenario.

The Existing plus Project forecasts do not include build-out of the remainder of the Spring Lake community. That remaining development, along with other approved projects, are reflected in the Existing plus Approved plus Project conditions described in the subsequent portion of this section.

#### 8.3.1.1 Existing Plus Project Road Segment Operations

Under Existing Plus Project conditions, 9 of the 10 study road segments are in place and evaluated. **Table 7** shows weekday PM peak hour LOS for those nine road segments. All the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- CR 25A, between the SR 113 northbound ramps and Road A, would operate at LOS E conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- All other roadway segments would operate at LOS D or better conditions

**Table 7: Existing plus Project Road Segment LOS - PM Peak Hour**

Roadway	Segment	Classification	Lanes	Capacity	Existing		Existing plus Project	
					Volume	LOS	Volume	LOS
CR 25A	East St to SR 113 SB Ramps	Minor Arterial	2	2,170	519	C	910	C
CR 25A	SR 113 NB Ramps to Road A	Minor Arterial	2	2,170	201	C	2,020	<b>E</b>
CR 25A	Road A to Road B	Minor Arterial	2	2,170	-	-	1,820	D
CR 25A	Road B to Road D	Minor Arterial	2	2,170	-	-	590	C
Road B	CR 25A to Road C	Minor Arterial	2	2,170	-	-	1,180	C
Road B	Road E to Parkland Ave	Minor Arterial	4	4,450	-	-	990	C
Pioneer Ave	Gibson Rd to Farmer's Central Rd	Minor Arterial	4	4,450	811	C	1,390	C
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	296	C	480	C
Harry Lorenzo Ave	Gibson Rd to Farmer's Central Rd	Collector	2	1,110	-	-	370	B

**Bold** indicates that road segment would not meet General Plan LOS goals.  
 Source: Fehr & Peers, 2020.

### 8.3.1.2 Existing plus Project Intersection Operations

**Figure 8** shows peak hour volumes for Existing plus Project conditions. **Table 8** provides a summary of LOS results for Existing plus Project conditions, compared with Existing conditions results, which are also presented in **Table 5**. The following is a summary of intersection conditions.

- 29 of 36 intersections operate at acceptable LOS during the AM peak hour
- 31 of 36 intersections operate at acceptable LOS during the PM peak hour
- General Plan Vehicle LOS standards are not met at nine intersections under Existing plus Project conditions during one or both peak hours

The locations where the General Plan Vehicle LOS standards would not be met for Existing plus Project conditions are described below.

**Road Segment:**

1. CR 25A from SR 113 NB Ramps to Road A (PM peak hour)

**Intersections:**

2. East Main Street/SR 113 NB Ramps (PM peak hour)
3. East Main Street/I-5 NB Off-ramp (AM peak hour)
4. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive (AM peak hour)
5. East Gibson Road/County Road 102 (PM peak hour)
6. Farmer's Central Road/Pioneer Avenue (AM and PM peak hours)
7. CR 25A/SR 113 SB Ramps (AM and PM peak hours)
8. CR 25A/SR 113 NB Ramps (AM and PM peak hours)
9. CR 25A/Road A (AM peak hour)
10. CR 25A/Road B (AM peak hour)

### **8.3.1.3 Existing plus Project Peak Hour Signal Warrants**

The MUTCD contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for unsignalized intersections under Existing plus Project conditions. The results of the peak hour signal warrant assessment for the stop-controlled study intersections are summarized as follows. Evaluation of the full set of traffic signal warrants, based on existing conditions at the time an intersection improvement is triggered, should be performed prior to implementation of a traffic signal.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive – met during AM peak hour
- Farmer's Central Road/Pioneer Avenue – met during both peak hours
- CR 25A/East Street – met during PM peak hour
- CR 25A/SR 113 SB Ramps – met during both peak hours
- CR 25A/SR 113 NB Ramps – met during both peak hours
- CR 25A/Road A – met during both peak hours



**Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	15	B	17	B
			PM	20	C	20	B
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	26	C	44	D
			PM	34	C	70	E
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	13	B	35	D
			PM	59	E	148	<b>F</b>
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	59	E	63	E
			PM	43	D	43	D
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	55	E	>150	<b>F</b>
			PM	11	B	15	B
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	17	B	19	B
			PM	22	C	25	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	5	A	5	A
			PM	7	A	8	A
8. East Street/Gibson Road	Signal	D	AM	20	B	22	C
			PM	20	B	23	C
9. E. Gibson Road/Matmor Road	Signal	D	AM	26	C	43	D
			PM	24	C	28	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B	11	B
			PM	12	B	13	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B	12	B
			PM	10	B	14	B
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	7 (26)	A (D)	13 (48)	B (E)
			PM	9 (11)	A (B)	12 (20)	A (C)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	41	D	54	D
			PM	36	D	43	D
14. E. Gibson Road-County Road 24/County Road 102 <sup>3</sup>	Signal	D	AM	19	B	27	C
			PM	32	C	70	<b>E</b>
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	9	A	10	A
			PM	12	B	14	B
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A	43	<b>E</b>
			PM	11	B	97	<b>F</b>



**Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
17. E. Heritage Parkway/Parkland Avenue <sup>3</sup>	Signal	D	AM	9	A	15	B
			PM	8	A	14	B
18. E. Heritage Parkway/County Road 102	Signal	D	AM	9	A	10	B
			PM	10	B	12	B
19. Parkland Avenue/Marston Drive	RB	D	AM	4	A	6	A
			PM	4	A	6	A
20. CR 25A/East St	AWSC	D	AM	12	B	13	B
			PM	8	A	9	A
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)	80 (>150)	<b>F (F)</b>
			PM	2 (4)	A (A)	55 (>150)	<b>F (F)</b>
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)	126 (>150)	<b>F (F)</b>
			PM	4 (7)	A (A)	83 (>150)	<b>F (F)</b>
23. CR 25A/Road A	SSSC	D	AM	-	-	64 (>150)	<b>F (F)</b>
			PM	-	-	5 (23)	A (C)
24. Road A/Road C	RB	D	AM	-	-	5	A
			PM	-	-	5	A
25. CR 25A/Road B	Signal	D	AM	-	-	>150	<b>F</b>
			PM	-	-	54	D
26. Road B/Road C	Signal	D	AM	-	-	26	C
			PM	-	-	23	C
27. CR 102/CR 25A	SSSC	D	AM	-	-	N/A	N/A
			PM	-	-	N/A	N/A
28. Road B/Marston Drive	Signal	D	AM	-	-	21	C
			PM	-	-	20	C
29. Road B/Road E	Signal	D	AM	-	-	26	C
			PM	-	-	22	C
30. Road B/Road F/Parkland Avenue	Signal	D	AM	-	-	35	C
			PM	-	-	27	C
31. Harry Lorenzo Ave/Farmer's Central Rd	RB	D	AM	-	-	6	A



**Table 8: Peak Hour Intersection LOS – Existing plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project	
				Delay	LOS	Delay	LOS
32. CR 25A/Road D	RB	D	PM	-	-	5	A
			AM	-	-	7	A
			PM	-	-	6	A
33. Road D/Road C	SSSC	D	AM	-	-	3 (13)	A (B)
			PM	-	-	4 (15)	A (B)
34. Road D/Marston Drive	RB	D	AM	-	-	6	A
			PM	-	-	6	A
35. Parkland Ave/Harry Lorenzo Ave	Signal	D	AM	-	-	14	B
			PM	-	-	13	B
36. Parkland Ave/Pioneer Ave	Signal	D	AM	-	-	13	B
			PM	-	-	13	B

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

**Bold** indicates that intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2020.



## 8.3.2 Existing Plus Approved Plus Project Traffic Conditions

This discussion presents LOS conditions on the surrounding transportation system under Existing plus Approved Project conditions. Existing plus Approved plus Project conditions are defined as Existing conditions with completion of previously approved development plus net new traffic generated by the project.

Projections of added traffic for Existing plus Approved conditions were based on adding new traffic generated by background projects in the vicinity of the site. This includes build out of the remainder of the Spring Lake Specific Plan, the Hilton Home Suites Hotel on Main Street, and three new projects adjacent to the I-5/CR 102 interchange (i.e., Hoblit Auto Dealership, the Woodland Motors Auto Dealership, and a new 125 room hotel). The locations of these projects are shown on **Figure 9**.

Travel forecasts for both the Existing plus Approved conditions and the Existing plus Approved plus Project conditions were developed using the citywide travel model developed for the General Plan Update. The most significant of the background projects within the City of Woodland is the completion of the Spring Lake community. It is anticipated that it would take approximately ten years for all remaining units to be completed and occupied. The forecasts for these two scenarios also include background land use growth in communities outside the City of Woodland. This was accomplished by adding the increment of growth for communities outside Woodland to the year 2030 based on a straight-line increment of growth as identified in the SACOG MTP/SCS.

The following roadway improvements are included in the Existing plus Approved conditions.

- Build-out of remaining Spring Lake Specific Plan roadway improvements
  - Pioneer Avenue Widening – High School to Parkland Avenue
  - Parkland Avenue Extension – Marston Road to CR 25A
  - Patriot Drive – Harry Lorenzo Avenue to Pioneer Avenue
  - Galvin Way – Harry Lorenzo Avenue to Mickle Avenue
  - Parkland Avenue – Harry Lorenzo Avenue to Pioneer Avenue
  - CR 25A – Harry Lorenzo Avenue to CR 102
  - Mickle Avenue – Marston Road to CR 25A

- Promenade – Marston Road to CR 25A
- Banks Drive – Parkland Avenue to Promenade
- Traffic Signal at intersection of Pioneer Avenue/Farmers Central Road
- Roundabout at intersection of CR 25A/Parkland Avenue
- Kentucky Avenue Widening Project – College Street to East Street

In addition to build-out of the project land use, the Existing plus Approved plus Project conditions also include roadway and traffic control improvements that would be constructed by the project within the project site and at its gateway intersections. This includes Road A, Road B, Road D, and an extension of Marston Road as well as other internal streets. The roadway improvements described above for Existing plus Approved conditions are also assumed for Existing plus Approved plus Project conditions.

### 8.3.2.1 Existing Plus Approved Plus Project Road Segment Operations

Under Existing plus Approved plus Project conditions, all 10 study road segments are in place and evaluated. **Table 9** shows weekday PM peak hour LOS for those ten road segments. All the road segments in the study area have a threshold of LOS D. The capacity and PM peak hour values shown in the table below are vehicles per hour in both directions. The following is a summary of those results.

- The two-lane segment of CR 25A, between the SR 113 NB Ramps and Road A, would operate at LOS F conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- The two-lane segment of CR 25A, between Road A and Road B, would operate at LOS E conditions, which does not meet the General Plan Vehicle LOS standard. The project applicant has indicated that they will widen CR 25A to four lanes as a project cost, when triggered, which would provide acceptable LOS conditions.
- The eight remaining road segments would operate at LOS D or better conditions

**Table 9: Existing plus Approved plus Project Road Segment LOS - PM Peak Hour**

Roadway	Segment	Classification	Lanes	Capacity	Existing plus Approved		Existing plus Approved plus Project	
					Volume	LOS	Volume	LOS
CR 25A	East St to SR 113 SB Ramps	Minor Arterial	2	2,170	780	C	1,160	D
CR 25A	SR 113 NB Ramps to Road A	Minor Arterial	2	2,170	610	C	2,310	<b>F</b>
CR 25A	Road A to Road B	Minor Arterial	2	2,170	610	C	2,110	<b>E</b>
CR 25A	Road B to Road D	Minor Arterial	2	2,170	610	C	890	C
CR 25A	Road D to CR 102	Minor Arterial	2	2,170	300	C	900	C
Road B	CR 25A to Road C	Minor Arterial	4	4,450	-	-	1,360	C
Road B	Road E to Parkland Ave	Minor Arterial	4	4,450	-	-	980	C
Pioneer Ave	Gibson Rd to Farmer's Central Rd	Minor Arterial	4	4,450	1,840	C	2,590	D
Heritage Pkwy	Campos Ave to CR 102	Principal Arterial	2	2,320	500	C	490	C
Harry Lorenzo Ave	Gibson Rd to Farmer's Central Rd	Collector	2	1,110	200	B	290	B

**Bold** indicates that road segment would not meet General Plan LOS goals.  
 Source: Fehr & Peers, 2020.

### 8.3.2.2 Existing Plus Approved Plus Project Intersection Operations

**Figure 10** shows peak hour volumes for Existing plus Approved conditions. **Figure 11** shows peak hour volumes for Existing plus Approved plus Project conditions. Table 10 provides a summary of LOS results for Existing plus Approved plus Project conditions, compared with Existing plus Approved conditions results. The following is a summary of intersection conditions.

- 28 of 37 intersections operate at acceptable LOS during the AM peak hour
- 29 of 37 intersections operate at acceptable LOS during the PM peak hour
- Twelve intersections do not meet General Plan Vehicle LOS standards under Existing plus Approved plus Project conditions during one or both peak hours. At ten of the twelve intersections, the General Plan Vehicle LOS standards would also not be met under Existing plus Approved conditions.

The locations where the General Plan Vehicle LOS standards would not be met for Existing plus Approved plus Project conditions are described below.

**Road Segments:**

1. CR 25A from SR 113 NB Ramps to Road A (PM peak hour)
2. CR 25A from Road A to Road B (PM peak hour)

**Intersections:**

3. East Main Street/SR 113 SB Ramps (PM peak hour)
4. East Main Street/SR 113 NB Ramps (PM peak hour)
5. East Main Street/Pioneer Avenue/I-5 SB On-ramp (AM peak hour)
6. East Main Street/I-5 NB Off-ramp (AM and PM peak hours)
7. East Gibson Road/Matmor Road (AM peak hour)
8. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive (AM peak hour)
9. East Gibson Road/Pioneer Avenue (AM peak hour)
10. East Gibson Road/County Road 102 (PM peak hour)
11. CR 25A/SR 113 SB Ramps (AM and PM peak hours)
12. CR 25A/SR 113 NB Ramps (AM and PM peak hours)
13. CR 25A/Road A (AM peak hour)
14. CR 25A/Road B (AM and PM peak hours)
15. CR 25A/CR 102 (PM peak hour)

### **8.3.2.3 Existing Plus Approved Plus Project Peak Hour Signal Warrants**

The MUTCD contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of nine warrants, was evaluated for unsignalized intersections under Existing plus Approved plus Project conditions. The results of the peak hour signal warrant assessment for the stop-controlled study intersections are summarized as follows. Evaluation of the full set of traffic signal warrants, based on existing conditions at the time an intersection improvement is triggered, should be performed prior to requiring implementation of a traffic signal.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive– met during AM peak hour
- Farmer’s Central Road/Parkland Avenue – met during both peak hours
- CR 25A/East Street – met during both peak hours



- CR 25A/SR 113 SB Ramps – met during both peak hours
- CR 25A/SR 113 NB Ramps – met during both peak hours
- CR 25A/Road A – met during both peak hours
- CR 102/CR 25A – met during both peak hours
- Pioneer Avenue/Parkland Avenue – met during both peak hours



**Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
1. East Street/E. Main Street	Signal	D	AM	17	B	17	B
			PM	20	C	21	C
2. E. Main Street/SR 113 SB Ramps-Industrial Way	Signal	E	AM	47	D	47	D
			PM	92	<b>F</b>	98	<b>F</b>
3. E. Main Street/SR 113 NB Ramps	Signal	E	AM	42	D	60	E
			PM	142	<b>F</b>	>150	<b>F</b>
4. E. Main Street/Pioneer Avenue/I-5 SB On-Ramp	Signal	E	AM	80	<b>F</b>	102	<b>F</b>
			PM	69	E	78	E
5. E. Main Street/I-5 NB Off-Ramp	Signal	E	AM	>150	<b>F</b>	>150	<b>F</b>
			PM	92	<b>F</b>	>150	<b>F</b>
6. County Road 102-Hays Lane/I-5 NB Ramps	Signal	E	AM	18	B	23	C
			PM	26	C	29	C
7. County Road 102/I-5 SB Ramps	Signal	E	AM	6	A	7	A
			PM	8	A	9	A
8. East Street/Gibson Road	Signal	D	AM	23	C	23	C
			PM	26	C	27	C
9. E. Gibson Road/Matmor Road	Signal	D	AM	49	D	83	<b>F</b>
			PM	29	C	32	C
10. E. Gibson Road/SR 113 SB Ramps	Signal	E	AM	11	B	12	B
			PM	12	B	12	B
11. E. Gibson Road/SR 113 NB Ramps	Signal	E	AM	11	B	12	B
			PM	18	B	21	C
12. E. Gibson Road/Harry Lorenzo Avenue-Bourn Drive	SSSC	D	AM	12 (70)	<b>B (F)</b>	13 (65)	<b>B (F)</b>
			PM	14 (19)	B (C)	15 (20)	B (C)
13. E. Gibson Road/Pioneer Avenue	Signal	D	AM	61	<b>E</b>	71	<b>E</b>
			PM	46	D	53	D
14. E. Gibson Road-County Road 24/County Road 102 <sup>3</sup>	Signal	D	AM	24	C	26	C
			PM	69	<b>E</b>	93	<b>F</b>
15. East Street/County Road 24A-Sports Park Drive	Signal	D	AM	10	B	10	A
			PM	14	B	14	B

**Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	Signal	D	AM	8	A	17	B
			PM	7	A	53	D
17. E. Heritage Parkway/Parkland Avenue <sup>3</sup>	Signal	D	AM	17	B	19	B
			PM	17	B	18	B
18. E. Heritage Parkway/County Road 102	Signal	D	AM	9	A	10	A
			PM	12	B	12	B
19. Parkland Avenue/Marston Drive	RB	D	AM	10	B	11	B
			PM	8	A	9	A
20. CR 25A/East St	AWSC	D	AM	13	B	16	C
			PM	13	B	12	B
21. CR 25A/SR 113 SB Ramps	SSSC	E	AM	89 (>150)	<b>F (F)</b>	78 (>150)	<b>F (F)</b>
			PM	4 (11)	A (B)	42 (>150)	<b>E (F)</b>
22. CR 25A/SR 113 NB Ramps	SSSC	E	AM	>150 (>150)	<b>F (F)</b>	126 (>150)	<b>F (F)</b>
			PM	19 (30)	C (D)	79 (>150)	<b>F (F)</b>
23. CR 25A/Road A	SSSC	D	AM	-	-	74 (>150)	<b>F (F)</b>
			PM	-	-	5 (21)	A (C)
24. Road A/Road C	RB	D	AM	-	-	5	A
			PM	-	-	5	A
25. CR 25A/Road B	Signal	D	AM	-	-	>150	<b>F</b>
			PM	-	-	61	<b>E</b>
26. Road B/Road C	Signal	D	AM	-	-	24	C
			PM	-	-	24	C
27. CR 102/CR 25A	SSSC	D	AM	6 (22)	A (C)	8 (31)	A (D)
			PM	3 (38)	A (E)	5 (63)	A (F)
28. Road B/Marston Drive	Signal	D	AM	-	-	21	C
			PM	-	-	20	C
29. Road B/Road E	Signal	D	AM	-	-	26	C
			PM	-	-	22	C

**Table 10: Peak Hour Intersection LOS – Existing plus Approved plus Project Conditions**

Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project	
				Delay	LOS	Delay	LOS
30. Road B/Road F/Parkland Avenue	Signal	D	AM	-	-	33	C
			PM	-	-	29	C
31. Harry Lorenzo Ave/Farmer’s Central Rd	RB	D	AM	-	-	4	A
			PM	-	-	4	A
32. CR 25A/Road D	RB	D	AM	-	-	13	B
			PM	-	-	10	B
33. Road D/Road C	SSSC	D	AM	-	-	4 (11)	A (B)
			PM	-	-	5 (12)	A (B)
34. Road D/Marston Drive	RB	D	AM	-	-	5	A
			PM	-	-	5	A
35. Parkland Ave/Harry Lorenzo Ave	Signal	D	AM	-	-	9	A
			PM	-	-	8	A
36. Parkland Ave/Pioneer Ave	Signal	D	AM	10	A	20	C
			PM	10	A	21	C
37. CR 25A/Parkland Ave	RB	D	AM	9	A	10	B
			PM	7	A	10	A

Notes:

RB=roundabout. AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

**Bold** indicates that intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

Source: Fehr & Peers, 2020.



## 8.5 Roadway System Improvement Projects

### 8.5.1 Description of Improvement Projects

This section provides a description of road system improvement requirements designed to meet the General Plan Goals and Policies in the Transportation and Circulation Element. This includes Goal 3.A (Multimodal Transportation System) and Goal 3.B (Complete Streets). Goal 3.A includes the vehicle LOS standard, and many of the following improvements are designed to achieve LOS standards at intersections based on forecasts of land use growth. Goal 3.B calls for providing complete streets that can accommodate driving, walking, bicycling, and public transit and that are designed to enable safe, attractive, and comfortable access and travel for users of all ages and abilities.

The General Plan Transportation and Circulation Element prioritizes VMT reduction over LOS goals. Where conflicts exist, VMT reduction is given priority in determining whether additional roadway widening is desirable to achieve LOS goals. Examples include the eastern portions of segments of East Main Street and East Gibson Road, from Matmor Road to CR 102, where LOS conditions would exceed LOS standards in the future. For East Main Street, congestion levels east of Matmor Road are largely a function of freeway traffic that uses East Main Street to either gain access or connect between I-5 and State Route 113. As described in more detail in the following section, the I-5/SR 113 Connector Phase 2 project that would result in significantly improved conditions at the intersection is programmed for completion by 2035. Widening East Main Street or intersections along the segment, in advance of the construction of the connector, could reduce congestion levels with a significant corridor investment but would result in increased VMT and a wider roadway that would not be needed after the connector is in place. Conditions along East Gibson Road are also projected to exceed LOS standards in the future. Widening East Gibson Road from four to six lanes would be inconsistent with General Plan policies including VMT reduction goals and, as such, is not recommended in the following section.

#### **FOCUSED TRAFFIC STUDY REQUIREMENT TO VERIFY TIMING FOR IMPROVEMENTS:**

Due to the project scale and its extended buildout, and the uncertainty over the timing of each project phase, the establishment of an ongoing management and monitoring program is the best way to establish the need for implementation of individual improvement measures. The following measure will require the project applicant to conduct focused traffic studies with each phase of development, submit the study to the City and, if General Plan LOS standards would not be met, the project applicant or the City shall construct the required improvements.

**Conduct Focused Traffic Studies with Each Development Phase as Determined by City of Woodland.** In conjunction with the submittal of development plans for individual project phase

(as determined by City of Woodland), the project applicant shall submit a focused traffic study to determine if any of the identified intersection, roadway, interchange, and/or external roadway improvements are required to maintain General Plan LOS goals. The focused traffic study shall address the impact of adding the individual phase of development to existing plus other approved/pending development projects. The traffic study shall use the current version of the citywide travel model or other model, and current traffic operations analysis methodology, as designated by City staff at the time of the study. If operations do not meet General Plan LOS goals, the project applicant shall construct any triggered improvements if they are a project cost, construct any triggered improvements if they are a fair share responsibility of the project and get reimbursed at a later date, or pay its fair share if implementation of improvements are the responsibility of another project prior to the issuance of the first certificate of occupancy for the first building in that phase.

### **ROAD SEGMENT IMPROVEMENT PROJECTS:**

- 1. Road B Road Segment Improvements – from Marston Drive to Road E.** The Land Use Plan Layout map that shows the proposed roadway network for the project identifies traffic signal control at the intersections of Road B/Marston Drive and Road B/Road E, intersections that frame two corners of the 10 plus acre park on the east side of Road B. The segment of Road B between these two signalized intersections would be approximately 0.34 miles, or 1,800 feet, in length. The Land Use Plan Layout also includes notes indicating that mid-block pedestrian crossings would be provided along this segment for pedestrians crossing between the business park uses on the west side of Road B to the park and residential uses on the east side of Road B. While not shown at a specific location on the Land Use Plan Layout map, it is anticipated that at least one vehicle driveway will be located along this segment given its length. Given the designation of Road B as a minor arterial in the General Plan, and its planned four lane cross-section, only one full-access driveway should be provided along this segment of Road B, and it should be located at approximately the mid-point of the segment and controlled by a traffic signal to be consistent with traffic controls planned at other intersections along Road B between CR 25A and Parkland Avenue. Any mid-block pedestrian crossings installed along Road B in this segment should include enhanced crosswalk markings, appropriate pedestrian refuge areas, appropriate traffic control devices, curb extension (or bulb-out) improvements in the parking zone in advance of the crosswalks to provide adequate visibility, and lighting improvements for pedestrian safety. These improvements would be consistent with the General Plan policy to provide complete streets designed to enable safe, attractive, and comfortable access and travel for users of all ages and abilities.

## **INTERSECTION IMPROVEMENT PROJECTS:**

The following intersection improvements shall include appropriate pedestrian, bicycle, and/or transit improvements to serve users of all ages and abilities consistent with the General Plan complete street policy.

- 2. East Main Street/SR 113 SB Ramps Intersection Improvements.** The I-5/SR 113 Connector Phase 2 project would construct a northbound I-5 to southbound SR 113 freeway to freeway connection. Implementation of this improvement would shift a significant share of the westbound left turn movement at this intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

**Interim Improvement Measure 2A: Signal Timing Modifications – East Main Street from SR 113 SB Ramps to I-5 NB Ramps.** Given that implementation of the Phase 2 connector is not scheduled to occur for 15 years, an interim mitigation measure is identified. Signal timing modifications would be made as needed at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection to reflect changes in traffic volumes with the addition of traffic generated by approved development projects and the project. Signal timing modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

**Interim Improvement Measure 2B: MPFP Project for East Main Street/SR 113 SB Ramps Intersection.** This interim measure would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the approaches to provide an exclusive eastbound right turn or an exclusive northbound right turn lane.

- 3. East Main Street/SR 113 NB Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the westbound through movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

**Interim Improvement Measure 2A** would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection.



Implementation of improvements at three intersections along this segment of East Main Street is included in the MPFP.

- 4. East Main Street/Pioneer Avenue/I-5 SB On-Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the westbound through movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

**Interim Improvement Measure 2A** would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection. Implementation of improvements at this intersection is included in the MPFP. Signal timing modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

**Interim Mitigation Measure 4A** would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the southbound approach to provide an additional southbound exclusive left turn lane and a southbound exclusive right turn lane. In addition to the MPFP improvements, this mitigation measure would restripe the northbound approach as 2 left turn lanes, 1 through lane, and 2 right turn lanes (1 right turn lane to eastbound East Main Street and 1 right turn lane onto the I-5 southbound on-ramp), if the City determines this improvements is triggered and feasible.

- 5. East Main Street/I-5 NB Off-Ramp Intersection Improvements.** As described for intersection improvement #2, the I-5/SR 113 Connector Phase 2 project would construct a freeway to freeway connection that would shift a significant share of the northbound left turn movement at the intersection to the freeway to freeway connector, thus resulting in significantly improved conditions at the intersection. This improvement, which is included in the project list for SACOG's 2020 MTP/SCS, is identified as programmed and scheduled for completion by 2035. As state funding has yet to be formally programmed for full construction of the project, its implementation is not fully certain by 2035.

**Interim Improvement Measure 2A** would make signal timing modifications at all signals along East Main Street from the SR 113 SB ramps intersection to the I-5 NB Ramp intersection. Implementation of improvements at this intersection is included in the MPFP. Signal timing



modifications to these four intersections would need to be implemented by Caltrans, who controls the signal timing and has made recent changes to improve operations.

**Interim Mitigation Measure 5A: MPFP Project for East Main Street/I-5 NB Off-Ramp Intersection.** This interim measure would involve implementation of the MPFP project at this intersection, if the City determines it is triggered and feasible, which would involve widening the northbound off-ramp to provide an exclusive northbound right turn lane.

- 6. East Gibson Road/Harry Lorenzo Avenue-Bourn Drive Intersection Improvements.** The East Gibson Road/Harry Lorenzo Avenue-Bourn Drive intersection shall be modified to provide full access on all approaches and a traffic signal shall be installed. The eastbound and westbound legs of the intersection shall be widened to provide left turn pockets with a 300-foot storage length. The south leg of the intersection shall be widened to provide an exclusive northbound left turn lane and a shared northbound through/right lane. The north leg of the intersection shall be widened to provide an exclusive southbound left turn lane and a shared southbound through/right turn lane. No additional feasible measures are available to further reduce delays at the intersection.

Improvements are also planned at the adjacent intersection of East Gibson Road/SR 113 NB ramps intersection. The interchange improvements include squaring off the northbound off-ramp and providing two northbound right turn lanes. These improvements shall be in place prior to implementing the East Gibson Road/Harry Lorenzo Avenue-Bourn Drive intersection improvements described above.

The traffic signal improvements at East Gibson Road/Harry Lorenzo Avenue-Bourn Drive shall also include emergency vehicle detection as well as interconnect to adjacent traffic signals on East Gibson Road at the NB SR 113 ramps and Pioneer Avenue to allow for green indications for fire department vehicles exiting the future fire station at the northwest corner of the intersection to access East Gibson Road. To clear queues of vehicles and allow fire vehicles to proceed along East Gibson Road without delays, green indications would be provided at traffic signals in the southbound direction for Bourn Drive, the eastbound direction at the East Gibson Road/Pioneer Avenue intersection, and the westbound direction at the East Gibson Road/SR 113 NB Ramp intersection when emergency vehicle detection is activated.

Implementation of this improvement measure would allow all movements at the intersection. Currently, left turn movements are prohibited. As a result, a share of traffic that would use Pioneer Avenue in the future would shift to Harry Lorenzo Avenue and Bourn Drive to use the new signalized intersection.

This project is included in the MPFP. No additional feasible mitigation measures are available at this location. This project would provide access to East Gibson Road from the planned fire station that will be constructed on the northwest corner of the intersection, which is a public benefit.

- 7. East Gibson Road/County Road 102 Intersection Improvements.** The East Gibson Road/County 102 intersection shall be widened on the south leg to provide a second through lane from East Gibson Road to the south a distance of approximately 1,200 feet, followed by a lane reduction transition from two lanes to one lane. The north leg of the intersection shall be restriped to provide two southbound through lanes. The signal timing shall be optimized for this new lane configuration. This project is included in the MPFP.
- 8. Farmers Central Road/Parkland Avenue/Pioneer Avenue Intersection Improvements.** This intersection is currently all-way stop controlled. The installation of a traffic signal was previously identified as the planned ultimate traffic control at this intersection and is fully funded by the Spring Lake Specific Plan development. As such, this project is already fully funded.
- 9. CR 25A/SR 113 SB Ramps Intersection Improvements.** The intersection shall be widened to provide a single lane roundabout, right turn bypass lanes for the southbound (i.e., off-ramp) and eastbound CR 25A approaches, and widening of the on-ramp and off-ramp to two lanes. This project is partially funded by the MPFP and the remaining costs shall be shared between the Woodland Research and Technology Park project and the Spring Lake Specific Plan project.
- 10. CR 25A/SR 113 NB Ramps Intersection Improvements.** The intersection shall be widened to provide a single lane roundabout, right turn bypass lanes for the northbound (i.e., off-ramp) and westbound CR 25A approaches, and widening of the on-ramp and off-ramp to two lanes. This project is partially funded by the MPFP and the remaining costs shall be shared between the Woodland Research and Technology Park project and the Spring Lake Specific Plan project.
- 11. CR 25A/Road B Intersection Improvements.** The CR 25A/Road B intersection shall be widened on the west leg to provide two eastbound left turn lanes and one shared eastbound through/right lane. The north leg of the intersection shall provide one southbound left turn lane, one southbound through only lane, and one southbound right turn lane. The south leg of the intersection shall provide one northbound left turn lane and one northbound through/right lane. The east leg of the intersection shall provide one westbound left turn lane, one westbound through only lane, and one shared westbound through/right lane. This improvement measure is a direct project cost.



**12. CR 25A/CR 102 Intersection Improvements.** A traffic signal shall be installed at the CR 25A/CR 102 intersection. This improvement is currently identified in the CIP for the Master Plan Remainder Area (MPRA) in which the proposed project is located.

## 8.5.3 Existing Plus Project Conditions with Improvements

**Table 11** provides a summary of traffic operations at all study intersections and road segments both without and with the improvement projects described above.

**Table 11: Peak Hour LOS – Existing plus Project Conditions (with Improvements)**

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing		Existing plus Project		Existing plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
CR 25A from SR 113 NB Ramps to Road A	-	D	PM	-	C	-	E	-	C	√
3. E. Main Street/ SR 113 NB Ramps	Signal	E	AM	13	B	35	D	21	C	√
			PM	59	E	148	<b>F</b>	65	E	
5. E. Main Street/ I-5 NB Off-Ramp	Signal	E	AM	55	E	>150	<b>F</b>	47	D	√
			PM	11	B	15	B	15	B	
12. E. Gibson Road/ Harry Lorenzo Avenue- Bourn Drive	SSSC	D	AM	7 (26)	A (D)	13 (48)	B (E)	57	<b>E</b>	No
			PM	9 (11)	A (B)	12 (20)	A (C)	55	<b>E</b>	
14. E. Gibson Road- County Road 24/ County Road 102 <sup>3</sup>	Signal	D	AM	19	B	27	C	25	C	√
			PM	32	C	70	<b>E</b>	39	D	
16. Farmers Central Road/Parkland Avenue-Pioneer Ave	AWSC	D	AM	10	A	43	<b>E</b>	22	C	√
			PM	11	B	97	<b>F</b>	25	C	
21. CR 25A/ SR 113 SB Ramps	SSSC	E	AM	6 (17)	A (C)	80 (>150)	<b>F (F)</b>	6	A	√
			PM	2 (4)	A (A)	55 (>150)	<b>F (F)</b>	6	A	
22. CR 25A/ SR 113 NB Ramps	SSSC	E	AM	2 (6)	A (A)	126 (>150)	<b>F (F)</b>	7	A	√
			PM	4 (7)	A (A)	83 (>150)	<b>F (F)</b>	7	A	
23. CR 25A/Road A	SSSC	D	AM	-	-	64 (>150)	<b>F (F)</b>	3 (12)	A (B)	√
			PM	-	-	5 (23)	A (C)	2 (8)	A (A)	
25. CR 25A/Road B	Signal	D	AM	-	-	>150	<b>F</b>	26	C	√
			PM	-	-	54	D	30	C	

Notes:



AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

**Bold text** indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.
  2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.
  3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.
- Source: Fehr & Peers, 2020.

No additional near-term improvement measures are feasible and/or effective at the following intersection to meet General Plan LOS standards under Existing plus Project conditions.

- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive

## 8.5.5 Existing Plus Approved Plus Project Conditions with Improvements

**Table 12** provides a summary of traffic operations at all study intersections and road segments both without and with the improvement projects described above.

**Table 12: Peak Hour LOS – Existing plus Approved plus Project Conditions (with Improvements)**

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project		Existing plus Approved plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
CR 25A from SR 113 NB Ramps to Road A	-	D	PM	-	C	-	<b>F</b>	-	D	√
CR 25 from Road A to Road B	-	D	PM	-	C	-	<b>E</b>	-	C	√
2. E. Main Street/ SR 113 SB Ramps- Industrial Way	Signal	E	AM	47	D	47	D	42	D	√
			PM	92	<b>F</b>	98	<b>F</b>	68	E	
3. E. Main Street/ SR 113 NB Ramps	Signal	E	AM	42	D	60	E	33	C	No
			PM	142	<b>F</b>	>150	<b>F</b>	>150	<b>F</b>	
4. E. Main Street/ Pioneer Avenue/ I-5 SB On-Ramp	Signal	E	AM	80	<b>F</b>	102	<b>F</b>	85	<b>F</b>	No
			PM	69	E	78	E	61	E	
5. E. Main Street/ I-5 NB Off-Ramp	Signal	E	AM	>150	<b>F</b>	>150	<b>F</b>	>150	<b>F</b>	No
			PM	92	<b>F</b>	>150	<b>F</b>	>150	<b>F</b>	
9. E. Gibson Road/ Matmor Road	Signal	D	AM	49	D	83	<b>F</b>	No feasible measures		No
			PM	29	C	32	C			
12. E. Gibson Road/Harry Lorenzo Avenue/Bourn Drive	SSSC	D	AM	12 (70)	B ( <b>F</b> )	13 (65)	B ( <b>F</b> )	89	<b>F</b>	No
			PM	14 (19)	B (C)	15 (20)	B (C)	54	D	
13. E. Gibson Road/ Pioneer Avenue	Signal	D	AM	61	<b>E</b>	71	<b>E</b>	66	<b>E</b>	No
			PM	46	D	53	D	41	D	
14. E. Gibson Road- County Road 24/ County Road 102 <sup>3</sup>	Signal	D	AM	24	C	26	C	22	C	√
			PM	69	<b>E</b>	93	<b>F</b>	43	D	
21. CR 25A/ SR 113 SB Ramps	SSSC	E	AM	89 (>150)	<b>F (F)</b>	78 (>150)	<b>F (F)</b>	27	D	√

**Table 12: Peak Hour LOS – Existing plus Approved plus Project Conditions (with Improvements)**

Road Segment/ Intersection	Traffic Control	LOS Threshold	Peak Hour	Existing plus Approved		Existing plus Approved plus Project		Existing plus Approved plus Project (with Improvement)		Meets GP LOS Standard
				Delay	LOS	Delay	LOS	Delay	LOS	
			PM	4 (11)	A (B)	42 (>150)	<b>E (F)</b>	8	A	
22. CR 25A/ SR 113 NB Ramps	SSSC	E	AM	>150 (>150)	<b>F (F)</b>	126 (>150)	<b>F (F)</b>	13	B	√
			PM	19 (30)	C (D)	79 (>150)	<b>F (F)</b>	7	A	
23. CR 25A/Road A	SSSC	D	AM	-	-	74 (>150)	<b>F (F)</b>	7 (67)	A (F)	No
			PM	-	-	5 (21)	A (C)	3 (11)	A (B)	
25. CR 25A/Road B	Signal	D	AM	-	-	>150	<b>F</b>	35	C	√
			PM	-	-	61	<b>E</b>	30	C	
27. CR 102/CR 25A	SSSC	D	AM	6 (22)	A (C)	8 (31)	A (D)	10	A	√
			PM	3 (38)	A (E)	5 (63)	A (F)	9	A	

Notes:

AWSC=All-way Stop Control. SSSC = Side-Street Stop Control.

**Bold text** indicates intersection would not meet General Plan LOS goals.

1. For signalized and all-way stop-way stop controlled intersections, the overall average intersection control delay is reported in seconds.

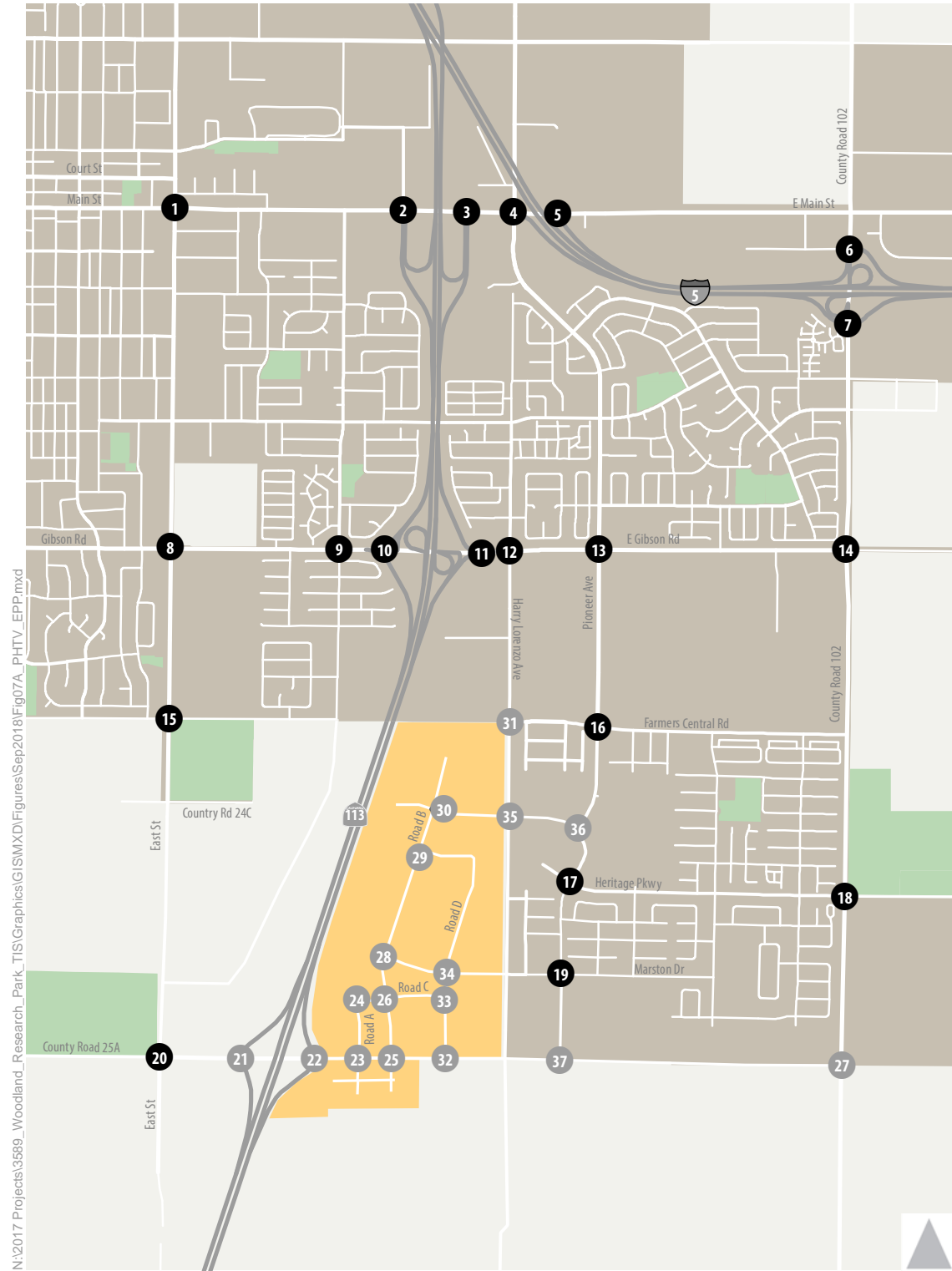
2. For side-street stop controlled intersections, the average control delay and total delay for the worst movement are presented.

3. HCM 2000 methodology is used for the intersection of East Gibson Road/County Road 24/County Road 102 (#14) because of non-NEMA signal timings.

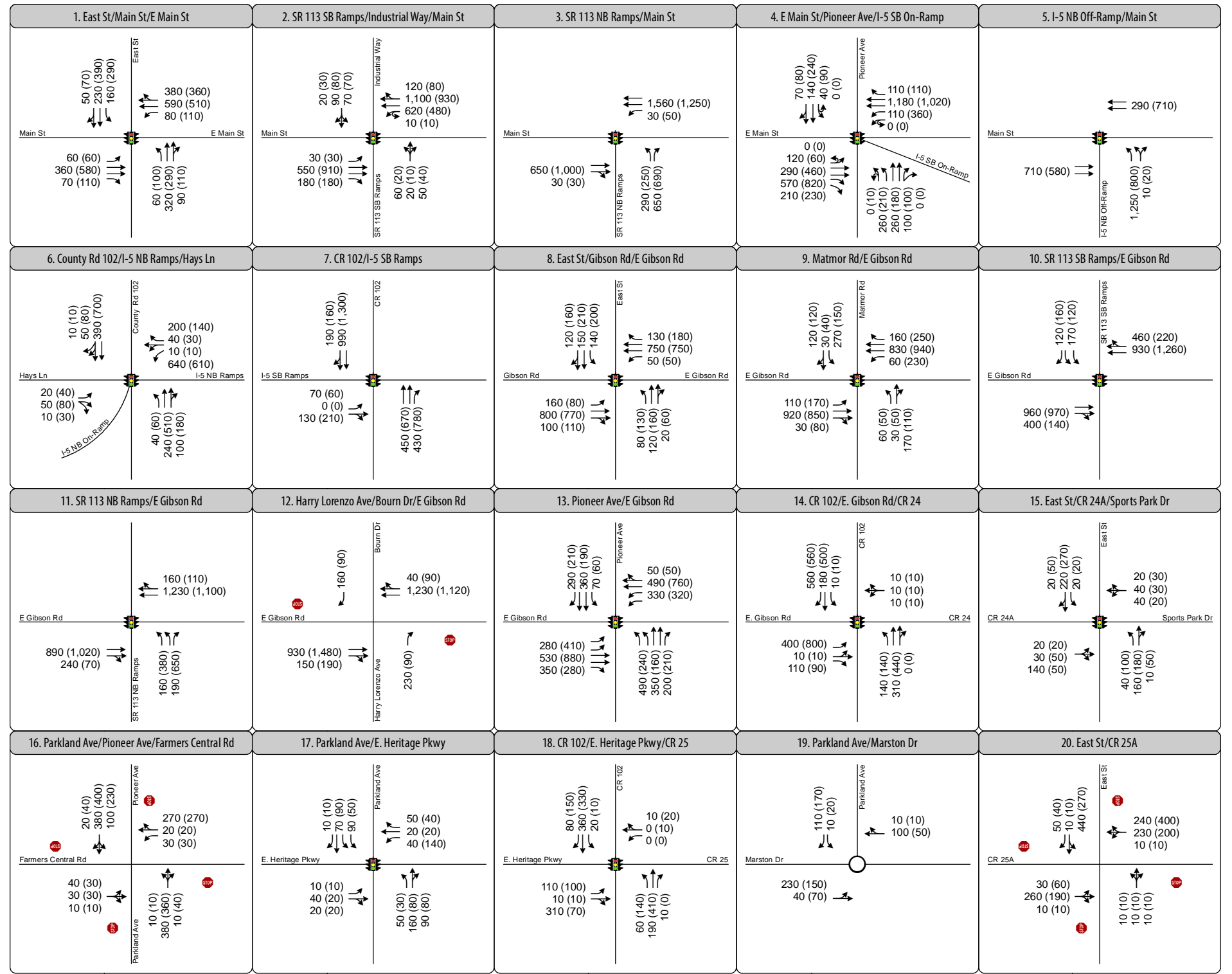
Source: Fehr & Peers, 2020.

No additional near-term improvement measures are feasible and/or effective at the following intersections to meet General Plan LOS standards under Existing plus Approved plus Project conditions.

- East Main Street/SR 113 NB Ramps
- East Main Street/Pioneer Avenue/I-5 SB On-Ramp
- East Main Street/I-5 NB Off-ramp
- East Gibson Road/Matmor Avenue
- East Gibson Road/Harry Lorenzo Avenue-Bourn Drive
- East Gibson Road/Pioneer Avenue
- CR 25A/Road A



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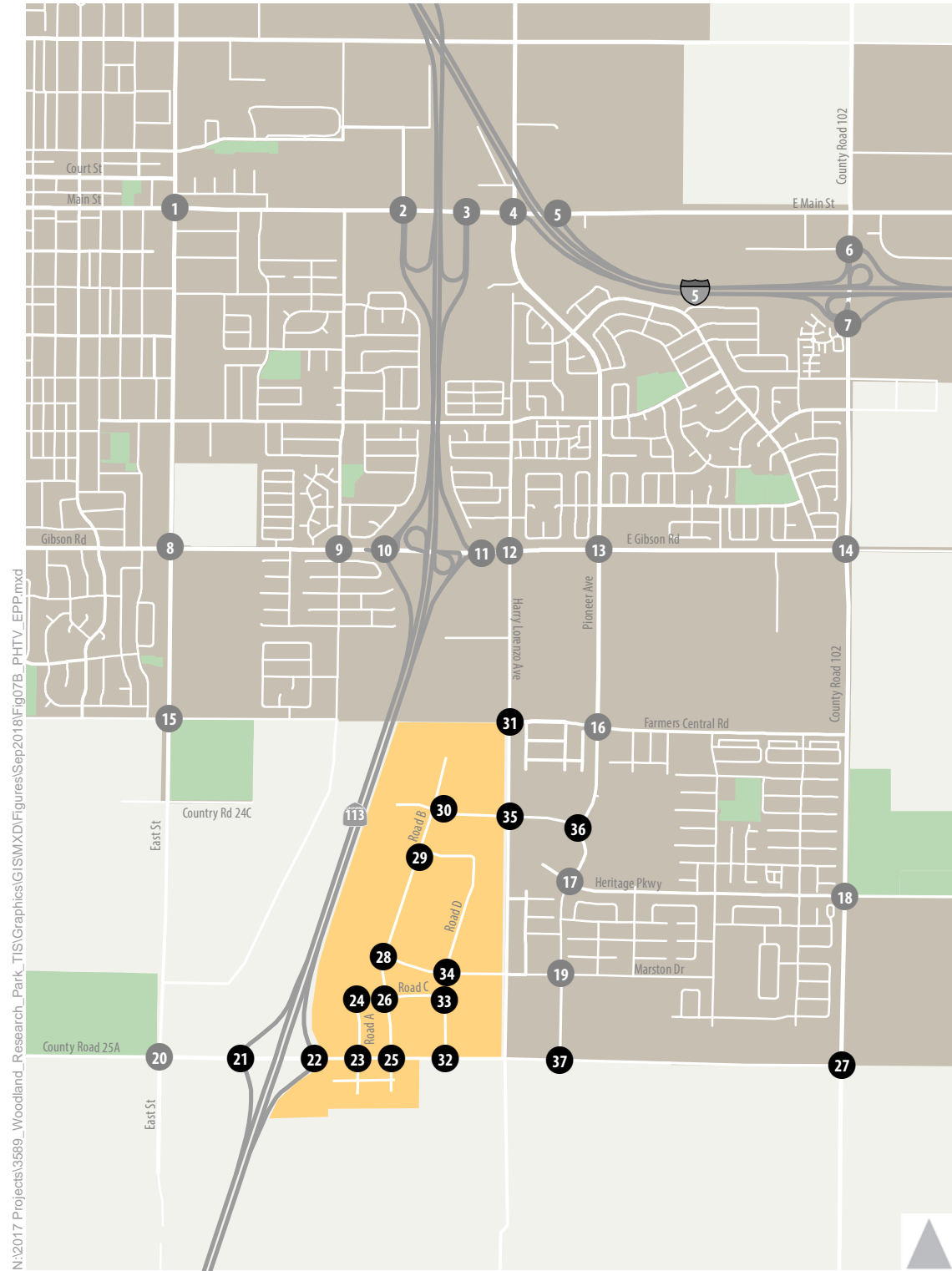
- 1 Study Intersection
- 21 Study Intersection (Shown on Page B)
- Project Location
- City of Woodland City Limits

- Turn Lane
- Traffic Signal
- Roundabout
- Stop Sign
- AM (PM)** Peak Hour Traffic Volume

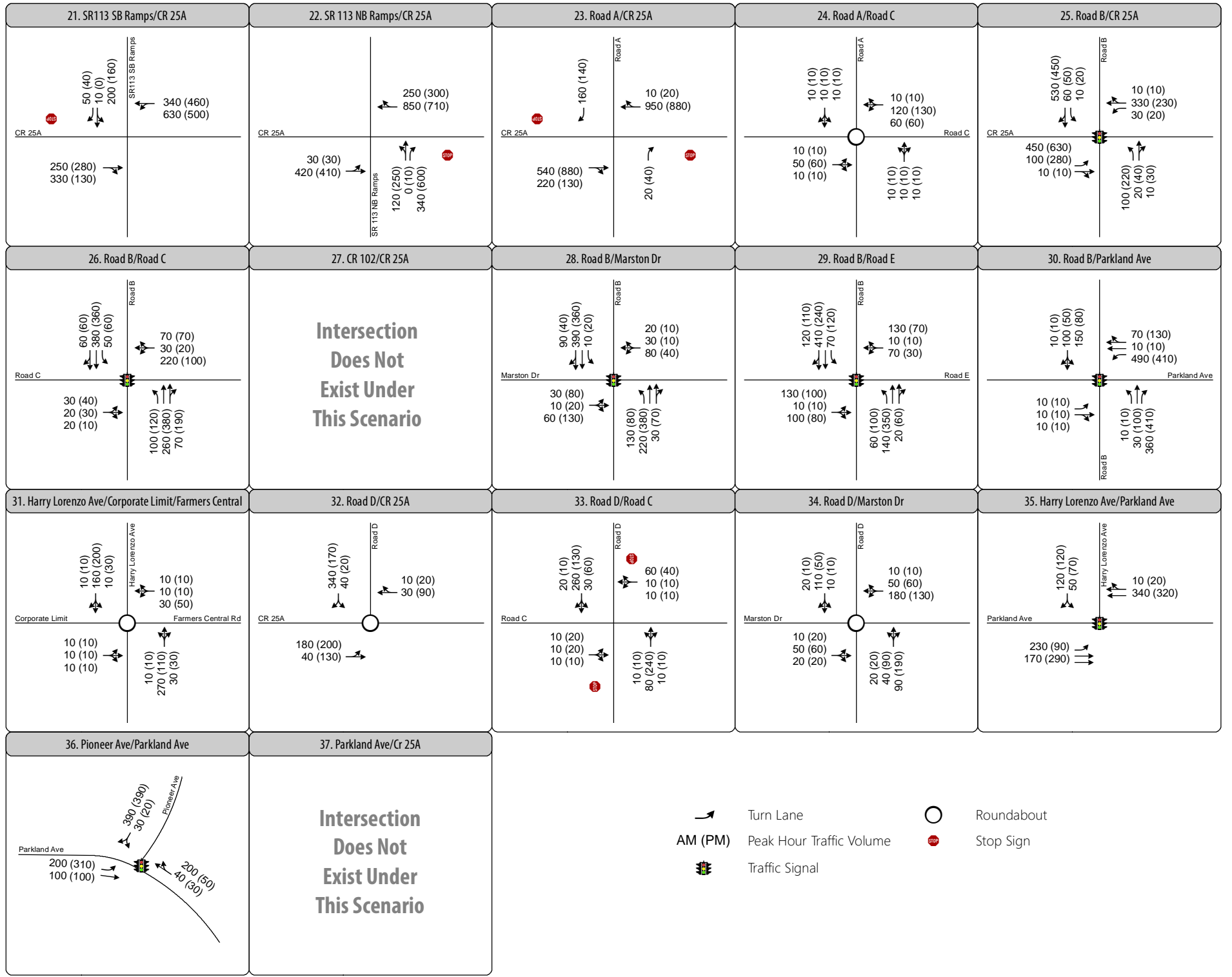
Figure 8A

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions





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- 21** Study Intersection
- 1** Study Intersection (Shown on Page A)
- Project Location
- City of Woodland City Limits



Figure 8B  
Peak Hour Traffic Volumes  
and Lane Configurations -  
Existing Plus Project Conditions

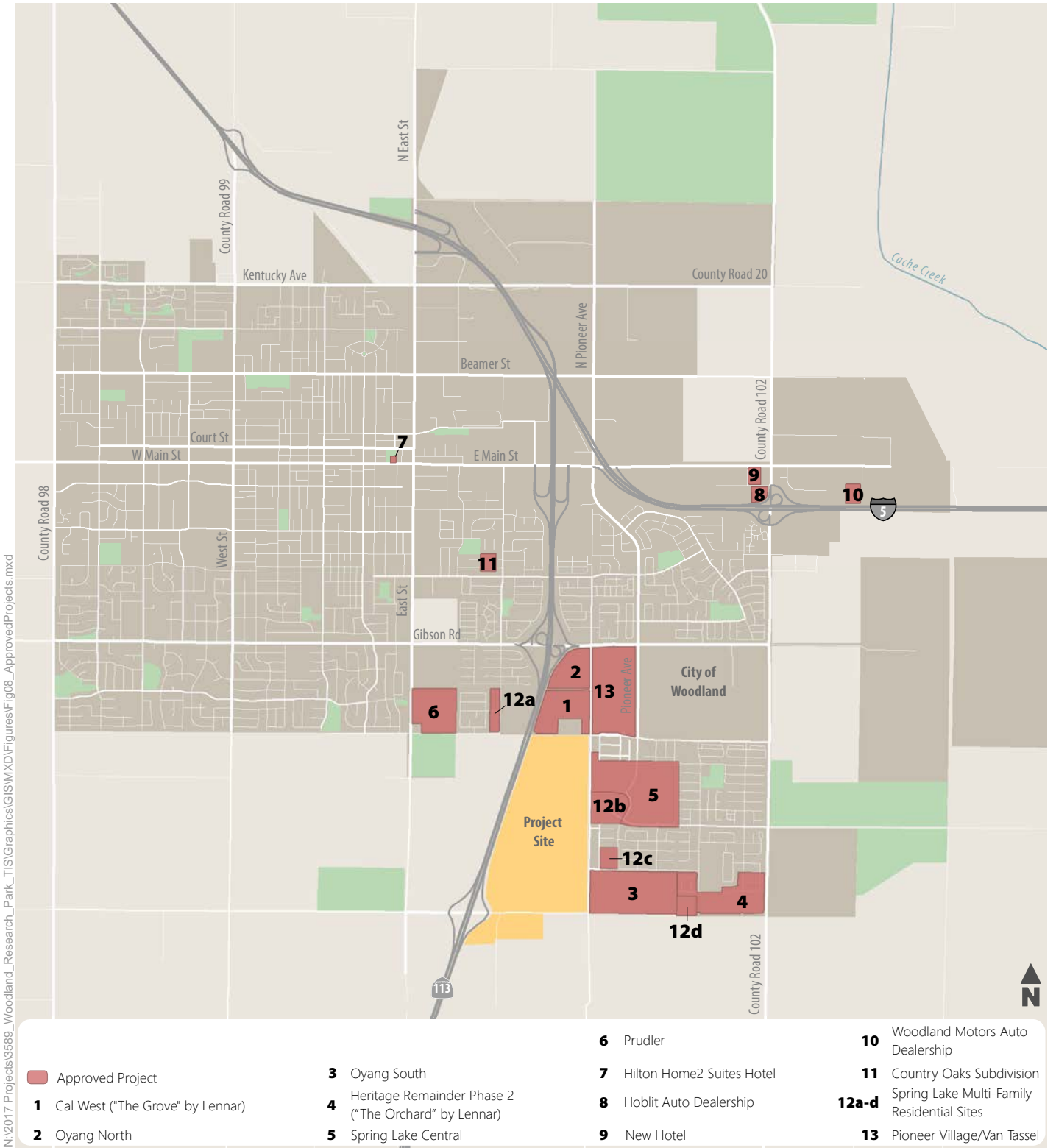


Figure 9  
Approved Projects





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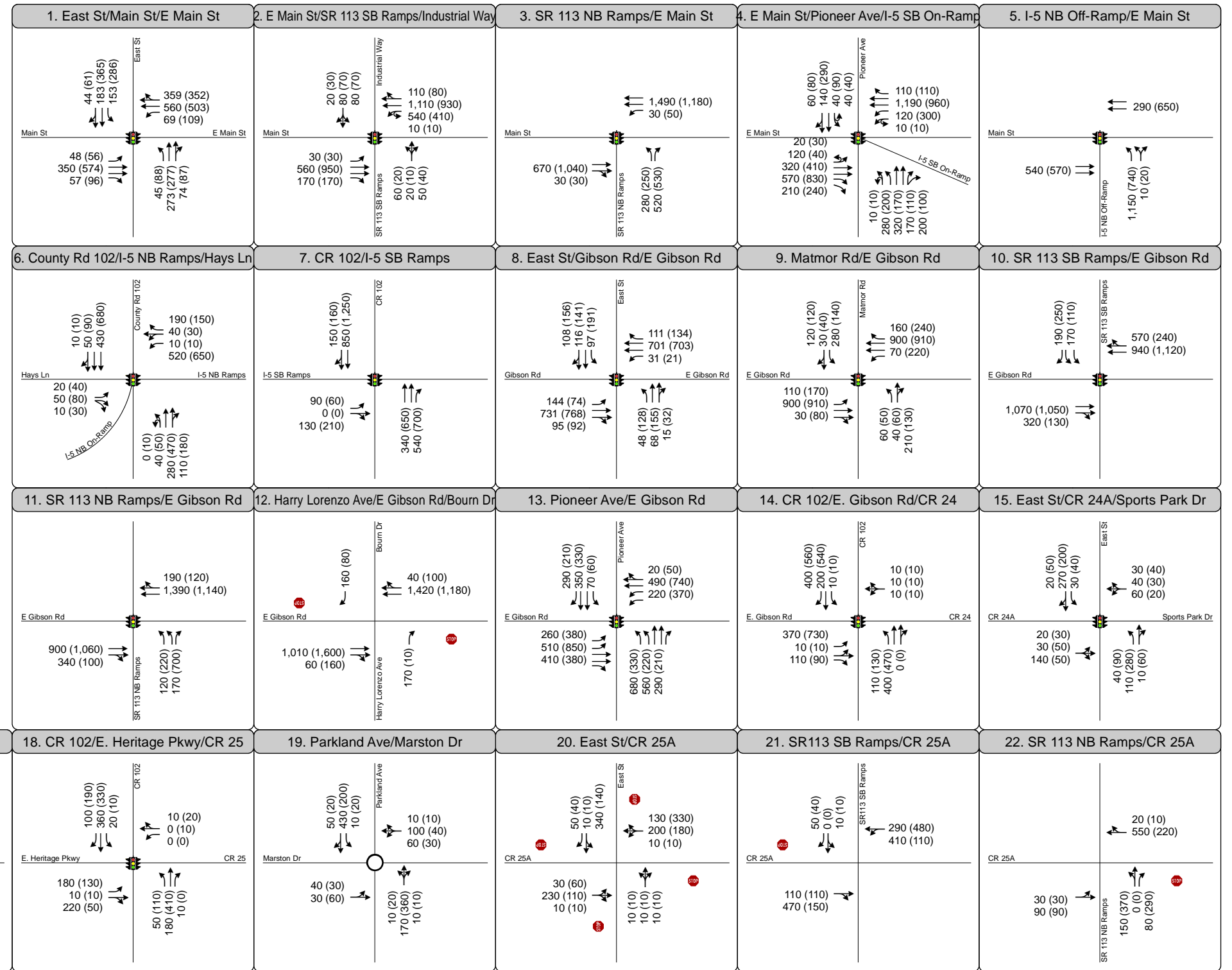
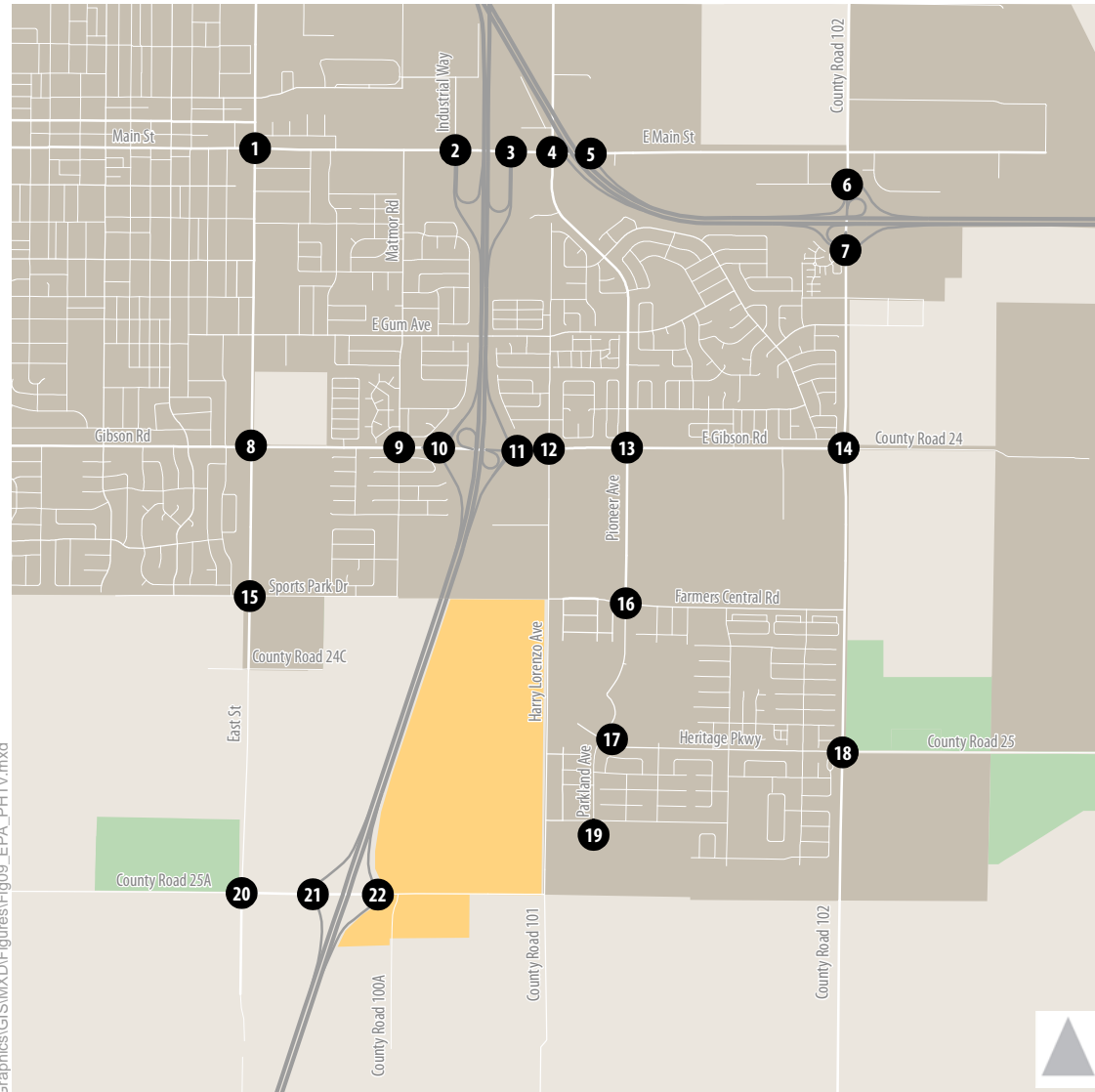
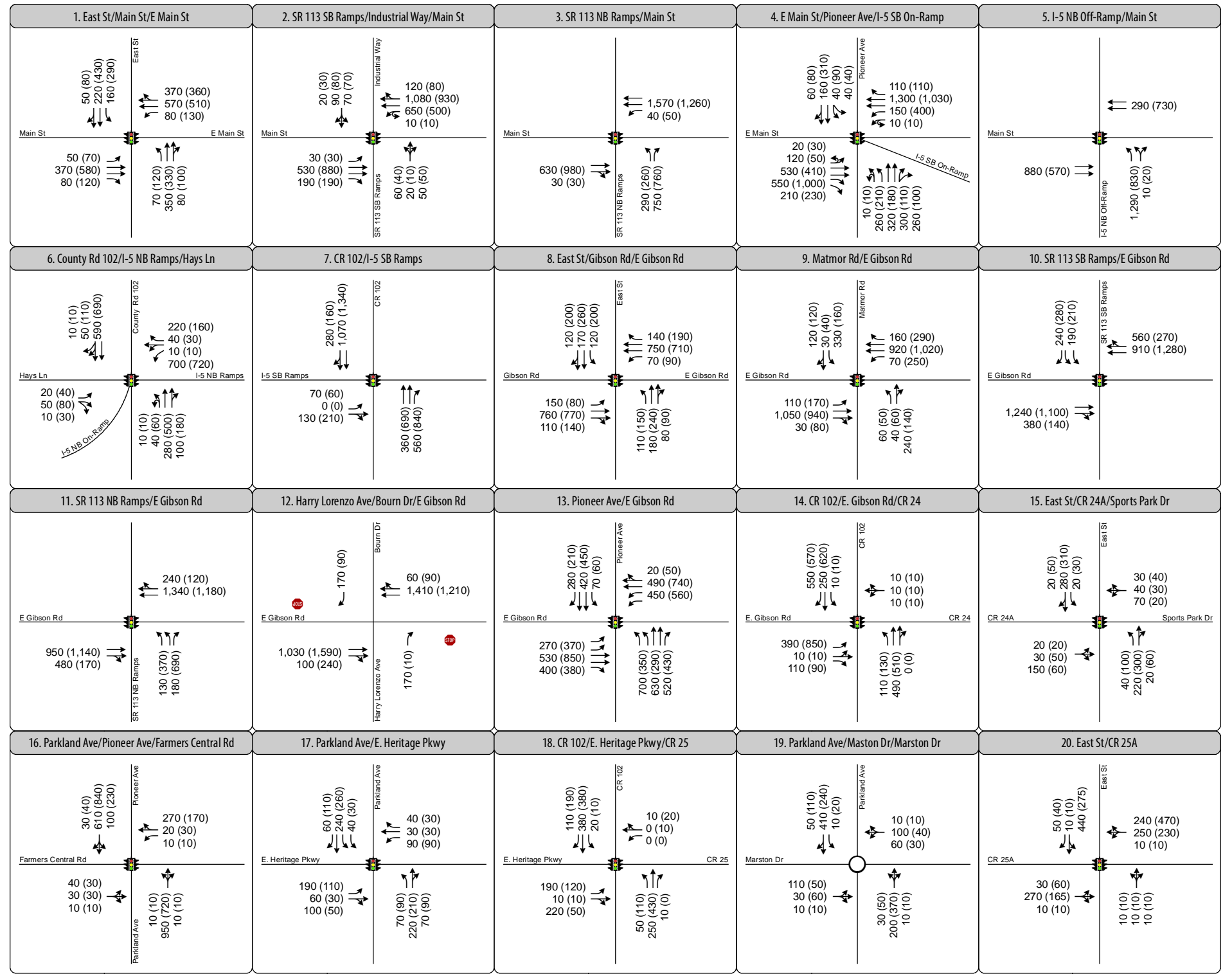
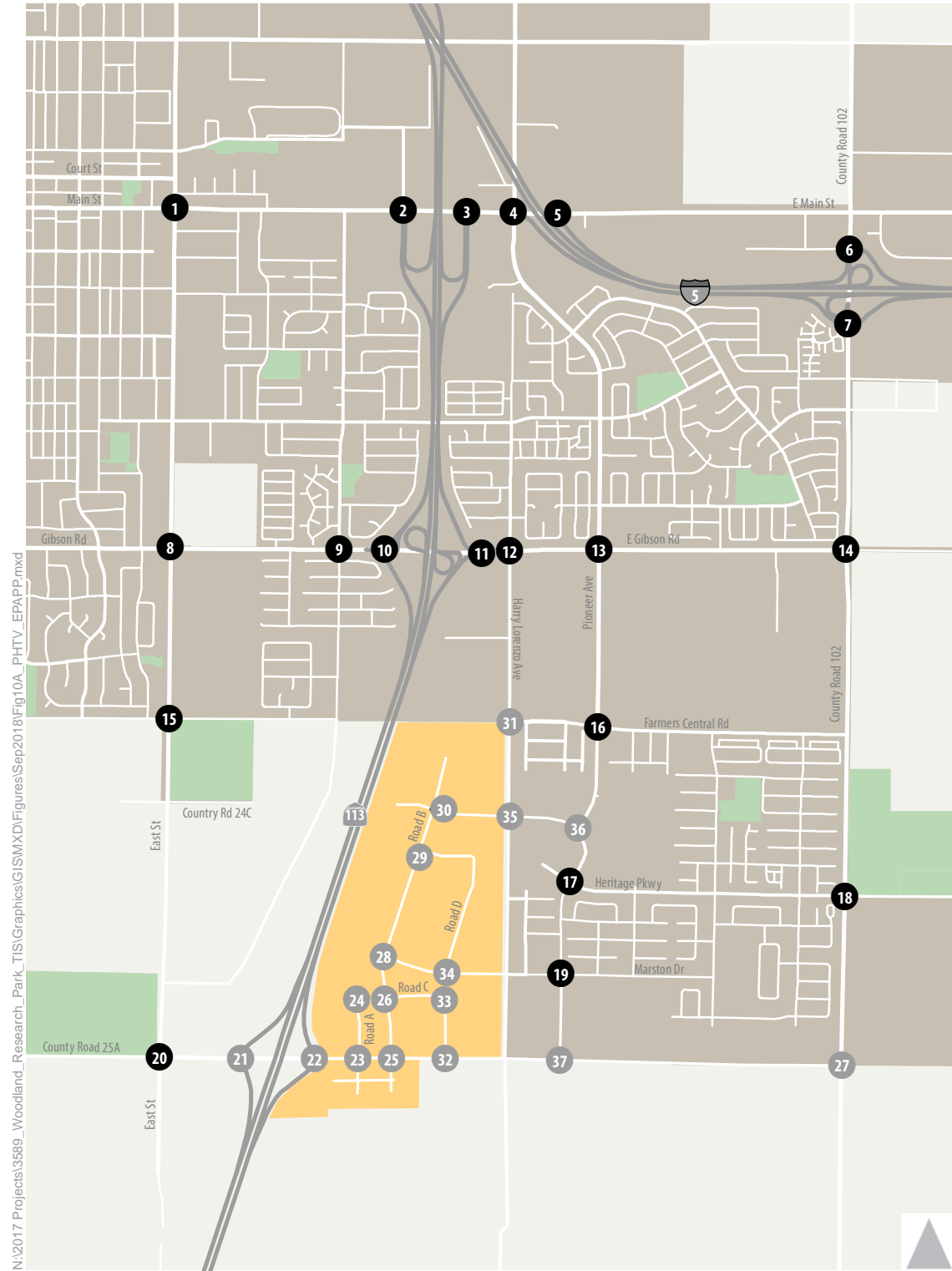


Figure 10

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Approved Conditions





- 1** Study Intersection
- 21** Study Intersection (Shown on Page B)
- Project Location
- City of Woodland City Limits

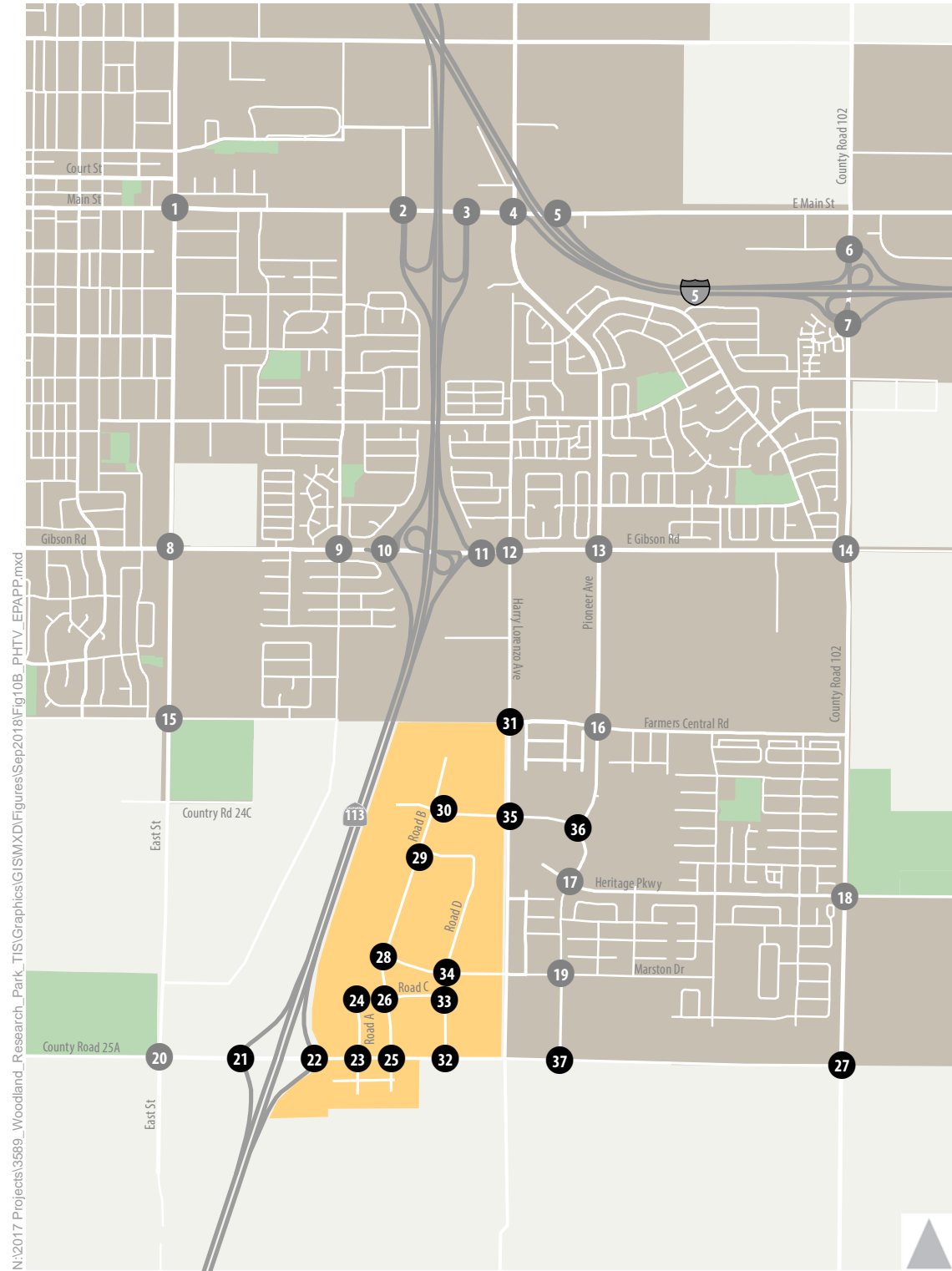
- Turn Lane
- Traffic Signal
- Roundabout
- Stop Sign
- AM (PM)** Peak Hour Traffic Volume

Figure 11A

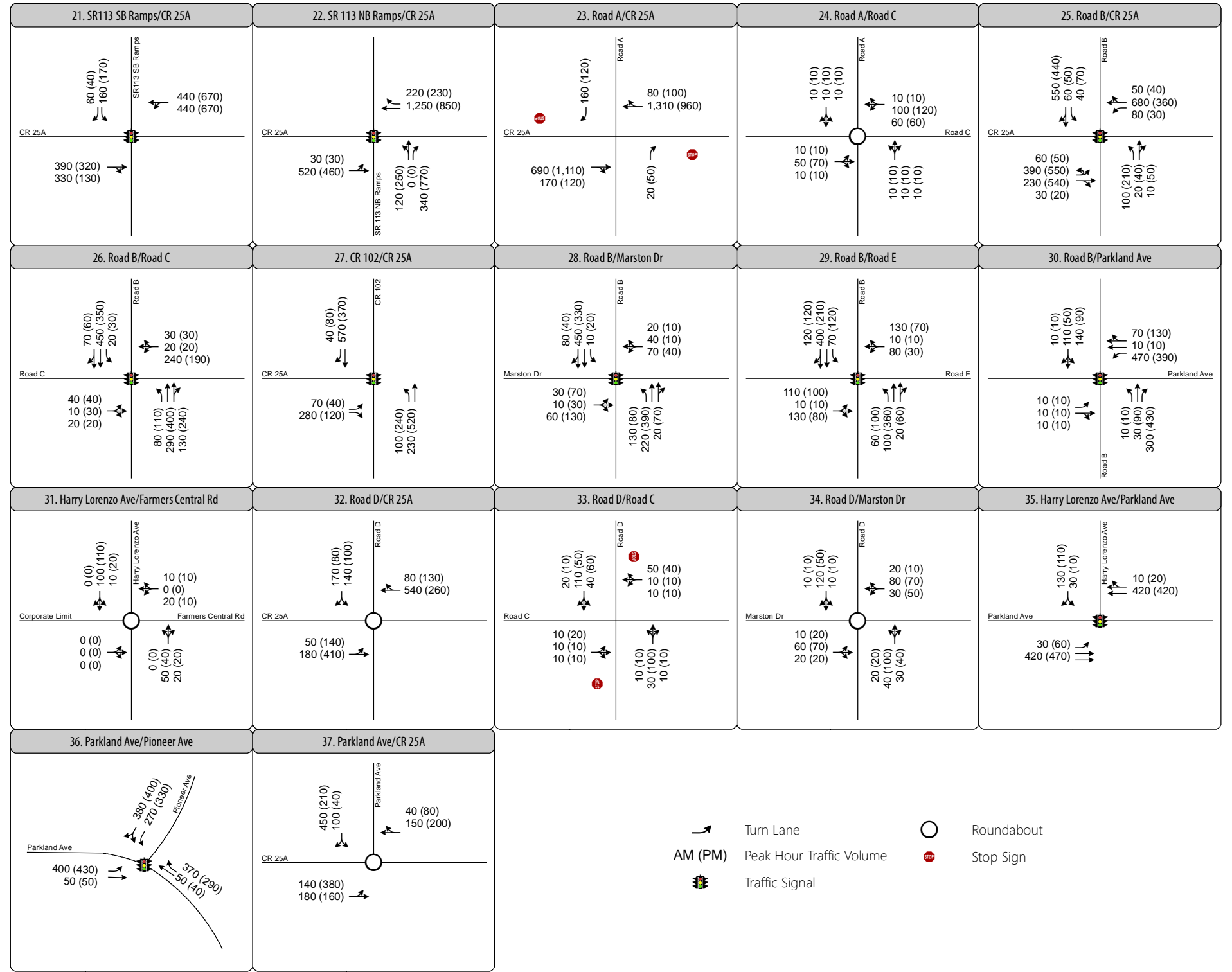
Peak Hour Traffic Volumes  
and Lane Configurations -  
Existing Plus Approved Plus Project Conditions







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- 21 Study Intersection
- 1 Study Intersection (Shown on Page A)
- Project Location
- City of Woodland City Limits



Figure 11B  
Peak Hour Traffic Volumes  
and Lane Configurations -  
Existing Plus Approved Plus Project Conditions

## **APPENDIX A**

### **EXISTING TURN MOVEMENT COUNTS**

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-034

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	48	39	7	0	94	6	68	49	0	123	7	35	24	0	66	12	55	5	0	72	355	0
7:15	33	43	12	0	88	7	76	63	0	146	6	49	18	0	73	6	54	7	0	67	374	0
7:30	21	49	16	0	86	13	97	71	0	181	6	74	22	0	102	6	73	12	0	91	460	0
7:45	22	53	13	0	88	16	161	118	0	295	9	75	11	0	95	11	96	16	0	123	601	0
<b>Total</b>	<b>124</b>	<b>184</b>	<b>48</b>	<b>0</b>	<b>356</b>	<b>42</b>	<b>402</b>	<b>301</b>	<b>0</b>	<b>745</b>	<b>28</b>	<b>233</b>	<b>75</b>	<b>0</b>	<b>336</b>	<b>35</b>	<b>278</b>	<b>40</b>	<b>0</b>	<b>353</b>	<b>1790</b>	<b>0</b>
8:00	33	45	6	0	84	19	130	96	0	245	14	69	28	0	111	10	83	14	0	107	547	0
8:15	34	48	12	0	94	15	126	86	0	227	13	85	16	0	114	19	92	14	0	125	560	0
8:30	64	37	13	0	114	19	143	59	0	221	9	44	19	0	72	8	79	13	0	100	507	0
8:45	53	39	6	0	98	10	161	80	0	251	6	55	22	0	83	12	73	11	0	96	528	0
<b>Total</b>	<b>184</b>	<b>169</b>	<b>37</b>	<b>0</b>	<b>390</b>	<b>63</b>	<b>560</b>	<b>321</b>	<b>0</b>	<b>944</b>	<b>42</b>	<b>253</b>	<b>85</b>	<b>0</b>	<b>380</b>	<b>49</b>	<b>327</b>	<b>52</b>	<b>0</b>	<b>428</b>	<b>2142</b>	<b>0</b>
16:00	69	85	10	0	164	14	133	79	0	226	21	71	38	0	130	13	161	24	0	198	718	0
16:15	63	75	7	0	145	36	157	96	0	289	15	63	26	0	104	15	135	19	0	169	707	0
16:30	73	80	14	0	167	21	118	75	0	214	28	55	22	0	105	15	129	22	0	166	652	0
16:45	69	93	19	0	181	24	110	88	0	222	23	79	24	0	126	14	115	19	0	148	677	0
<b>Total</b>	<b>274</b>	<b>333</b>	<b>50</b>	<b>0</b>	<b>657</b>	<b>95</b>	<b>518</b>	<b>338</b>	<b>0</b>	<b>951</b>	<b>87</b>	<b>268</b>	<b>110</b>	<b>0</b>	<b>465</b>	<b>57</b>	<b>540</b>	<b>84</b>	<b>0</b>	<b>681</b>	<b>2754</b>	<b>0</b>
17:00	81	117	21	0	219	28	118	93	0	239	22	80	15	0	117	12	195	36	0	243	818	0
17:15	70	101	8	0	179	25	113	79	0	217	17	73	18	0	108	8	120	21	0	149	653	0
17:30	73	74	6	0	153	31	118	79	0	228	27	73	18	0	118	7	109	25	0	141	640	0
17:45	75	96	8	0	179	29	113	74	0	216	23	69	15	0	107	14	128	25	0	167	669	0
<b>Total</b>	<b>299</b>	<b>388</b>	<b>43</b>	<b>0</b>	<b>730</b>	<b>113</b>	<b>462</b>	<b>325</b>	<b>0</b>	<b>900</b>	<b>89</b>	<b>295</b>	<b>66</b>	<b>0</b>	<b>450</b>	<b>41</b>	<b>552</b>	<b>107</b>	<b>0</b>	<b>700</b>	<b>2780</b>	<b>0</b>
<b>Grand Total</b>	<b>881</b>	<b>1074</b>	<b>178</b>	<b>0</b>	<b>2133</b>	<b>313</b>	<b>1942</b>	<b>1285</b>	<b>0</b>	<b>3540</b>	<b>246</b>	<b>1049</b>	<b>336</b>	<b>0</b>	<b>1631</b>	<b>182</b>	<b>1697</b>	<b>283</b>	<b>0</b>	<b>2162</b>	<b>9466</b>	<b>0</b>
Apprch %	41.3%	50.4%	8.3%	0.0%		8.8%	54.9%	36.3%	0.0%		15.1%	64.3%	20.6%	0.0%		8.4%	78.5%	13.1%	0.0%			
Total %	9.3%	11.3%	1.9%	0.0%	22.5%	3.3%	20.5%	13.6%	0.0%	37.4%	2.6%	11.1%	3.5%	0.0%	17.2%	1.9%	17.9%	3.0%	0.0%	22.8%	100.0%	

AM PEAK HOUR	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	22	53	13	0	88	16	161	118	0	295	9	75	11	0	95	11	96	16	0	123	601
8:00	33	45	6	0	84	19	130	96	0	245	14	69	28	0	111	10	83	14	0	107	547
8:15	34	48	12	0	94	15	126	86	0	227	13	85	16	0	114	19	92	14	0	125	560
8:30	64	37	13	0	114	19	143	59	0	221	9	44	19	0	72	8	79	13	0	100	507
Total Volume	153	183	44	0	380	69	560	359	0	988	45	273	74	0	392	48	350	57	0	455	2215
% App Total	40.3%	48.2%	11.6%	0.0%		7.0%	56.7%	36.3%	0.0%		11.5%	69.6%	18.9%	0.0%		10.5%	76.9%	12.5%	0.0%		
PHF	.598	.863	.846	.000	.833	.908	.870	.761	.000	.837	.804	.803	.661	.000	.860	.632	.911	.891	.000	.910	.921

PM PEAK HOUR	East St Southbound					Main St Westbound					East St Northbound					Main St Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	63	75	7	0	145	36	157	96	0	289	15	63	26	0	104	15	135	19	0	169	707
16:30	73	80	14	0	167	21	118	75	0	214	28	55	22	0	105	15	129	22	0	166	652
16:45	69	93	19	0	181	24	110	88	0	222	23	79	24	0	126	14	115	19	0	148	677
17:00	81	117	21	0	219	28	118	93	0	239	22	80	15	0	117	12	195	36	0	243	818
Total Volume	286	365	61	0	712	109	503	352	0	964	88	277	87	0	452	56	574	96	0	726	2854
% App Total	40.2%	51.3%	8.6%	0.0%		11.3%	52.2%	36.5%	0.0%		19.5%	61.3%	19.2%	0.0%		7.7%	79.1%	13.2%	0.0%		
PHF	.883	.780	.726	.000	.813	.757	.801	.917	.000	.834	.786	.866	.837	.000	.897	.933	.736	.667	.000	.747	.872

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-038

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	27	12	14	0	53	74	134	30	0	238	7	3	10	0	20	3	122	28	0	153	464	0
7:15	33	25	10	0	68	81	161	18	0	260	2	2	5	0	9	7	126	41	0	174	511	0
7:30	17	28	4	0	49	93	245	25	1	364	12	4	13	0	29	6	118	45	0	169	611	1
7:45	12	14	1	0	27	108	307	28	0	443	14	3	16	0	33	9	144	45	0	198	701	0
<b>Total</b>	<b>89</b>	<b>79</b>	<b>29</b>	<b>0</b>	<b>197</b>	<b>356</b>	<b>847</b>	<b>101</b>	<b>1</b>	<b>1305</b>	<b>35</b>	<b>12</b>	<b>44</b>	<b>0</b>	<b>91</b>	<b>25</b>	<b>510</b>	<b>159</b>	<b>0</b>	<b>694</b>	<b>2287</b>	<b>1</b>
8:00	13	13	4	0	30	111	219	23	1	354	11	3	10	0	24	7	127	35	0	169	577	1
8:15	20	13	7	0	40	111	237	25	0	373	16	6	10	0	32	6	128	33	0	167	612	0
8:30	9	8	3	0	20	109	239	20	0	368	10	3	9	0	22	4	138	34	0	176	586	0
8:45	17	12	3	0	32	93	204	25	1	323	8	5	20	0	33	3	138	30	0	171	559	1
<b>Total</b>	<b>59</b>	<b>46</b>	<b>17</b>	<b>0</b>	<b>122</b>	<b>424</b>	<b>899</b>	<b>93</b>	<b>2</b>	<b>1418</b>	<b>45</b>	<b>17</b>	<b>49</b>	<b>0</b>	<b>111</b>	<b>20</b>	<b>531</b>	<b>132</b>	<b>0</b>	<b>683</b>	<b>2334</b>	<b>2</b>
16:00	24	13	10	0	47	54	249	19	0	322	3	1	3	0	7	6	212	28	0	246	622	0
16:15	11	12	8	0	31	76	230	30	1	337	3	1	11	0	15	9	202	30	0	241	624	1
16:30	16	18	7	0	41	65	217	19	1	302	4	1	7	0	12	6	191	35	0	232	587	1
16:45	16	8	9	0	33	75	216	22	1	314	1	0	8	0	9	3	225	33	0	261	617	1
<b>Total</b>	<b>67</b>	<b>51</b>	<b>34</b>	<b>0</b>	<b>152</b>	<b>270</b>	<b>912</b>	<b>90</b>	<b>3</b>	<b>1275</b>	<b>11</b>	<b>3</b>	<b>29</b>	<b>0</b>	<b>43</b>	<b>24</b>	<b>830</b>	<b>126</b>	<b>0</b>	<b>980</b>	<b>2450</b>	<b>3</b>
17:00	23	27	9	0	59	62	214	16	0	292	4	0	9	0	13	10	224	55	0	289	653	0
17:15	9	21	4	0	34	76	244	19	0	339	5	0	6	0	11	6	205	32	0	243	627	0
17:30	12	8	5	0	25	70	224	19	1	314	2	0	10	0	12	9	193	42	0	244	595	1
17:45	9	8	6	0	23	59	255	27	2	343	3	0	6	0	9	7	200	37	0	244	619	2
<b>Total</b>	<b>53</b>	<b>64</b>	<b>24</b>	<b>0</b>	<b>141</b>	<b>267</b>	<b>937</b>	<b>81</b>	<b>3</b>	<b>1288</b>	<b>14</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>45</b>	<b>32</b>	<b>822</b>	<b>166</b>	<b>0</b>	<b>1020</b>	<b>2494</b>	<b>3</b>
<b>Grand Total</b>	<b>268</b>	<b>240</b>	<b>104</b>	<b>0</b>	<b>612</b>	<b>1317</b>	<b>3595</b>	<b>365</b>	<b>9</b>	<b>5286</b>	<b>105</b>	<b>32</b>	<b>153</b>	<b>0</b>	<b>290</b>	<b>101</b>	<b>2693</b>	<b>583</b>	<b>0</b>	<b>3377</b>	<b>9565</b>	<b>9</b>
Apprch %	43.8%	39.2%	17.0%	0.0%		24.9%	68.0%	6.9%	0.2%		36.2%	11.0%	52.8%	0.0%		3.0%	79.7%	17.3%	0.0%			
Total %	2.8%	2.5%	1.1%	0.0%	6.4%	13.8%	37.6%	3.8%	0.1%	55.3%	1.1%	0.3%	1.6%	0.0%	3.0%	1.1%	28.2%	6.1%	0.0%	35.3%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	17	28	4	0	49	93	245	25	1	364	12	4	13	0	29	6	118	45	0	169	611
7:45	12	14	1	0	27	108	307	28	0	443	14	3	16	0	33	9	144	45	0	198	701
8:00	13	13	4	0	30	111	219	23	1	354	11	3	10	0	24	7	127	35	0	169	577
8:15	20	13	7	0	40	111	237	25	0	373	16	6	10	0	32	6	128	33	0	167	612
Total Volume	62	68	16	0	146	423	1008	101	2	1534	53	16	49	0	118	28	517	158	0	703	2501
% App Total	42.5%	46.6%	11.0%	0.0%		27.6%	65.7%	6.6%	0.1%		44.9%	13.6%	41.5%	0.0%		4.0%	73.5%	22.5%	0.0%		
PHF	.775	.607	.571	.000	.745	.953	.821	.902	.500	.866	.828	.667	.766	.000	.894	.778	.898	.878	.000	.888	.892

PM PEAK HOUR	SR 113 SB Ramps Southbound					E Main St Westbound					SR 113 SB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	23	27	9	0	59	62	214	16	0	292	4	0	9	0	13	10	224	55	0	289	653
17:15	9	21	4	0	34	76	244	19	0	339	5	0	6	0	11	6	205	32	0	243	627
17:30	12	8	5	0	25	70	224	19	1	314	2	0	10	0	12	9	193	42	0	244	595
17:45	9	8	6	0	23	59	255	27	2	343	3	0	6	0	9	7	200	37	0	244	619
Total Volume	53	64	24	0	141	267	937	81	3	1288	14	0	31	0	45	32	822	166	0	1020	2494
% App Total	37.6%	45.4%	17.0%	0.0%		20.7%	72.7%	6.3%	0.2%		31.1%	0.0%	68.9%	0.0%		3.1%	80.6%	16.3%	0.0%		
PHF	.576	.593	.667	.000	.597	.878	.919	.750	.375	.939	.700	.000	.775	.000	.865	.800	.917	.755	.000	.882	.955

# ALL TRAFFIC DATA

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File Name : 17-07762-039

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	6	187	0	0	193	33	0	56	0	89	0	149	7	0	156	438	0
7:15	0	0	0	0	0	8	239	0	0	247	30	0	57	0	87	0	157	8	0	165	499	0
7:30	0	0	0	0	0	6	307	0	0	313	72	0	76	0	148	0	133	4	0	137	598	0
7:45	0	0	0	0	0	4	359	0	0	363	83	0	79	0	162	0	189	3	0	192	717	0
<b>Total</b>	0	0	0	0	0	24	1092	0	0	1116	218	0	268	0	486	0	628	22	0	650	2252	0
8:00	0	0	0	0	0	3	297	0	0	300	54	0	74	0	128	0	146	4	0	150	578	0
8:15	0	0	0	0	0	8	312	0	0	320	66	0	65	0	131	0	155	6	2	163	614	2
8:30	0	0	0	0	0	5	306	0	0	311	64	0	52	0	116	0	160	11	0	171	598	0
8:45	0	0	0	0	0	8	244	0	0	252	70	0	42	0	112	0	167	7	1	175	539	1
<b>Total</b>	0	0	0	0	0	24	1159	0	0	1183	254	0	233	0	487	0	628	28	3	659	2329	3
16:00	0	0	0	0	0	7	278	0	0	285	59	0	98	0	157	0	217	4	0	221	663	0
16:15	0	0	0	0	0	4	300	0	0	304	44	0	119	0	163	0	226	8	0	234	701	0
16:30	0	0	0	0	0	14	262	0	0	276	46	0	129	0	175	0	215	4	1	220	671	1
16:45	0	0	0	0	0	8	254	0	0	262	69	0	135	0	204	0	245	7	0	252	718	0
<b>Total</b>	0	0	0	0	0	33	1094	0	0	1127	218	0	481	0	699	0	903	23	1	927	2753	1
17:00	0	0	0	0	0	7	250	0	0	257	46	0	106	0	152	0	235	8	0	243	652	0
17:15	0	0	0	0	0	12	282	0	0	294	65	0	135	0	200	0	237	5	0	242	736	0
17:30	0	0	0	0	0	14	278	0	0	292	51	0	138	0	189	0	211	8	0	219	700	0
17:45	0	0	0	0	0	4	274	0	0	278	51	0	101	0	152	0	219	5	0	224	654	0
<b>Total</b>	0	0	0	0	0	37	1084	0	0	1121	213	0	480	0	693	0	902	26	0	928	2742	0
<b>Grand Total</b>	0	0	0	0	0	118	4429	0	0	4547	903	0	1462	0	2365	0	3061	99	4	3164	10076	4
Apprch %	0.0%	0.0%	0.0%	0.0%		2.6%	97.4%	0.0%	0.0%		38.2%	0.0%	61.8%	0.0%		0.0%	96.7%	3.1%	0.1%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	44.0%	0.0%	0.0%	45.1%	9.0%	0.0%	14.5%	0.0%	23.5%	0.0%	30.4%	1.0%	0.0%	31.4%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	6	307	0	0	313	72	0	76	0	148	0	133	4	0	137	598
7:45	0	0	0	0	0	4	359	0	0	363	83	0	79	0	162	0	189	3	0	192	717
8:00	0	0	0	0	0	3	297	0	0	300	54	0	74	0	128	0	146	4	0	150	578
8:15	0	0	0	0	0	8	312	0	0	320	66	0	65	0	131	0	155	6	2	163	614
Total Volume	0	0	0	0	0	21	1275	0	0	1296	275	0	294	0	569	0	623	17	2	642	2507
% App Total	0.0%	0.0%	0.0%	0.0%		1.6%	98.4%	0.0%	0.0%		48.3%	0.0%	51.7%	0.0%		0.0%	97.0%	2.6%	0.3%		
PHF	.000	.000	.000	.000	.000	.656	.888	.000	.000	.893	.828	.000	.930	.000	.878	.000	.824	.708	.250	.836	.874

PM PEAK HOUR	SR 113 NB Ramps Southbound					E Main St Westbound					SR 113 NB Ramps Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	8	254	0	0	262	69	0	135	0	204	0	245	7	0	252	718
17:00	0	0	0	0	0	7	250	0	0	257	46	0	106	0	152	0	235	8	0	243	652
17:15	0	0	0	0	0	12	282	0	0	294	65	0	135	0	200	0	237	5	0	242	736
17:30	0	0	0	0	0	14	278	0	0	292	51	0	138	0	189	0	211	8	0	219	700
Total Volume	0	0	0	0	0	41	1064	0	0	1105	231	0	514	0	745	0	928	28	0	956	2806
% App Total	0.0%	0.0%	0.0%	0.0%		3.7%	96.3%	0.0%	0.0%		31.0%	0.0%	69.0%	0.0%		0.0%	97.1%	2.9%	0.0%		
PHF	.000	.000	.000	.000	.000	.732	.943	.000	.000	.940	.837	.000	.931	.000	.913	.000	.947	.875	.000	.948	.953

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-035

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	3	25	14	0	42	14	157	36	0	207	33	19	13	0	65	20	44	31	4	99	413	4
7:15	3	22	10	0	35	18	194	21	1	234	42	30	8	1	81	11	40	39	5	95	445	7
7:30	10	39	16	0	65	25	256	25	1	307	50	32	10	1	93	22	42	45	6	115	580	8
7:45	5	33	12	0	50	18	234	25	0	277	80	67	15	0	162	44	58	57	5	164	653	5
Total	21	119	52	0	192	75	841	107	2	1025	205	148	46	2	401	97	184	172	20	473	2091	24
8:00	9	25	12	0	46	29	264	21	0	314	47	53	11	0	111	25	45	60	5	135	606	5
8:15	8	24	14	0	46	18	262	35	0	315	62	47	9	1	119	20	56	46	3	125	605	4
8:30	8	34	9	0	51	27	225	21	0	273	55	46	24	0	125	17	62	39	6	124	573	6
8:45	7	27	9	0	43	24	203	14	0	241	50	31	28	1	110	19	57	39	9	124	518	10
Total	32	110	44	0	186	98	954	91	0	1143	214	177	72	2	465	81	220	184	23	508	2302	25
16:00	22	42	24	1	89	50	199	27	2	278	60	27	26	0	113	7	104	45	8	164	644	11
16:15	18	47	14	0	79	42	230	24	0	296	50	38	29	0	117	9	97	58	6	170	662	6
16:30	9	62	19	0	90	45	207	24	0	276	43	24	24	1	92	18	94	55	9	176	634	10
16:45	8	31	13	0	52	47	212	31	1	291	45	39	18	2	104	17	106	54	6	183	630	9
Total	57	182	70	1	310	184	848	106	3	1141	198	128	97	3	426	51	401	212	29	693	2570	36
17:00	13	96	28	0	137	44	181	22	0	247	53	25	18	1	97	10	100	63	8	181	662	9
17:15	11	53	16	0	80	47	229	22	0	298	53	31	22	1	107	8	110	47	5	170	655	6
17:30	8	41	14	0	63	42	230	26	0	298	45	44	30	1	120	5	92	60	4	161	642	5
17:45	4	41	10	0	55	41	208	23	1	273	60	30	30	0	120	10	78	58	6	152	600	7
Total	36	231	68	0	335	174	848	93	1	1116	211	130	100	3	444	33	380	228	23	664	2559	27
Grand Total	146	642	234	1	1023	531	3491	397	6	4425	828	583	315	10	1736	262	1185	796	95	2338	9522	112
Apprch %	14.3%	62.8%	22.9%	0.1%		12.0%	78.9%	9.0%	0.1%		47.7%	33.6%	18.1%	0.6%		11.2%	50.7%	34.0%	4.1%			
Total %	1.5%	6.7%	2.5%	0.0%	10.7%	5.6%	36.7%	4.2%	0.1%	46.5%	8.7%	6.1%	3.3%	0.1%	18.2%	2.8%	12.4%	8.4%	1.0%	24.6%	100.0%	

AM PEAK HOUR	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	10	39	16	0	65	25	256	25	1	307	50	32	10	1	93	22	42	45	6	115	580
7:45	5	33	12	0	50	18	234	25	0	277	80	67	15	0	162	44	58	57	5	164	653
8:00	9	25	12	0	46	29	264	21	0	314	47	53	11	0	111	25	45	60	5	135	606
8:15	8	24	14	0	46	18	262	35	0	315	62	47	9	1	119	20	56	46	3	125	605
Total Volume	32	121	54	0	207	90	1016	106	1	1213	239	199	45	2	485	111	201	208	19	539	2444
% App Total	15.5%	58.5%	26.1%	0.0%		7.4%	83.8%	8.7%	0.1%		49.3%	41.0%	9.3%	0.4%		20.6%	37.3%	38.6%	3.5%		
PHF	.800	.776	.844	.000	.796	.776	.962	.757	.250	.963	.747	.743	.750	.500	.748	.631	.866	.867	.792	.822	.936

PM PEAK HOUR	Pioneer Ave /I-5 SB On Ramp Southbound					E Main St Westbound					Pioneer Ave /I-5 SB On Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	8	31	13	0	52	47	212	31	1	291	45	39	18	2	104	17	106	54	6	183	630
17:00	13	96	28	0	137	44	181	22	0	247	53	25	18	1	97	10	100	63	8	181	662
17:15	11	53	16	0	80	47	229	22	0	298	53	31	22	1	107	8	110	47	5	170	655
17:30	8	41	14	0	63	42	230	26	0	298	45	44	30	1	120	5	92	60	4	161	642
Total Volume	40	221	71	0	332	180	852	101	1	1134	196	139	88	5	428	40	408	224	23	695	2589
% App Total	12.0%	66.6%	21.4%	0.0%		15.9%	75.1%	8.9%	0.1%		45.8%	32.5%	20.6%	1.2%		5.8%	58.7%	32.2%	3.3%		
PHF	.769	.576	.634	.000	.606	.957	.926	.815	.250	.951	.925	.790	.733	.625	.892	.588	.927	.889	.719	.949	.978



# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-040

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	52	0	0	52	151	0	3	0	154	0	58	0	0	58	264	0
7:15	0	0	0	0	0	0	54	0	0	54	183	0	5	0	188	0	50	0	1	51	293	1
7:30	0	0	0	0	0	0	66	0	0	66	235	0	0	0	235	0	62	0	0	62	363	0
7:45	0	0	0	0	0	0	63	0	0	63	256	0	4	0	260	0	80	0	0	80	403	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>235</b>	<b>0</b>	<b>0</b>	<b>235</b>	<b>825</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>837</b>	<b>0</b>	<b>250</b>	<b>0</b>	<b>1</b>	<b>251</b>	<b>1323</b>	<b>1</b>
8:00	0	0	0	0	0	0	60	0	0	60	239	0	2	0	241	0	67	0	0	67	368	0
8:15	0	0	0	0	0	0	66	0	0	66	221	0	1	0	222	0	70	0	0	70	358	0
8:30	0	0	0	0	0	0	72	0	0	72	209	0	1	0	210	0	96	0	0	96	378	0
8:45	0	0	0	0	0	0	68	0	0	68	172	0	5	0	177	0	93	0	0	93	338	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>266</b>	<b>0</b>	<b>0</b>	<b>266</b>	<b>841</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>850</b>	<b>0</b>	<b>326</b>	<b>0</b>	<b>0</b>	<b>326</b>	<b>1442</b>	<b>0</b>
16:00	0	0	0	0	0	0	158	0	0	158	113	0	2	0	115	0	148	0	0	148	421	0
16:15	0	0	0	0	0	0	149	0	0	149	143	0	9	0	152	0	143	0	0	143	444	0
16:30	0	0	0	0	0	0	153	0	0	153	130	0	5	0	135	0	127	0	0	127	415	0
16:45	0	0	0	0	0	0	128	0	0	128	154	0	7	0	161	0	121	0	0	121	410	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>588</b>	<b>0</b>	<b>0</b>	<b>588</b>	<b>540</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>563</b>	<b>0</b>	<b>539</b>	<b>0</b>	<b>0</b>	<b>539</b>	<b>1690</b>	<b>0</b>
17:00	0	0	0	0	0	0	143	0	0	143	113	0	3	0	116	0	143	0	0	143	402	0
17:15	0	0	0	0	0	0	132	0	0	132	153	0	6	0	159	0	142	0	0	142	433	0
17:30	0	0	0	0	0	0	159	0	0	159	140	0	2	0	142	0	133	0	0	133	434	0
17:45	0	0	0	0	0	0	146	0	0	146	131	0	2	0	133	0	110	0	0	110	389	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>580</b>	<b>0</b>	<b>0</b>	<b>580</b>	<b>537</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>550</b>	<b>0</b>	<b>528</b>	<b>0</b>	<b>0</b>	<b>528</b>	<b>1658</b>	<b>0</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1669</b>	<b>0</b>	<b>0</b>	<b>1669</b>	<b>2743</b>	<b>0</b>	<b>57</b>	<b>0</b>	<b>2800</b>	<b>0</b>	<b>1643</b>	<b>0</b>	<b>1</b>	<b>1644</b>	<b>6113</b>	<b>1</b>
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		98.0%	0.0%	2.0%	0.0%		0.0%	99.9%	0.0%	0.1%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.3%	0.0%	0.0%	27.3%	44.9%	0.0%	0.9%	0.0%	45.8%	0.0%	26.9%	0.0%	0.0%	26.9%	100.0%	

AM PEAK HOUR	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	63	0	0	63	256	0	4	0	260	0	80	0	0	80	403
8:00	0	0	0	0	0	0	60	0	0	60	239	0	2	0	241	0	67	0	0	67	368
8:15	0	0	0	0	0	0	66	0	0	66	221	0	1	0	222	0	70	0	0	70	358
8:30	0	0	0	0	0	0	72	0	0	72	209	0	1	0	210	0	96	0	0	96	378
Total Volume	0	0	0	0	0	0	261	0	0	261	925	0	8	0	933	0	313	0	0	313	1507
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		99.1%	0.0%	0.9%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.906	.000	.000	.906	.903	.000	.500	.000	.897	.000	.815	.000	.000	.815	.935

PM PEAK HOUR	I-5 NB Off Ramp Southbound					E Main St Westbound					I-5 NB Off Ramp Northbound					E Main St Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	158	0	0	158	113	0	2	0	115	0	148	0	0	148	421
16:15	0	0	0	0	0	0	149	0	0	149	143	0	9	0	152	0	143	0	0	143	444
16:30	0	0	0	0	0	0	153	0	0	153	130	0	5	0	135	0	127	0	0	127	415
16:45	0	0	0	0	0	0	128	0	0	128	154	0	7	0	161	0	121	0	0	121	410
Total Volume	0	0	0	0	0	0	588	0	0	588	540	0	23	0	563	0	539	0	0	539	1690
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		95.9%	0.0%	4.1%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.930	.000	.000	.930	.877	.000	.639	.000	.874	.000	.910	.000	.000	.910	.952

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-036

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	72	2	0	74	61	13	39	0	113	10	44	16	0	70	8	0	10	0	18	275	0
7:15	0	90	1	0	91	84	8	45	0	137	11	49	21	0	81	3	0	10	0	13	322	0
7:30	0	95	3	0	98	116	16	47	0	179	5	49	19	1	74	3	0	11	0	14	365	1
7:45	0	115	4	0	119	122	7	47	0	176	10	74	38	1	123	1	0	14	0	15	433	1
<b>Total</b>	0	372	10	0	382	383	44	178	0	605	36	216	94	2	348	15	0	45	0	60	1395	2
8:00	0	72	0	0	72	97	6	44	0	147	8	60	16	0	84	6	0	11	0	17	320	0
8:15	0	67	1	0	68	113	10	39	0	162	6	60	21	0	87	2	0	12	0	14	331	0
8:30	0	84	1	0	85	92	9	36	0	137	9	58	16	1	84	3	0	8	0	11	317	1
8:45	0	82	2	0	84	93	10	38	0	141	14	84	25	0	123	5	0	15	0	20	368	0
<b>Total</b>	0	305	4	0	309	395	35	157	0	587	37	262	78	1	378	16	0	46	0	62	1336	1
16:00	0	161	2	0	163	121	12	25	0	158	14	128	41	0	183	4	0	31	0	35	539	0
16:15	0	145	4	0	149	136	11	33	0	180	8	122	47	0	177	6	0	19	0	25	531	0
16:30	0	179	3	0	182	139	10	36	0	185	14	103	42	2	161	6	0	22	0	28	556	2
16:45	0	146	1	0	147	131	7	24	0	162	15	110	54	0	179	9	0	20	0	29	517	0
<b>Total</b>	0	631	10	0	641	527	40	118	0	685	51	463	184	2	700	25	0	92	0	117	2143	2
17:00	0	156	0	0	156	119	7	42	0	168	12	112	37	0	161	10	0	19	0	29	514	0
17:15	0	169	4	0	173	139	6	34	0	179	11	140	42	0	193	9	0	19	0	28	573	0
17:30	0	150	3	0	153	150	9	34	0	193	12	114	31	0	157	5	0	6	0	11	514	0
17:45	0	159	6	0	165	151	7	35	0	193	9	118	33	0	160	4	0	11	0	15	533	0
<b>Total</b>	0	634	13	0	647	559	29	145	0	733	44	484	143	0	671	28	0	55	0	83	2134	0
<b>Grand Total</b>	0	1942	37	0	1979	1864	148	598	0	2610	168	1425	499	5	2097	84	0	238	0	322	7008	5
Apprch %	0.0%	98.1%	1.9%	0.0%		71.4%	5.7%	22.9%	0.0%		8.0%	68.0%	23.8%	0.2%		26.1%	0.0%	73.9%	0.0%			
Total %	0.0%	27.7%	0.5%	0.0%	28.2%	26.6%	2.1%	8.5%	0.0%	37.2%	2.4%	20.3%	7.1%	0.1%	29.9%	1.2%	0.0%	3.4%	0.0%	4.6%	100.0%	

AM PEAK HOUR	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	95	3	0	98	116	16	47	0	179	5	49	19	1	74	3	0	11	0	14	365
7:45	0	115	4	0	119	122	7	47	0	176	10	74	38	1	123	1	0	14	0	15	433
8:00	0	72	0	0	72	97	6	44	0	147	8	60	16	0	84	6	0	11	0	17	320
8:15	0	67	1	0	68	113	10	39	0	162	6	60	21	0	87	2	0	12	0	14	331
Total Volume	0	349	8	0	357	448	39	177	0	664	29	243	94	2	368	12	0	48	0	60	1449
% App Total	0.0%	97.8%	2.2%	0.0%		67.5%	5.9%	26.7%	0.0%		7.9%	66.0%	25.5%	0.5%		20.0%	0.0%	80.0%	0.0%		
PHF	.000	.759	.500	.000	.750	.918	.609	.941	.000	.927	.725	.821	.618	.500	.748	.500	.000	.857	.000	.882	.837

PM PEAK HOUR	CR 102 Southbound					I-5 NB Ramps Westbound					CR 102 Northbound					I-5 NB Ramps Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	179	3	0	182	139	10	36	0	185	14	103	42	2	161	6	0	22	0	28	556
16:45	0	146	1	0	147	131	7	24	0	162	15	110	54	0	179	9	0	20	0	29	517
17:00	0	156	0	0	156	119	7	42	0	168	12	112	37	0	161	10	0	19	0	29	514
17:15	0	169	4	0	173	139	6	34	0	179	11	140	42	0	193	9	0	19	0	28	573
Total Volume	0	650	8	0	658	528	30	136	0	694	52	465	175	2	694	34	0	80	0	114	2160
% App Total	0.0%	98.8%	1.2%	0.0%		76.1%	4.3%	19.6%	0.0%		7.5%	67.0%	25.2%	0.3%		29.8%	0.0%	70.2%	0.0%		
PHF	.000	.908	.500	.000	.904	.950	.750	.810	.000	.938	.867	.830	.810	.250	.899	.850	.000	.909	.000	.983	.942



# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-037

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	111	33	0	144	0	0	0	0	0	0	62	128	0	190	12	0	14	0	26	360	0
7:15	0	151	29	0	180	0	0	0	0	0	0	69	131	0	200	12	0	20	0	32	412	0
7:30	0	181	32	0	213	0	0	0	0	0	0	64	106	0	170	14	0	32	0	46	429	0
7:45	0	206	26	0	232	0	0	0	0	0	0	102	85	0	187	18	0	44	0	62	481	0
<b>Total</b>	0	649	120	0	769	0	0	0	0	0	0	297	450	0	747	56	0	110	0	166	1682	0
8:00	0	149	24	0	173	0	0	0	0	0	0	73	99	0	172	8	0	25	0	33	378	0
8:15	0	158	25	0	183	0	0	0	0	0	0	82	97	0	179	7	0	31	0	38	400	0
8:30	0	150	20	0	170	0	0	0	0	0	0	75	90	1	166	7	0	22	0	29	365	1
8:45	0	153	27	0	180	0	0	0	0	0	0	112	86	0	198	11	1	36	0	48	426	0
<b>Total</b>	0	610	96	0	706	0	0	0	0	0	0	342	372	1	715	33	1	114	0	148	1569	1
16:00	0	254	27	0	281	0	0	0	0	0	0	168	138	0	306	13	0	34	0	47	634	0
16:15	0	248	34	0	282	0	0	0	0	0	0	163	108	0	271	16	1	56	0	73	626	0
16:30	0	267	42	0	309	0	0	0	0	0	0	146	142	0	288	9	0	49	0	58	655	0
16:45	0	262	36	0	298	0	0	0	0	0	0	167	123	0	290	14	0	65	0	79	667	0
<b>Total</b>	0	1031	139	0	1170	0	0	0	0	0	0	644	511	0	1155	52	1	204	0	257	2582	0
17:00	0	225	35	0	260	0	0	0	0	0	0	150	125	0	275	13	0	47	0	60	595	0
17:15	0	279	34	0	313	0	0	0	0	0	0	176	153	0	329	17	0	47	0	64	706	0
17:30	0	267	31	0	298	0	0	0	0	0	0	147	141	0	288	11	0	52	0	63	649	0
17:45	0	263	29	0	292	0	0	0	0	0	0	149	97	0	246	16	0	47	0	63	601	0
<b>Total</b>	0	1034	129	0	1163	0	0	0	0	0	0	622	516	0	1138	57	0	193	0	250	2551	0
<b>Grand Total</b>	0	3324	484	0	3808	0	0	0	0	0	0	1905	1849	1	3755	198	2	621	0	821	8384	1
Apprch %	0.0%	87.3%	12.7%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	50.7%	49.2%	0.0%		24.1%	0.2%	75.6%	0.0%			
Total %	0.0%	39.6%	5.8%	0.0%	45.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.7%	22.1%	0.0%	44.8%	2.4%	0.0%	7.4%	0.0%	9.8%	100.0%	

AM PEAK HOUR	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
7:15	0	151	29	0	180	0	0	0	0	0	0	69	131	0	200	12	0	20	0	32	412
7:30	0	181	32	0	213	0	0	0	0	0	0	64	106	0	170	14	0	32	0	46	429
7:45	0	206	26	0	232	0	0	0	0	0	0	102	85	0	187	18	0	44	0	62	481
8:00	0	149	24	0	173	0	0	0	0	0	0	73	99	0	172	8	0	25	0	33	378
Total Volume	0	687	111	0	798	0	0	0	0	0	0	308	421	0	729	52	0	121	0	173	1700
% App Total	0.0%	86.1%	13.9%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	42.2%	57.8%	0.0%		30.1%	0.0%	69.9%	0.0%		
PHF	.000	.834	.867	.000	.860	.000	.000	.000	.000	.000	.000	.755	.803	.000	.911	.722	.000	.688	.000	.698	.884

PM PEAK HOUR	CR 102 Southbound					I-5 SB Ramps Westbound					CR 102 Northbound					I-5 SB Ramps Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	267	42	0	309	0	0	0	0	0	0	146	142	0	288	9	0	49	0	58	655
16:45	0	262	36	0	298	0	0	0	0	0	0	167	123	0	290	14	0	65	0	79	667
17:00	0	225	35	0	260	0	0	0	0	0	0	150	125	0	275	13	0	47	0	60	595
17:15	0	279	34	0	313	0	0	0	0	0	0	176	153	0	329	17	0	47	0	64	706
Total Volume	0	1033	147	0	1180	0	0	0	0	0	0	639	543	0	1182	53	0	208	0	261	2623
% App Total	0.0%	87.5%	12.5%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	54.1%	45.9%	0.0%		20.3%	0.0%	79.7%	0.0%		
PHF	.000	.926	.875	.000	.942	.000	.000	.000	.000	.000	.000	.908	.887	.000	.898	.779	.000	.800	.000	.826	.929

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-031

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	11	16	14	0	41	0	92	17	0	109	8	12	4	0	24	22	120	6	0	148	322	0
7:15	12	16	16	0	44	2	108	17	0	127	9	10	1	0	20	20	144	11	0	175	366	0
7:30	27	30	23	0	80	4	152	21	0	177	13	13	2	0	28	32	221	17	0	270	555	0
7:45	18	29	23	0	70	13	250	37	0	300	14	19	6	0	39	41	204	27	0	272	681	0
<b>Total</b>	<b>68</b>	<b>91</b>	<b>76</b>	<b>0</b>	<b>235</b>	<b>19</b>	<b>602</b>	<b>92</b>	<b>0</b>	<b>713</b>	<b>44</b>	<b>54</b>	<b>13</b>	<b>0</b>	<b>111</b>	<b>115</b>	<b>689</b>	<b>61</b>	<b>0</b>	<b>865</b>	<b>1924</b>	<b>0</b>
8:00	22	28	37	0	87	5	180	23	0	208	10	19	5	0	34	36	163	28	0	227	556	0
8:15	30	29	25	0	84	9	119	30	0	158	11	17	2	0	30	35	143	23	0	201	473	0
8:30	23	35	27	0	85	7	77	23	0	107	12	20	2	0	34	17	125	6	0	148	374	0
8:45	30	21	24	0	75	7	106	23	0	136	16	15	6	0	37	28	142	22	0	192	440	0
<b>Total</b>	<b>105</b>	<b>113</b>	<b>113</b>	<b>0</b>	<b>331</b>	<b>28</b>	<b>482</b>	<b>99</b>	<b>0</b>	<b>609</b>	<b>49</b>	<b>71</b>	<b>15</b>	<b>0</b>	<b>135</b>	<b>116</b>	<b>573</b>	<b>79</b>	<b>0</b>	<b>768</b>	<b>1843</b>	<b>0</b>
16:00	37	35	34	0	106	4	161	36	0	201	17	32	3	0	52	26	184	17	0	227	586	0
16:15	37	19	37	0	93	5	139	40	0	184	27	21	5	0	53	20	178	10	0	208	538	0
16:30	47	25	33	0	105	5	171	25	0	201	23	37	3	0	63	29	200	19	0	248	617	0
16:45	39	37	23	0	99	5	158	32	0	195	35	32	7	0	74	23	169	26	0	218	586	0
<b>Total</b>	<b>160</b>	<b>116</b>	<b>127</b>	<b>0</b>	<b>403</b>	<b>19</b>	<b>629</b>	<b>133</b>	<b>0</b>	<b>781</b>	<b>102</b>	<b>122</b>	<b>18</b>	<b>0</b>	<b>242</b>	<b>98</b>	<b>731</b>	<b>72</b>	<b>0</b>	<b>901</b>	<b>2327</b>	<b>0</b>
17:00	53	34	46	0	133	5	158	35	0	198	32	46	9	0	87	18	192	25	0	235	653	0
17:15	49	35	46	0	130	4	202	24	0	230	35	43	8	0	86	15	213	21	0	249	695	0
17:30	44	30	33	0	107	3	187	47	0	237	27	28	11	0	66	23	195	22	0	240	650	0
17:45	45	42	31	0	118	9	156	28	0	193	34	38	4	0	76	18	168	24	0	210	597	0
<b>Total</b>	<b>191</b>	<b>141</b>	<b>156</b>	<b>0</b>	<b>488</b>	<b>21</b>	<b>703</b>	<b>134</b>	<b>0</b>	<b>858</b>	<b>128</b>	<b>155</b>	<b>32</b>	<b>0</b>	<b>315</b>	<b>74</b>	<b>768</b>	<b>92</b>	<b>0</b>	<b>934</b>	<b>2595</b>	<b>0</b>
<b>Grand Total</b>	<b>524</b>	<b>461</b>	<b>472</b>	<b>0</b>	<b>1457</b>	<b>87</b>	<b>2416</b>	<b>458</b>	<b>0</b>	<b>2961</b>	<b>323</b>	<b>402</b>	<b>78</b>	<b>0</b>	<b>803</b>	<b>403</b>	<b>2761</b>	<b>304</b>	<b>0</b>	<b>3468</b>	<b>8689</b>	<b>0</b>
Apprch %	36.0%	31.6%	32.4%	0.0%		2.9%	81.6%	15.5%	0.0%		40.2%	50.1%	9.7%	0.0%		11.6%	79.6%	8.8%	0.0%			
Total %	6.0%	5.3%	5.4%	0.0%	16.8%	1.0%	27.8%	5.3%	0.0%	34.1%	3.7%	4.6%	0.9%	0.0%	9.2%	4.6%	31.8%	3.5%	0.0%	39.9%	100.0%	

AM PEAK HOUR	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	27	30	23	0	80	4	152	21	0	177	13	13	2	0	28	32	221	17	0	270	555
7:45	18	29	23	0	70	13	250	37	0	300	14	19	6	0	39	41	204	27	0	272	681
8:00	22	28	37	0	87	5	180	23	0	208	10	19	5	0	34	36	163	28	0	227	556
8:15	30	29	25	0	84	9	119	30	0	158	11	17	2	0	30	35	143	23	0	201	473
Total Volume	97	116	108	0	321	31	701	111	0	843	48	68	15	0	131	144	731	95	0	970	2265
% App Total	30.2%	36.1%	33.6%	0.0%		3.7%	83.2%	13.2%	0.0%		36.6%	51.9%	11.5%	0.0%		14.8%	75.4%	9.8%	0.0%		
PHF	.808	.967	.730	.000	.922	.596	.701	.750	.000	.703	.857	.895	.625	.000	.840	.878	.827	.848	.000	.892	.831

PM PEAK HOUR	East St Southbound					Gibson Rd Westbound					East St Northbound					Gibson Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	53	34	46	0	133	5	158	35	0	198	32	46	9	0	87	18	192	25	0	235	653
17:15	49	35	46	0	130	4	202	24	0	230	35	43	8	0	86	15	213	21	0	249	695
17:30	44	30	33	0	107	3	187	47	0	237	27	28	11	0	66	23	195	22	0	240	650
17:45	45	42	31	0	118	9	156	28	0	193	34	38	4	0	76	18	168	24	0	210	597
Total Volume	191	141	156	0	488	21	703	134	0	858	128	155	32	0	315	74	768	92	0	934	2595
% App Total	39.1%	28.9%	32.0%	0.0%		2.4%	81.9%	15.6%	0.0%		40.6%	49.2%	10.2%	0.0%		7.9%	82.2%	9.9%	0.0%		
PHF	.901	.839	.848	.000	.917	.583	.870	.713	.000	.905	.914	.842	.727	.000	.905	.804	.901	.920	.000	.938	.933

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-027

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	30	5	16	0	51	7	80	18	0	105	8	5	33	0	46	22	123	2	0	147	349	0
7:15	47	2	22	0	71	8	99	20	1	128	5	4	27	0	36	15	147	2	0	164	399	1
7:30	57	3	30	0	90	8	179	28	0	215	14	4	53	0	71	20	230	4	0	254	630	0
7:45	43	8	37	0	88	15	277	41	0	333	12	5	40	0	57	26	219	10	0	255	733	0
<b>Total</b>	<b>177</b>	<b>18</b>	<b>105</b>	<b>0</b>	<b>300</b>	<b>38</b>	<b>635</b>	<b>107</b>	<b>1</b>	<b>781</b>	<b>39</b>	<b>18</b>	<b>153</b>	<b>0</b>	<b>210</b>	<b>83</b>	<b>719</b>	<b>18</b>	<b>0</b>	<b>820</b>	<b>2111</b>	<b>1</b>
8:00	39	5	25	0	69	10	165	34	0	209	10	11	34	0	55	36	141	7	0	184	517	0
8:15	39	9	20	0	68	14	105	24	0	143	14	7	21	0	42	23	142	5	0	170	423	0
8:30	27	3	18	0	48	11	106	16	2	135	6	1	22	0	29	11	141	5	0	157	369	2
8:45	24	2	16	0	42	9	116	18	0	143	4	6	17	0	27	19	155	9	0	183	395	0
<b>Total</b>	<b>129</b>	<b>19</b>	<b>79</b>	<b>0</b>	<b>227</b>	<b>44</b>	<b>492</b>	<b>92</b>	<b>2</b>	<b>630</b>	<b>34</b>	<b>25</b>	<b>94</b>	<b>0</b>	<b>153</b>	<b>89</b>	<b>579</b>	<b>26</b>	<b>0</b>	<b>694</b>	<b>1704</b>	<b>2</b>
16:00	14	5	24	0	43	19	189	44	1	253	8	3	18	0	29	37	167	12	0	216	541	1
16:15	19	6	24	0	49	31	170	33	2	236	12	10	16	0	38	35	193	14	0	242	565	2
16:30	21	10	24	0	55	25	200	50	0	275	8	10	25	0	43	33	179	18	0	230	603	0
16:45	27	4	27	0	58	34	202	58	2	296	8	13	17	0	38	32	181	16	1	230	622	3
<b>Total</b>	<b>81</b>	<b>25</b>	<b>99</b>	<b>0</b>	<b>205</b>	<b>109</b>	<b>761</b>	<b>185</b>	<b>5</b>	<b>1060</b>	<b>36</b>	<b>36</b>	<b>76</b>	<b>0</b>	<b>148</b>	<b>137</b>	<b>720</b>	<b>60</b>	<b>1</b>	<b>918</b>	<b>2331</b>	<b>6</b>
17:00	25	9	23	0	57	41	201	53	0	295	10	14	29	0	53	42	192	19	0	253	658	0
17:15	32	14	27	0	73	55	208	50	1	314	12	9	31	0	52	52	220	21	0	293	732	1
17:30	34	9	36	0	79	46	192	47	2	287	14	14	22	0	50	37	196	16	0	249	665	2
17:45	25	9	28	0	62	37	198	36	0	271	11	9	22	0	42	36	169	19	0	224	599	0
<b>Total</b>	<b>116</b>	<b>41</b>	<b>114</b>	<b>0</b>	<b>271</b>	<b>179</b>	<b>799</b>	<b>186</b>	<b>3</b>	<b>1167</b>	<b>47</b>	<b>46</b>	<b>104</b>	<b>0</b>	<b>197</b>	<b>167</b>	<b>777</b>	<b>75</b>	<b>0</b>	<b>1019</b>	<b>2654</b>	<b>3</b>
<b>Grand Total</b>	<b>503</b>	<b>103</b>	<b>397</b>	<b>0</b>	<b>1003</b>	<b>370</b>	<b>2687</b>	<b>570</b>	<b>11</b>	<b>3638</b>	<b>156</b>	<b>125</b>	<b>427</b>	<b>0</b>	<b>708</b>	<b>476</b>	<b>2795</b>	<b>179</b>	<b>1</b>	<b>3451</b>	<b>8800</b>	<b>12</b>
Apprch %	50.1%	10.3%	39.6%	0.0%		10.2%	73.9%	15.7%	0.3%		22.0%	17.7%	60.3%	0.0%		13.8%	81.0%	5.2%	0.0%			
Total %	5.7%	1.2%	4.5%	0.0%	11.4%	4.2%	30.5%	6.5%	0.1%	41.3%	1.8%	1.4%	4.9%	0.0%	8.0%	5.4%	31.8%	2.0%	0.0%	39.2%	100.0%	

AM PEAK HOUR	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	57	3	30	0	90	8	179	28	0	215	14	4	53	0	71	20	230	4	0	254	630
7:45	43	8	37	0	88	15	277	41	0	333	12	5	40	0	57	26	219	10	0	255	733
8:00	39	5	25	0	69	10	165	34	0	209	10	11	34	0	55	36	141	7	0	184	517
8:15	39	9	20	0	68	14	105	24	0	143	14	7	21	0	42	23	142	5	0	170	423
Total Volume	178	25	112	0	315	47	726	127	0	900	50	27	148	0	225	105	732	26	0	863	2303
% App Total	56.5%	7.9%	35.6%	0.0%		5.2%	80.7%	14.1%	0.0%		22.2%	12.0%	65.8%	0.0%		12.2%	84.8%	3.0%	0.0%		
PHF	.781	.694	.757	.000	.875	.783	.655	.774	.000	.676	.893	.614	.698	.000	.792	.729	.796	.650	.000	.846	.785

PM PEAK HOUR	Matmor Rd Southbound					E Gibson Rd Westbound					Matmor Rd Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	27	4	27	0	58	34	202	58	2	296	8	13	17	0	38	32	181	16	1	230	622
17:00	25	9	23	0	57	41	201	53	0	295	10	14	29	0	53	42	192	19	0	253	658
17:15	32	14	27	0	73	55	208	50	1	314	12	9	31	0	52	52	220	21	0	293	732
17:30	34	9	36	0	79	46	192	47	2	287	14	14	22	0	50	37	196	16	0	249	665
Total Volume	118	36	113	0	267	176	803	208	5	1192	44	50	99	0	193	163	789	72	1	1025	2677
% App Total	44.2%	13.5%	42.3%	0.0%		14.8%	67.4%	17.4%	0.4%		22.8%	25.9%	51.3%	0.0%		15.9%	77.0%	7.0%	0.1%		
PHF	.868	.643	.785	.000	.845	.800	.965	.897	.625	.949	.786	.893	.798	.000	.910	.784	.897	.857	.250	.875	.914

# ALL TRAFFIC DATA

(916) 771-8700

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File Name : 17-07762-030

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	8	0	19	0	27	0	95	59	0	154	0	0	0	0	0	0	141	48	0	189	370	0
7:15	29	0	21	0	50	0	99	80	0	179	0	0	0	0	0	0	165	47	0	212	441	0
7:30	46	0	27	0	73	0	212	88	0	300	0	0	0	0	0	0	289	54	0	343	716	0
7:45	37	0	17	0	54	0	302	122	0	424	0	0	0	0	0	0	246	66	0	312	790	0
<b>Total</b>	<b>120</b>	<b>0</b>	<b>84</b>	<b>0</b>	<b>204</b>	<b>0</b>	<b>708</b>	<b>349</b>	<b>0</b>	<b>1057</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>841</b>	<b>215</b>	<b>0</b>	<b>1056</b>	<b>2317</b>	<b>0</b>
8:00	12	0	12	0	24	0	203	93	0	296	0	0	0	0	0	0	155	58	0	213	533	0
8:15	18	0	13	0	31	0	126	100	0	226	0	0	0	0	0	0	159	54	0	213	470	0
8:30	21	0	15	0	36	0	116	65	0	181	0	0	0	0	0	0	153	36	0	189	406	0
8:45	19	0	19	0	38	0	135	54	0	189	0	0	0	0	0	0	154	38	0	192	419	0
<b>Total</b>	<b>70</b>	<b>0</b>	<b>59</b>	<b>0</b>	<b>129</b>	<b>0</b>	<b>580</b>	<b>312</b>	<b>0</b>	<b>892</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>621</b>	<b>186</b>	<b>0</b>	<b>807</b>	<b>1828</b>	<b>0</b>
16:00	8	0	25	0	33	0	224	42	0	266	0	0	0	0	0	0	172	28	0	200	499	0
16:15	14	0	16	0	30	0	220	52	0	272	0	0	0	0	0	0	192	31	0	223	525	0
16:30	15	0	41	0	56	0	229	45	0	274	0	0	0	0	0	0	200	25	0	225	555	0
16:45	16	0	34	0	50	0	271	38	0	309	0	0	0	0	0	0	190	30	0	220	579	0
<b>Total</b>	<b>53</b>	<b>0</b>	<b>116</b>	<b>0</b>	<b>169</b>	<b>0</b>	<b>944</b>	<b>177</b>	<b>0</b>	<b>1121</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>754</b>	<b>114</b>	<b>0</b>	<b>868</b>	<b>2158</b>	<b>0</b>
17:00	19	0	21	0	40	0	270	65	0	335	0	0	0	0	0	0	217	39	0	256	631	0
17:15	9	0	28	0	37	0	299	59	0	358	0	0	0	0	0	0	261	28	0	289	684	0
17:30	13	0	21	0	34	0	268	39	0	307	0	0	0	0	0	0	230	29	0	259	600	0
17:45	20	0	23	0	43	0	245	35	0	280	0	0	0	0	0	0	190	31	0	221	544	0
<b>Total</b>	<b>61</b>	<b>0</b>	<b>93</b>	<b>0</b>	<b>154</b>	<b>0</b>	<b>1082</b>	<b>198</b>	<b>0</b>	<b>1280</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>898</b>	<b>127</b>	<b>0</b>	<b>1025</b>	<b>2459</b>	<b>0</b>
<b>Grand Total</b>	<b>304</b>	<b>0</b>	<b>352</b>	<b>0</b>	<b>656</b>	<b>0</b>	<b>3314</b>	<b>1036</b>	<b>0</b>	<b>4350</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3114</b>	<b>642</b>	<b>0</b>	<b>3756</b>	<b>8762</b>	<b>0</b>
Apprch %	46.3%	0.0%	53.7%	0.0%		0.0%	76.2%	23.8%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	82.9%	17.1%	0.0%			
Total %	3.5%	0.0%	4.0%	0.0%	7.5%	0.0%	37.8%	11.8%	0.0%	49.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	35.5%	7.3%	0.0%	42.9%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	46	0	27	0	73	0	212	88	0	300	0	0	0	0	0	0	289	54	0	343	716
7:45	37	0	17	0	54	0	302	122	0	424	0	0	0	0	0	0	246	66	0	312	790
8:00	12	0	12	0	24	0	203	93	0	296	0	0	0	0	0	0	155	58	0	213	533
8:15	18	0	13	0	31	0	126	100	0	226	0	0	0	0	0	0	159	54	0	213	470
Total Volume	113	0	69	0	182	0	843	403	0	1246	0	0	0	0	0	0	849	232	0	1081	2509
% App Total	62.1%	0.0%	37.9%	0.0%		0.0%	67.7%	32.3%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	78.5%	21.5%	0.0%		
PHF	.614	.000	.639	.000	.623	.000	.698	.826	.000	.735	.000	.000	.000	.000	.000	.000	.734	.879	.000	.788	.794

PM PEAK HOUR	SR 113 SB Ramps Southbound					E Gibson Rd Westbound					SR 113 SB Ramps Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	16	0	34	0	50	0	271	38	0	309	0	0	0	0	0	0	190	30	0	220	579
17:00	19	0	21	0	40	0	270	65	0	335	0	0	0	0	0	0	217	39	0	256	631
17:15	9	0	28	0	37	0	299	59	0	358	0	0	0	0	0	0	261	28	0	289	684
17:30	13	0	21	0	34	0	268	39	0	307	0	0	0	0	0	0	230	29	0	259	600
Total Volume	57	0	104	0	161	0	1108	201	0	1309	0	0	0	0	0	0	898	126	0	1024	2494
% App Total	35.4%	0.0%	64.6%	0.0%		0.0%	84.6%	15.4%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	87.7%	12.3%	0.0%		
PHF	.750	.000	.765	.000	.805	.000	.926	.773	.000	.914	.000	.000	.000	.000	.000	.000	.860	.808	.000	.886	.912

# ALL TRAFFIC DATA

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File Name : 17-07762-033

Date : 10/03/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	151	22	0	173	10	0	18	0	28	0	109	33	0	142	343	0
7:15	0	0	0	0	0	0	181	18	0	199	24	0	27	0	51	0	146	19	0	165	415	0
7:30	0	0	0	0	0	0	281	38	0	319	27	0	34	0	61	0	303	40	0	343	723	0
7:45	0	0	0	0	0	0	366	49	0	415	31	0	44	0	75	0	236	35	0	271	761	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>979</b>	<b>127</b>	<b>0</b>	<b>1106</b>	<b>92</b>	<b>0</b>	<b>123</b>	<b>0</b>	<b>215</b>	<b>0</b>	<b>794</b>	<b>127</b>	<b>0</b>	<b>921</b>	<b>2242</b>	<b>0</b>
8:00	0	0	0	0	0	0	293	16	0	309	35	0	37	0	72	0	156	36	0	192	573	0
8:15	0	0	0	0	0	0	190	20	0	210	19	0	36	0	55	0	167	27	0	194	459	0
8:30	0	0	0	0	0	0	144	11	0	155	26	0	60	0	86	0	155	19	0	174	415	0
8:45	0	0	0	0	0	0	180	14	0	194	29	0	55	0	84	0	179	13	0	192	470	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>807</b>	<b>61</b>	<b>0</b>	<b>868</b>	<b>109</b>	<b>0</b>	<b>188</b>	<b>0</b>	<b>297</b>	<b>0</b>	<b>657</b>	<b>95</b>	<b>0</b>	<b>752</b>	<b>1917</b>	<b>0</b>
16:00	0	0	0	0	0	0	215	20	0	235	37	0	107	0	144	0	155	27	0	182	561	0
16:15	0	0	0	0	0	0	217	17	0	234	61	0	104	0	165	0	195	19	0	214	613	0
16:30	0	0	0	0	0	0	231	18	0	249	35	0	108	0	143	0	213	11	0	224	616	0
16:45	0	0	0	0	0	0	241	26	0	267	61	0	122	0	183	0	190	11	0	201	651	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>904</b>	<b>81</b>	<b>0</b>	<b>985</b>	<b>194</b>	<b>0</b>	<b>441</b>	<b>0</b>	<b>635</b>	<b>0</b>	<b>753</b>	<b>68</b>	<b>0</b>	<b>821</b>	<b>2441</b>	<b>0</b>
17:00	0	0	0	0	0	0	278	20	0	298	40	0	149	0	189	0	237	18	0	255	742	0
17:15	0	0	0	0	0	0	274	23	0	297	70	0	181	0	251	0	240	16	0	256	804	0
17:30	0	0	0	0	0	0	273	20	0	293	48	0	130	0	178	0	202	23	0	225	696	0
17:45	0	0	0	0	0	0	237	23	0	260	53	0	106	0	159	0	186	23	0	209	628	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1062</b>	<b>86</b>	<b>0</b>	<b>1148</b>	<b>211</b>	<b>0</b>	<b>566</b>	<b>0</b>	<b>777</b>	<b>0</b>	<b>865</b>	<b>80</b>	<b>0</b>	<b>945</b>	<b>2870</b>	<b>0</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3752</b>	<b>355</b>	<b>0</b>	<b>4107</b>	<b>606</b>	<b>0</b>	<b>1318</b>	<b>0</b>	<b>1924</b>	<b>0</b>	<b>3069</b>	<b>370</b>	<b>0</b>	<b>3439</b>	<b>9470</b>	<b>0</b>
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	91.4%	8.6%	0.0%		31.5%	0.0%	68.5%	0.0%		0.0%	89.2%	10.8%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	39.6%	3.7%	0.0%	43.4%	6.4%	0.0%	13.9%	0.0%	20.3%	0.0%	32.4%	3.9%	0.0%	36.3%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	0	281	38	0	319	27	0	34	0	61	0	303	40	0	343	723
7:45	0	0	0	0	0	0	366	49	0	415	31	0	44	0	75	0	236	35	0	271	761
8:00	0	0	0	0	0	0	293	16	0	309	35	0	37	0	72	0	156	36	0	192	573
8:15	0	0	0	0	0	0	190	20	0	210	19	0	36	0	55	0	167	27	0	194	459
Total Volume	0	0	0	0	0	0	1130	123	0	1253	112	0	151	0	263	0	862	138	0	1000	2516
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	90.2%	9.8%	0.0%		42.6%	0.0%	57.4%	0.0%		0.0%	86.2%	13.8%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.772	.628	.000	.755	.800	.000	.858	.000	.877	.000	.711	.863	.000	.729	.827

PM PEAK HOUR	SR 113 NB Ramps Southbound					Gibson Rd Westbound					SR 113 NB Ramps Northbound					Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	241	26	0	267	61	0	122	0	183	0	190	11	0	201	651
17:00	0	0	0	0	0	0	278	20	0	298	40	0	149	0	189	0	237	18	0	255	742
17:15	0	0	0	0	0	0	274	23	0	297	70	0	181	0	251	0	240	16	0	256	804
17:30	0	0	0	0	0	0	273	20	0	293	48	0	130	0	178	0	202	23	0	225	696
Total Volume	0	0	0	0	0	0	1066	89	0	1155	219	0	582	0	801	0	869	68	0	937	2893
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	92.3%	7.7%	0.0%		27.3%	0.0%	72.7%	0.0%		0.0%	92.7%	7.3%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.959	.856	.000	.969	.782	.000	.804	.000	.798	.000	.905	.739	.000	.915	.900



# ALL TRAFFIC DATA

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File Name : 17-07763-001

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	29	0	29	0	141	4	0	145	0	0	0	0	0	0	126	0	0	126	300	0
7:15	0	0	21	0	21	0	152	4	0	156	0	0	1	0	1	0	189	0	0	189	367	0
7:30	0	0	33	0	33	0	288	5	0	293	0	0	0	0	0	0	338	1	0	339	665	0
7:45	0	0	47	0	47	0	393	16	0	409	0	0	2	0	2	0	312	0	0	312	770	0
<b>Total</b>	0	0	130	0	130	0	974	29	0	1003	0	0	3	0	3	0	965	1	0	966	2102	0
8:00	0	0	28	0	28	0	264	6	0	270	0	0	0	0	0	0	177	0	0	177	475	0
8:15	0	0	23	0	23	0	191	3	0	194	0	0	0	0	0	0	185	1	0	186	403	0
8:30	0	0	17	0	17	0	149	9	0	158	0	0	0	0	0	0	203	1	0	204	379	0
8:45	0	0	23	0	23	0	153	5	0	158	0	0	2	0	2	0	233	0	0	233	416	0
<b>Total</b>	0	0	91	0	91	0	757	23	0	780	0	0	2	0	2	0	798	2	0	800	1673	0
16:00	0	0	10	0	10	0	236	12	0	248	0	0	3	0	3	0	256	2	0	258	519	0
16:15	0	0	8	0	8	0	216	14	0	230	0	0	0	0	0	0	314	1	0	315	553	0
16:30	0	0	12	0	12	0	252	17	0	269	0	0	1	0	1	0	335	0	0	335	617	0
16:45	0	0	16	0	16	0	242	15	0	257	0	0	2	0	2	0	345	0	0	345	620	0
<b>Total</b>	0	0	46	0	46	0	946	58	0	1004	0	0	6	0	6	0	1250	3	0	1253	2309	0
17:00	0	0	20	0	20	0	302	16	0	318	0	0	0	0	0	0	365	0	0	365	703	0
17:15	0	0	24	0	24	0	292	19	0	311	0	0	0	0	0	0	391	0	0	391	726	0
17:30	0	0	19	0	19	0	268	28	0	296	0	0	1	0	1	0	434	0	0	434	750	0
17:45	0	0	26	0	26	0	236	18	0	254	0	0	0	0	0	0	302	0	0	302	582	0
<b>Total</b>	0	0	89	0	89	0	1098	81	0	1179	0	0	1	0	1	0	1492	0	0	1492	2761	0
<b>Grand Total</b>	0	0	356	0	356	0	3775	191	0	3966	0	0	12	0	12	0	4505	6	0	4511	8845	0
Apprch %	0.0%	0.0%	100.0%	0.0%		0.0%	95.2%	4.8%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	99.9%	0.1%	0.0%			
Total %	0.0%	0.0%	4.0%	0.0%	4.0%	0.0%	42.7%	2.2%	0.0%	44.8%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	50.9%	0.1%	0.0%	51.0%	100.0%	

AM PEAK HOUR	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	33	0	33	0	288	5	0	293	0	0	0	0	0	0	338	1	0	339	665
7:45	0	0	47	0	47	0	393	16	0	409	0	0	2	0	2	0	312	0	0	312	770
8:00	0	0	28	0	28	0	264	6	0	270	0	0	0	0	0	0	177	0	0	177	475
8:15	0	0	23	0	23	0	191	3	0	194	0	0	0	0	0	0	185	1	0	186	403
Total Volume	0	0	131	0	131	0	1136	30	0	1166	0	0	2	0	2	0	1012	2	0	1014	2313
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	97.4%	2.6%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	99.8%	0.2%	0.0%		
PHF	.000	.000	.697	.000	.697	.000	.723	.469	.000	.713	.000	.000	.250	.000	.250	.000	.749	.500	.000	.748	.751

PM PEAK HOUR	Bourn Dr - Harry Lorenzo Ave Southbound					E Gibson Rd Westbound					Bourn Dr - Harry Lorenzo Ave Northbound					E Gibson Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	16	0	16	0	242	15	0	257	0	0	2	0	2	0	345	0	0	345	620
17:00	0	0	20	0	20	0	302	16	0	318	0	0	0	0	0	0	365	0	0	365	703
17:15	0	0	24	0	24	0	292	19	0	311	0	0	0	0	0	0	391	0	0	391	726
17:30	0	0	19	0	19	0	268	28	0	296	0	0	1	0	1	0	434	0	0	434	750
Total Volume	0	0	79	0	79	0	1104	78	0	1182	0	0	3	0	3	0	1535	0	0	1535	2799
% App Total	0.0%	0.0%	100.0%	0.0%		0.0%	93.4%	6.6%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.000	.000	.823	.000	.823	.000	.914	.696	.000	.929	.000	.000	.375	.000	.375	.000	.884	.000	.000	.884	.933

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-041

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	9	10	37	1	57	6	76	3	5	90	34	19	4	0	57	21	86	21	0	128	332	6
7:15	7	35	44	0	86	17	80	3	3	103	42	27	8	0	77	30	79	64	3	176	442	6
7:30	19	118	49	1	187	42	114	5	3	164	126	76	26	0	228	34	145	143	0	322	901	4
7:45	21	125	92	0	238	43	177	4	4	228	156	149	40	0	345	40	163	130	3	336	1147	7
<b>Total</b>	<b>56</b>	<b>288</b>	<b>222</b>	<b>2</b>	<b>568</b>	<b>108</b>	<b>447</b>	<b>15</b>	<b>15</b>	<b>585</b>	<b>358</b>	<b>271</b>	<b>78</b>	<b>0</b>	<b>707</b>	<b>125</b>	<b>473</b>	<b>358</b>	<b>6</b>	<b>962</b>	<b>2822</b>	<b>23</b>
8:00	10	22	75	0	107	11	89	6	6	112	77	67	18	0	162	55	88	35	4	182	563	10
8:15	12	23	54	0	89	2	102	5	4	113	37	32	2	0	71	42	112	33	1	188	461	5
8:30	16	13	38	1	68	6	96	2	2	106	23	44	7	0	74	43	130	27	5	205	453	8
8:45	23	30	36	0	89	7	99	9	7	122	24	15	9	0	48	38	168	20	1	227	486	8
<b>Total</b>	<b>61</b>	<b>88</b>	<b>203</b>	<b>1</b>	<b>353</b>	<b>26</b>	<b>386</b>	<b>22</b>	<b>19</b>	<b>453</b>	<b>161</b>	<b>158</b>	<b>36</b>	<b>0</b>	<b>355</b>	<b>178</b>	<b>498</b>	<b>115</b>	<b>11</b>	<b>802</b>	<b>1963</b>	<b>31</b>
16:00	10	24	51	0	85	17	149	13	7	186	32	32	9	0	73	70	136	41	6	253	597	13
16:15	15	26	45	0	86	18	151	9	3	181	32	35	9	0	76	84	175	49	8	316	659	11
16:30	9	16	47	0	72	10	171	14	10	205	45	23	10	0	78	94	201	38	12	345	700	22
16:45	11	24	39	1	75	15	151	8	5	179	49	22	7	1	79	71	203	63	8	345	678	15
<b>Total</b>	<b>45</b>	<b>90</b>	<b>182</b>	<b>1</b>	<b>318</b>	<b>60</b>	<b>622</b>	<b>44</b>	<b>25</b>	<b>751</b>	<b>158</b>	<b>112</b>	<b>35</b>	<b>1</b>	<b>306</b>	<b>319</b>	<b>715</b>	<b>191</b>	<b>34</b>	<b>1259</b>	<b>2634</b>	<b>61</b>
17:00	18	30	54	1	103	23	202	15	7	247	52	21	10	0	83	92	191	72	6	361	794	14
17:15	19	29	51	0	99	23	206	11	6	246	43	43	14	1	101	99	227	73	14	413	859	21
17:30	6	31	55	1	93	20	163	11	8	202	51	18	7	0	76	107	223	68	18	416	787	27
17:45	8	50	34	0	92	22	141	6	4	173	65	46	12	1	124	74	162	63	6	305	694	11
<b>Total</b>	<b>51</b>	<b>140</b>	<b>194</b>	<b>2</b>	<b>387</b>	<b>88</b>	<b>712</b>	<b>43</b>	<b>25</b>	<b>868</b>	<b>211</b>	<b>128</b>	<b>43</b>	<b>2</b>	<b>384</b>	<b>372</b>	<b>803</b>	<b>276</b>	<b>44</b>	<b>1495</b>	<b>3134</b>	<b>73</b>
<b>Grand Total</b>	<b>213</b>	<b>606</b>	<b>801</b>	<b>6</b>	<b>1626</b>	<b>282</b>	<b>2167</b>	<b>124</b>	<b>84</b>	<b>2657</b>	<b>888</b>	<b>669</b>	<b>192</b>	<b>3</b>	<b>1752</b>	<b>994</b>	<b>2489</b>	<b>940</b>	<b>95</b>	<b>4518</b>	<b>10553</b>	<b>188</b>
Apprch %	13.1%	37.3%	49.3%	0.4%		10.6%	81.6%	4.7%	3.2%		50.7%	38.2%	11.0%	0.2%		22.0%	55.1%	20.8%	2.1%			
Total %	2.0%	5.7%	7.6%	0.1%	15.4%	2.7%	20.5%	1.2%	0.8%	25.2%	8.4%	6.3%	1.8%	0.0%	16.6%	9.4%	23.6%	8.9%	0.9%	42.8%	100.0%	

AM PEAK HOUR	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	19	118	49	1	187	42	114	5	3	164	126	76	26	0	228	34	145	143	0	322	901
7:45	21	125	92	0	238	43	177	4	4	228	156	149	40	0	345	40	163	130	3	336	1147
8:00	10	22	75	0	107	11	89	6	6	112	77	67	18	0	162	55	88	35	4	182	563
8:15	12	23	54	0	89	2	102	5	4	113	37	32	2	0	71	42	112	33	1	188	461
Total Volume	62	288	270	1	621	98	482	20	17	617	396	324	86	0	806	171	508	341	8	1028	3072
% App Total	10.0%	46.4%	43.5%	0.2%		15.9%	78.1%	3.2%	2.8%		49.1%	40.2%	10.7%	0.0%		16.6%	49.4%	33.2%	0.8%		
PHF	.738	.576	.734	.250	.652	.570	.681	.833	.708	.677	.635	.544	.538	.000	.584	.777	.779	.596	.500	.765	.670

PM PEAK HOUR	Pioneer Ave Southbound					Gibson Rd Westbound					Pioneer Ave Northbound					Gibson Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	18	30	54	1	103	23	202	15	7	247	52	21	10	0	83	92	191	72	6	361	794
17:15	19	29	51	0	99	23	206	11	6	246	43	43	14	1	101	99	227	73	14	413	859
17:30	6	31	55	1	93	20	163	11	8	202	51	18	7	0	76	107	223	68	18	416	787
17:45	8	50	34	0	92	22	141	6	4	173	65	46	12	1	124	74	162	63	6	305	694
Total Volume	51	140	194	2	387	88	712	43	25	868	211	128	43	2	384	372	803	276	44	1495	3134
% App Total	13.2%	36.2%	50.1%	0.5%		10.1%	82.0%	5.0%	2.9%		54.9%	33.3%	11.2%	0.5%		24.9%	53.7%	18.5%	2.9%		
PHF	.671	.700	.882	.500	.939	.957	.864	.717	.781	.879	.812	.696	.768	.500	.774	.869	.884	.945	.611	.898	.912

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-032

Date : 09/26/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	4	55	51	0	110	0	0	0	0	0	4	75	0	0	79	66	1	18	0	85	274	0
7:15	0	63	82	0	145	0	0	0	0	0	10	80	0	0	90	65	0	18	0	83	318	0
7:30	1	94	104	0	199	0	0	0	0	0	21	80	0	0	101	62	0	23	1	86	386	1
7:45	1	114	106	0	221	1	0	0	0	1	42	77	0	0	119	79	1	43	1	124	465	1
<b>Total</b>	<b>6</b>	<b>326</b>	<b>343</b>	<b>0</b>	<b>675</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>77</b>	<b>312</b>	<b>0</b>	<b>0</b>	<b>389</b>	<b>272</b>	<b>2</b>	<b>102</b>	<b>2</b>	<b>378</b>	<b>1443</b>	<b>2</b>
8:00	1	66	83	0	150	0	0	0	0	0	19	77	0	0	96	77	0	21	1	99	345	1
8:15	0	70	80	0	150	0	0	1	0	1	19	64	0	0	83	78	2	23	0	103	337	0
8:30	1	55	78	0	134	0	1	0	0	1	14	74	0	1	89	43	0	14	0	57	281	1
8:45	0	82	99	0	181	0	1	0	0	1	29	68	0	0	97	87	0	17	2	106	385	2
<b>Total</b>	<b>2</b>	<b>273</b>	<b>340</b>	<b>0</b>	<b>615</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>81</b>	<b>283</b>	<b>0</b>	<b>1</b>	<b>365</b>	<b>285</b>	<b>2</b>	<b>75</b>	<b>3</b>	<b>365</b>	<b>1348</b>	<b>4</b>
16:00	0	100	118	0	218	0	1	1	0	2	34	111	0	0	145	142	0	13	2	157	522	2
16:15	0	100	96	0	196	1	0	0	0	1	25	108	0	0	133	123	0	18	6	147	477	6
16:30	0	100	112	0	212	0	0	1	0	1	26	85	0	0	111	155	0	25	2	182	506	2
16:45	1	117	115	0	233	0	0	2	0	2	34	109	0	0	143	136	0	11	3	150	528	3
<b>Total</b>	<b>1</b>	<b>417</b>	<b>441</b>	<b>0</b>	<b>859</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>119</b>	<b>413</b>	<b>0</b>	<b>0</b>	<b>532</b>	<b>556</b>	<b>0</b>	<b>67</b>	<b>13</b>	<b>636</b>	<b>2033</b>	<b>13</b>
17:00	0	108	108	0	216	0	1	0	0	1	21	100	0	0	121	161	0	21	5	187	525	5
17:15	0	119	139	0	258	0	0	0	0	0	46	102	0	0	148	179	0	26	1	206	612	1
17:30	0	110	123	0	233	0	0	0	0	0	24	108	0	0	132	151	0	23	1	175	540	1
17:45	0	110	121	0	231	0	0	0	0	0	23	90	0	0	113	112	0	10	2	124	468	2
<b>Total</b>	<b>0</b>	<b>447</b>	<b>491</b>	<b>0</b>	<b>938</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>114</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>514</b>	<b>603</b>	<b>0</b>	<b>80</b>	<b>9</b>	<b>692</b>	<b>2145</b>	<b>9</b>
<b>Grand Total</b>	<b>9</b>	<b>1463</b>	<b>1615</b>	<b>0</b>	<b>3087</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>11</b>	<b>391</b>	<b>1408</b>	<b>0</b>	<b>1</b>	<b>1800</b>	<b>1716</b>	<b>4</b>	<b>324</b>	<b>27</b>	<b>2071</b>	<b>6969</b>	<b>28</b>
Apprch %	0.3%	47.4%	52.3%	0.0%		18.2%	36.4%	45.5%	0.0%		21.7%	78.2%	0.0%	0.1%		82.9%	0.2%	15.6%	1.3%			
Total %	0.1%	21.0%	23.2%	0.0%	44.3%	0.0%	0.1%	0.1%	0.0%	0.2%	5.6%	20.2%	0.0%	0.0%	25.8%	24.6%	0.1%	4.6%	0.4%	29.7%	100.0%	

AM PEAK HOUR	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	1	94	104	0	199	0	0	0	0	0	21	80	0	0	101	62	0	23	1	86	386
7:45	1	114	106	0	221	1	0	0	0	1	42	77	0	0	119	79	1	43	1	124	465
8:00	1	66	83	0	150	0	0	0	0	0	19	77	0	0	96	77	0	21	1	99	345
8:15	0	70	80	0	150	0	0	1	0	1	19	64	0	0	83	78	2	23	0	103	337
Total Volume	3	344	373	0	720	1	0	1	0	2	101	298	0	0	399	296	3	110	3	412	1533
% App Total	0.4%	47.8%	51.8%	0.0%		50.0%	0.0%	50.0%	0.0%		25.3%	74.7%	0.0%	0.0%		71.8%	0.7%	26.7%	0.7%		
PHF	.750	.754	.880	.000	.814	.250	.000	.250	.000	.500	.601	.931	.000	.000	.838	.937	.375	.640	.750	.831	.824

PM PEAK HOUR	CR 102 Southbound					E Gibson Westbound					CR 102 Northbound					E Gibson Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	1	117	115	0	233	0	0	2	0	2	34	109	0	0	143	136	0	11	3	150	528
17:00	0	108	108	0	216	0	1	0	0	1	21	100	0	0	121	161	0	21	5	187	525
17:15	0	119	139	0	258	0	0	0	0	0	46	102	0	0	148	179	0	26	1	206	612
17:30	0	110	123	0	233	0	0	0	0	0	24	108	0	0	132	151	0	23	1	175	540
Total Volume	1	454	485	0	940	0	1	2	0	3	125	419	0	0	544	627	0	81	10	718	2205
% App Total	0.1%	48.3%	51.6%	0.0%		0.0%	33.3%	66.7%	0.0%		23.0%	77.0%	0.0%	0.0%		87.3%	0.0%	11.3%	1.4%		
PHF	.250	.954	.872	.000	.911	.000	.250	.250	.000	.375	.679	.961	.000	.000	.919	.876	.000	.779	.500	.871	.901



# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-028

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	3	19	5	0	27	4	5	3	0	12	2	12	1	0	15	3	2	18	0	23	77	0
7:15	2	19	1	0	22	6	3	5	0	14	3	10	2	0	15	4	5	11	0	20	71	0
7:30	3	35	3	0	41	5	11	5	0	21	10	11	0	0	21	2	10	38	0	50	133	0
7:45	2	54	5	0	61	9	11	3	0	23	11	27	1	0	39	7	9	38	0	54	177	0
<b>Total</b>	<b>10</b>	<b>127</b>	<b>14</b>	<b>0</b>	<b>151</b>	<b>24</b>	<b>30</b>	<b>16</b>	<b>0</b>	<b>70</b>	<b>26</b>	<b>60</b>	<b>4</b>	<b>0</b>	<b>90</b>	<b>16</b>	<b>26</b>	<b>105</b>	<b>0</b>	<b>147</b>	<b>458</b>	<b>0</b>
8:00	1	54	4	0	59	14	7	2	0	23	5	22	3	0	30	3	4	22	0	29	141	0
8:15	7	48	2	0	57	7	2	2	0	11	5	18	2	0	25	1	4	21	0	26	119	0
8:30	6	38	5	0	49	1	6	1	0	8	6	25	4	0	35	1	5	21	0	27	119	0
8:45	3	29	2	0	34	3	5	1	0	9	3	18	3	0	24	1	4	11	0	16	83	0
<b>Total</b>	<b>17</b>	<b>169</b>	<b>13</b>	<b>0</b>	<b>199</b>	<b>25</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>51</b>	<b>19</b>	<b>83</b>	<b>12</b>	<b>0</b>	<b>114</b>	<b>6</b>	<b>17</b>	<b>75</b>	<b>0</b>	<b>98</b>	<b>462</b>	<b>0</b>
16:00	4	40	10	0	54	1	3	4	0	8	11	26	6	0	43	6	4	3	0	13	118	0
16:15	3	22	4	0	29	0	8	1	0	9	10	33	3	0	46	5	5	5	0	15	99	0
16:30	6	25	8	0	39	0	9	3	0	12	16	28	8	0	52	4	5	7	0	16	119	0
16:45	5	51	9	0	65	4	3	6	0	13	13	38	9	0	60	5	6	7	0	18	156	0
<b>Total</b>	<b>18</b>	<b>138</b>	<b>31</b>	<b>0</b>	<b>187</b>	<b>5</b>	<b>23</b>	<b>14</b>	<b>0</b>	<b>42</b>	<b>50</b>	<b>125</b>	<b>26</b>	<b>0</b>	<b>201</b>	<b>20</b>	<b>20</b>	<b>22</b>	<b>0</b>	<b>62</b>	<b>492</b>	<b>0</b>
17:00	4	34	16	0	54	2	8	11	1	22	18	49	12	0	79	7	15	11	0	33	188	1
17:15	6	43	7	0	56	3	7	3	0	13	27	45	13	0	85	1	16	12	0	29	183	0
17:30	4	36	8	0	48	2	7	9	0	18	19	39	8	0	66	5	6	11	0	22	154	0
17:45	14	45	5	0	64	1	4	4	0	9	11	45	7	0	63	2	7	10	0	19	155	0
<b>Total</b>	<b>28</b>	<b>158</b>	<b>36</b>	<b>0</b>	<b>222</b>	<b>8</b>	<b>26</b>	<b>27</b>	<b>1</b>	<b>62</b>	<b>75</b>	<b>178</b>	<b>40</b>	<b>0</b>	<b>293</b>	<b>15</b>	<b>44</b>	<b>44</b>	<b>0</b>	<b>103</b>	<b>680</b>	<b>1</b>
<b>Grand Total</b>	<b>73</b>	<b>592</b>	<b>94</b>	<b>0</b>	<b>759</b>	<b>62</b>	<b>99</b>	<b>63</b>	<b>1</b>	<b>225</b>	<b>170</b>	<b>446</b>	<b>82</b>	<b>0</b>	<b>698</b>	<b>57</b>	<b>107</b>	<b>246</b>	<b>0</b>	<b>410</b>	<b>2092</b>	<b>1</b>
Apprch %	9.6%	78.0%	12.4%	0.0%		27.6%	44.0%	28.0%	0.4%		24.4%	63.9%	11.7%	0.0%		13.9%	26.1%	60.0%	0.0%			
Total %	3.5%	28.3%	4.5%	0.0%	36.3%	3.0%	4.7%	3.0%	0.0%	10.8%	8.1%	21.3%	3.9%	0.0%	33.4%	2.7%	5.1%	11.8%	0.0%	19.6%	100.0%	

AM PEAK HOUR	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	3	35	3	0	41	5	11	5	0	21	10	11	0	0	21	2	10	38	0	50	133
7:45	2	54	5	0	61	9	11	3	0	23	11	27	1	0	39	7	9	38	0	54	177
8:00	1	54	4	0	59	14	7	2	0	23	5	22	3	0	30	3	4	22	0	29	141
8:15	7	48	2	0	57	7	2	2	0	11	5	18	2	0	25	1	4	21	0	26	119
Total Volume	13	191	14	0	218	35	31	12	0	78	31	78	6	0	115	13	27	119	0	159	570
% App Total	6.0%	87.6%	6.4%	0.0%		44.9%	39.7%	15.4%	0.0%		27.0%	67.8%	5.2%	0.0%		8.2%	17.0%	74.8%	0.0%		
PHF	.464	.884	.700	.000	.893	.625	.705	.600	.000	.848	.705	.722	.500	.000	.737	.464	.675	.783	.000	.736	.805

PM PEAK HOUR	East St Southbound					CR 24A Westbound					East St Northbound					CR 24A Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	5	51	9	0	65	4	3	6	0	13	13	38	9	0	60	5	6	7	0	18	156
17:00	4	34	16	0	54	2	8	11	1	22	18	49	12	0	79	7	15	11	0	33	188
17:15	6	43	7	0	56	3	7	3	0	13	27	45	13	0	85	1	16	12	0	29	183
17:30	4	36	8	0	48	2	7	9	0	18	19	39	8	0	66	5	6	11	0	22	154
Total Volume	19	164	40	0	223	11	25	29	1	66	77	171	42	0	290	18	43	41	0	102	681
% App Total	8.5%	73.5%	17.9%	0.0%		16.7%	37.9%	43.9%	1.5%		26.6%	59.0%	14.5%	0.0%		17.6%	42.2%	40.2%	0.0%		
PHF	.792	.804	.625	.000	.858	.688	.781	.659	.250	.750	.713	.872	.808	.000	.853	.643	.672	.854	.000	.773	.906

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07762-029

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	13	3	5	0	21	0	7	27	0	34	0	10	1	0	11	6	4	1	0	11	77	0
7:15	15	7	3	0	25	0	4	31	0	35	0	9	0	0	9	10	5	2	0	17	86	0
7:30	17	8	7	0	32	0	3	68	0	71	0	20	0	0	20	7	3	0	0	10	133	0
7:45	18	9	3	0	30	1	5	101	0	107	1	35	0	0	36	21	9	1	0	31	204	0
<b>Total</b>	<b>63</b>	<b>27</b>	<b>18</b>	<b>0</b>	<b>108</b>	<b>1</b>	<b>19</b>	<b>227</b>	<b>0</b>	<b>247</b>	<b>1</b>	<b>74</b>	<b>1</b>	<b>0</b>	<b>76</b>	<b>44</b>	<b>21</b>	<b>4</b>	<b>0</b>	<b>69</b>	<b>500</b>	<b>0</b>
8:00	31	10	3	0	44	1	3	56	0	60	0	26	0	0	26	7	7	0	0	14	144	0
8:15	28	11	2	0	41	0	5	41	0	46	1	18	0	0	19	5	6	0	0	11	117	0
8:30	26	9	8	0	43	0	3	46	0	49	1	13	0	0	14	7	7	3	0	17	123	0
8:45	38	10	2	0	50	0	1	22	0	23	2	14	0	0	16	5	1	1	0	7	96	0
<b>Total</b>	<b>123</b>	<b>40</b>	<b>15</b>	<b>0</b>	<b>178</b>	<b>1</b>	<b>12</b>	<b>165</b>	<b>0</b>	<b>178</b>	<b>4</b>	<b>71</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>24</b>	<b>21</b>	<b>4</b>	<b>0</b>	<b>49</b>	<b>480</b>	<b>0</b>
16:00	41	14	14	0	69	0	1	25	0	26	0	15	0	0	15	6	4	0	0	10	120	0
16:15	41	14	8	1	64	1	2	30	0	33	0	10	1	0	11	10	2	0	0	12	120	1
16:30	29	19	7	0	55	0	9	39	0	48	0	13	0	0	13	7	1	0	0	8	124	0
16:45	43	23	9	0	75	0	3	31	0	34	1	16	1	0	18	5	6	2	0	13	140	0
<b>Total</b>	<b>154</b>	<b>70</b>	<b>38</b>	<b>1</b>	<b>263</b>	<b>1</b>	<b>15</b>	<b>125</b>	<b>0</b>	<b>141</b>	<b>1</b>	<b>54</b>	<b>2</b>	<b>0</b>	<b>57</b>	<b>28</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>43</b>	<b>504</b>	<b>1</b>
17:00	65	22	5	0	92	1	7	31	0	39	1	13	0	0	14	3	3	1	0	7	152	0
17:15	59	22	14	0	95	1	5	53	0	59	3	8	0	0	11	6	5	0	0	11	176	0
17:30	50	16	5	0	71	0	4	34	0	38	0	19	1	0	20	8	12	1	0	21	150	0
17:45	51	14	9	0	74	1	5	46	0	52	0	16	0	0	16	9	7	1	0	17	159	0
<b>Total</b>	<b>225</b>	<b>74</b>	<b>33</b>	<b>0</b>	<b>332</b>	<b>3</b>	<b>21</b>	<b>164</b>	<b>0</b>	<b>188</b>	<b>4</b>	<b>56</b>	<b>1</b>	<b>0</b>	<b>61</b>	<b>26</b>	<b>27</b>	<b>3</b>	<b>0</b>	<b>56</b>	<b>637</b>	<b>0</b>
<b>Grand Total</b>	<b>565</b>	<b>211</b>	<b>104</b>	<b>1</b>	<b>881</b>	<b>6</b>	<b>67</b>	<b>681</b>	<b>0</b>	<b>754</b>	<b>10</b>	<b>255</b>	<b>4</b>	<b>0</b>	<b>269</b>	<b>122</b>	<b>82</b>	<b>13</b>	<b>0</b>	<b>217</b>	<b>2121</b>	<b>1</b>
Apprch %	64.1%	24.0%	11.8%	0.1%		0.8%	8.9%	90.3%	0.0%		3.7%	94.8%	1.5%	0.0%		56.2%	37.8%	6.0%	0.0%			
Total %	26.6%	9.9%	4.9%	0.0%	41.5%	0.3%	3.2%	32.1%	0.0%	35.5%	0.5%	12.0%	0.2%	0.0%	12.7%	5.8%	3.9%	0.6%	0.0%	10.2%	100.0%	

AM PEAK HOUR	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	17	8	7	0	32	0	3	68	0	71	0	20	0	0	20	7	3	0	0	10	133
7:45	18	9	3	0	30	1	5	101	0	107	1	35	0	0	36	21	9	1	0	31	204
8:00	31	10	3	0	44	1	3	56	0	60	0	26	0	0	26	7	7	0	0	14	144
8:15	28	11	2	0	41	0	5	41	0	46	1	18	0	0	19	5	6	0	0	11	117
Total Volume	94	38	15	0	147	2	16	266	0	284	2	99	0	0	101	40	25	1	0	66	598
% App Total	63.9%	25.9%	10.2%	0.0%		0.7%	5.6%	93.7%	0.0%		2.0%	98.0%	0.0%	0.0%		60.6%	37.9%	1.5%	0.0%		
PHF	.758	.864	.536	.000	.835	.500	.800	.658	.000	.664	.500	.707	.000	.000	.701	.476	.694	.250	.000	.532	.733

PM PEAK HOUR	Pioneer Ave Southbound					Farmers Central Rd Westbound					Pioneer Ave Northbound					Farmers Central Rd Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	65	22	5	0	92	1	7	31	0	39	1	13	0	0	14	3	3	1	0	7	152
17:15	59	22	14	0	95	1	5	53	0	59	3	8	0	0	11	6	5	0	0	11	176
17:30	50	16	5	0	71	0	4	34	0	38	0	19	1	0	20	8	12	1	0	21	150
17:45	51	14	9	0	74	1	5	46	0	52	0	16	0	0	16	9	7	1	0	17	159
Total Volume	225	74	33	0	332	3	21	164	0	188	4	56	1	0	61	26	27	3	0	56	637
% App Total	67.8%	22.3%	9.9%	0.0%		1.6%	11.2%	87.2%	0.0%		6.6%	91.8%	1.6%	0.0%		46.4%	48.2%	5.4%	0.0%		
PHF	.865	.841	.589	.000	.874	.750	.750	.774	.000	.797	.333	.737	.250	.000	.763	.722	.563	.750	.000	.667	.905

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07763-002

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	2	1	0	0	3	2	0	12	0	14	0	1	3	0	4	21	0
7:15	0	1	2	0	3	6	1	2	0	9	3	0	8	0	11	0	4	3	0	7	30	0
7:30	4	3	1	0	8	5	0	3	0	8	14	1	10	0	25	0	6	1	0	7	48	0
7:45	2	1	2	0	5	3	5	3	0	11	15	0	20	1	36	0	15	7	0	22	74	1
<b>Total</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>16</b>	<b>16</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>31</b>	<b>34</b>	<b>1</b>	<b>50</b>	<b>1</b>	<b>86</b>	<b>0</b>	<b>26</b>	<b>14</b>	<b>0</b>	<b>40</b>	<b>173</b>	<b>1</b>
8:00	6	1	0	0	7	5	6	0	0	11	11	0	13	0	24	0	7	3	0	10	52	0
8:15	2	0	0	0	2	7	6	1	0	14	4	1	8	0	13	0	9	6	0	15	44	0
8:30	3	2	0	0	5	7	2	1	0	10	7	1	6	1	15	1	6	3	0	10	40	1
8:45	2	1	0	0	3	3	4	2	0	9	3	1	7	0	11	1	5	3	0	9	32	0
<b>Total</b>	<b>13</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>22</b>	<b>18</b>	<b>4</b>	<b>0</b>	<b>44</b>	<b>25</b>	<b>3</b>	<b>34</b>	<b>1</b>	<b>63</b>	<b>2</b>	<b>27</b>	<b>15</b>	<b>0</b>	<b>44</b>	<b>168</b>	<b>1</b>
16:00	0	1	1	0	2	11	3	2	0	16	5	1	6	0	12	0	5	7	0	12	42	0
16:15	3	0	0	0	3	9	3	3	0	15	0	1	3	0	4	1	4	0	0	5	27	0
16:30	0	3	0	0	3	14	0	2	0	16	3	3	8	0	14	0	4	4	1	9	42	1
16:45	5	1	0	0	6	13	6	7	0	26	5	0	10	0	15	1	2	5	0	8	55	0
<b>Total</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>47</b>	<b>12</b>	<b>14</b>	<b>0</b>	<b>73</b>	<b>13</b>	<b>5</b>	<b>27</b>	<b>0</b>	<b>45</b>	<b>2</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>34</b>	<b>166</b>	<b>1</b>
17:00	2	0	0	0	2	18	2	4	0	24	2	1	8	0	11	0	3	5	1	9	46	1
17:15	2	1	1	0	4	13	7	3	0	23	6	1	7	0	14	2	3	3	1	9	50	1
17:30	2	0	0	0	2	14	5	1	0	20	8	1	8	0	17	2	6	7	0	15	54	0
17:45	4	1	0	0	5	10	4	2	0	16	4	1	9	0	14	0	4	4	0	8	43	0
<b>Total</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>55</b>	<b>18</b>	<b>10</b>	<b>0</b>	<b>83</b>	<b>20</b>	<b>4</b>	<b>32</b>	<b>0</b>	<b>56</b>	<b>4</b>	<b>16</b>	<b>19</b>	<b>2</b>	<b>41</b>	<b>193</b>	<b>2</b>
<b>Grand Total</b>	<b>37</b>	<b>16</b>	<b>7</b>	<b>0</b>	<b>60</b>	<b>140</b>	<b>55</b>	<b>36</b>	<b>0</b>	<b>231</b>	<b>92</b>	<b>13</b>	<b>143</b>	<b>2</b>	<b>250</b>	<b>8</b>	<b>84</b>	<b>64</b>	<b>3</b>	<b>159</b>	<b>700</b>	<b>5</b>
Apprch %	61.7%	26.7%	11.7%	0.0%		60.6%	23.8%	15.6%	0.0%		36.8%	5.2%	57.2%	0.8%		5.0%	52.8%	40.3%	1.9%			
Total %	5.3%	2.3%	1.0%	0.0%	8.6%	20.0%	7.9%	5.1%	0.0%	33.0%	13.1%	1.9%	20.4%	0.3%	35.7%	1.1%	12.0%	9.1%	0.4%	22.7%	100.0%	

AM PEAK HOUR	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	4	3	1	0	8	5	0	3	0	8	14	1	10	0	25	0	6	1	0	7	48
7:45	2	1	2	0	5	3	5	3	0	11	15	0	20	1	36	0	15	7	0	22	74
8:00	6	1	0	0	7	5	6	0	0	11	11	0	13	0	24	0	7	3	0	10	52
8:15	2	0	0	0	2	7	6	1	0	14	4	1	8	0	13	0	9	6	0	15	44
Total Volume	14	5	3	0	22	20	17	7	0	44	44	2	51	1	98	0	37	17	0	54	218
% App Total	63.6%	22.7%	13.6%	0.0%		45.5%	38.6%	15.9%	0.0%		44.9%	2.0%	52.0%	1.0%		0.0%	68.5%	31.5%	0.0%		
PHF	.583	.417	.375	.000	.688	.714	.708	.583	.000	.786	.733	.500	.638	.250	.681	.000	.617	.607	.000	.614	.736

PM PEAK HOUR	Parkland Ave Southbound					E Heritage Pkwy Westbound					Parkland Ave Northbound					E Heritage Pkwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	5	1	0	0	6	13	6	7	0	26	5	0	10	0	15	1	2	5	0	8	55
17:00	2	0	0	0	2	18	2	4	0	24	2	1	8	0	11	0	3	5	1	9	46
17:15	2	1	1	0	4	13	7	3	0	23	6	1	7	0	14	2	3	3	1	9	50
17:30	2	0	0	0	2	14	5	1	0	20	8	1	8	0	17	2	6	7	0	15	54
Total Volume	11	2	1	0	14	58	20	15	0	93	21	3	33	0	57	5	14	20	2	41	205
% App Total	78.6%	14.3%	7.1%	0.0%		62.4%	21.5%	16.1%	0.0%		36.8%	5.3%	57.9%	0.0%		12.2%	34.1%	48.8%	4.9%		
PHF	.550	.500	.250	.000	.583	.806	.714	.536	.000	.894	.656	.750	.825	.000	.838	.625	.583	.714	.500	.683	.932

# ALL TRAFFIC DATA

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File Name : 17-07763-003

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	4	61	11	0	76	0	0	2	0	2	3	33	1	0	37	21	0	21	0	42	157	0
7:15	0	65	12	0	77	0	0	1	0	1	6	39	0	0	45	27	0	35	0	62	185	0
7:30	4	82	11	0	97	0	0	1	0	1	5	46	1	0	52	27	0	41	0	68	218	0
7:45	5	112	12	0	129	0	0	2	0	2	5	64	0	0	69	20	3	69	0	92	292	0
<b>Total</b>	<b>13</b>	<b>320</b>	<b>46</b>	<b>0</b>	<b>379</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>19</b>	<b>182</b>	<b>2</b>	<b>0</b>	<b>203</b>	<b>95</b>	<b>3</b>	<b>166</b>	<b>0</b>	<b>264</b>	<b>852</b>	<b>0</b>
8:00	2	85	13	0	100	0	0	2	0	2	19	35	1	0	55	17	4	68	0	89	246	0
8:15	1	77	18	0	96	0	0	5	0	5	13	35	0	0	48	16	1	33	0	50	199	0
8:30	2	61	10	0	73	0	0	0	0	0	15	54	0	0	69	22	0	16	0	38	180	0
8:45	3	68	14	0	85	1	0	1	0	2	5	53	0	0	58	20	1	14	0	35	180	0
<b>Total</b>	<b>8</b>	<b>291</b>	<b>55</b>	<b>0</b>	<b>354</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>9</b>	<b>52</b>	<b>177</b>	<b>1</b>	<b>0</b>	<b>230</b>	<b>75</b>	<b>6</b>	<b>131</b>	<b>0</b>	<b>212</b>	<b>805</b>	<b>0</b>
16:00	1	70	16	0	87	1	2	1	0	4	17	100	0	0	117	13	0	11	0	24	232	0
16:15	3	71	18	0	92	0	0	4	0	4	18	105	0	0	123	11	0	14	0	25	244	0
16:30	2	70	17	1	90	1	0	0	0	1	27	103	0	0	130	14	0	12	0	26	247	1
16:45	2	73	21	0	96	0	0	5	0	5	21	102	0	0	123	12	0	15	0	27	251	0
<b>Total</b>	<b>8</b>	<b>284</b>	<b>72</b>	<b>1</b>	<b>365</b>	<b>2</b>	<b>2</b>	<b>10</b>	<b>0</b>	<b>14</b>	<b>83</b>	<b>410</b>	<b>0</b>	<b>0</b>	<b>493</b>	<b>50</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>102</b>	<b>974</b>	<b>1</b>
17:00	4	82	21	0	107	0	1	3	0	4	26	97	0	0	123	13	0	9	0	22	256	0
17:15	0	84	18	0	102	0	2	2	0	4	34	118	0	0	152	15	0	9	0	24	282	0
17:30	3	83	22	0	108	0	2	2	0	4	27	92	0	0	119	12	1	15	0	28	259	0
17:45	3	56	18	0	77	0	0	1	0	1	28	91	0	0	119	17	0	13	0	30	227	0
<b>Total</b>	<b>10</b>	<b>305</b>	<b>79</b>	<b>0</b>	<b>394</b>	<b>0</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>13</b>	<b>115</b>	<b>398</b>	<b>0</b>	<b>0</b>	<b>513</b>	<b>57</b>	<b>1</b>	<b>46</b>	<b>0</b>	<b>104</b>	<b>1024</b>	<b>0</b>
<b>Grand Total</b>	<b>39</b>	<b>1200</b>	<b>252</b>	<b>1</b>	<b>1492</b>	<b>3</b>	<b>7</b>	<b>32</b>	<b>0</b>	<b>42</b>	<b>269</b>	<b>1167</b>	<b>3</b>	<b>0</b>	<b>1439</b>	<b>277</b>	<b>10</b>	<b>395</b>	<b>0</b>	<b>682</b>	<b>3655</b>	<b>1</b>
Apprch %	2.6%	80.4%	16.9%	0.1%		7.1%	16.7%	76.2%	0.0%		18.7%	81.1%	0.2%	0.0%		40.6%	1.5%	57.9%	0.0%			
Total %	1.1%	32.8%	6.9%	0.0%	40.8%	0.1%	0.2%	0.9%	0.0%	1.1%	7.4%	31.9%	0.1%	0.0%	39.4%	7.6%	0.3%	10.8%	0.0%	18.7%	100.0%	

AM PEAK HOUR	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	4	82	11	0	97	0	0	1	0	1	5	46	1	0	52	27	0	41	0	68	218
7:45	5	112	12	0	129	0	0	2	0	2	5	64	0	0	69	20	3	69	0	92	292
8:00	2	85	13	0	100	0	0	2	0	2	19	35	1	0	55	17	4	68	0	89	246
8:15	1	77	18	0	96	0	0	5	0	5	13	35	0	0	48	16	1	33	0	50	199
Total Volume	12	356	54	0	422	0	0	10	0	10	42	180	2	0	224	80	8	211	0	299	955
% App Total	2.8%	84.4%	12.8%	0.0%		0.0%	0.0%	100.0%	0.0%		18.8%	80.4%	0.9%	0.0%		26.8%	2.7%	70.6%	0.0%		
PHF	.600	.795	.750	.000	.818	.000	.000	.500	.000	.500	.553	.703	.500	.000	.812	.741	.500	.764	.000	.813	.818

PM PEAK HOUR	Co Rd 102 Southbound					E Heritage Pkwy Westbound					Co Rd 102 Northbound					E Heritage Pkwy Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	2	73	21	0	96	0	0	5	0	5	21	102	0	0	123	12	0	15	0	27	251
17:00	4	82	21	0	107	0	1	3	0	4	26	97	0	0	123	13	0	9	0	22	256
17:15	0	84	18	0	102	0	2	2	0	4	34	118	0	0	152	15	0	9	0	24	282
17:30	3	83	22	0	108	0	2	2	0	4	27	92	0	0	119	12	1	15	0	28	259
Total Volume	9	322	82	0	413	0	5	12	0	17	108	409	0	0	517	52	1	48	0	101	1048
% App Total	2.2%	78.0%	19.9%	0.0%		0.0%	29.4%	70.6%	0.0%		20.9%	79.1%	0.0%	0.0%		51.5%	1.0%	47.5%	0.0%		
PHF	.563	.958	.932	.000	.956	.000	.625	.600	.000	.850	.794	.867	.000	.000	.850	.867	.250	.800	.000	.902	.929

# ALL TRAFFIC DATA

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File Name : 17-07763-004

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	2	2	4	0	7	0	0	7	0	0	0	0	0	1	2	0	0	3	14	2
7:15	0	0	6	1	7	0	12	0	0	12	0	0	0	0	0	3	3	0	0	6	25	1
7:30	0	0	10	1	11	0	16	2	0	18	0	0	0	0	0	2	2	0	0	4	33	1
7:45	1	0	22	2	25	0	37	3	0	40	0	0	0	0	0	14	3	0	0	17	82	2
<b>Total</b>	1	0	40	6	47	0	72	5	0	77	0	0	0	0	0	20	10	0	0	30	154	6
8:00	2	0	13	1	16	0	27	3	0	30	0	0	0	0	0	2	6	0	0	8	54	1
8:15	1	0	6	1	8	0	18	1	0	19	0	0	0	0	0	9	6	0	0	15	42	1
8:30	1	0	6	1	8	0	9	2	0	11	0	0	0	0	0	6	13	0	0	19	38	1
8:45	3	0	3	2	8	0	5	1	0	6	0	0	0	0	0	4	5	0	0	9	23	2
<b>Total</b>	7	0	28	5	40	0	59	7	0	66	0	0	0	0	0	21	30	0	0	51	157	5
16:00	2	0	5	3	10	0	2	0	0	2	0	0	0	0	0	5	11	0	0	16	28	3
16:15	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	2	13	0	0	15	19	0
16:30	0	0	1	2	3	0	2	1	0	3	0	0	0	0	0	6	11	0	0	17	23	2
16:45	2	0	5	1	8	0	11	0	0	11	0	0	0	0	0	7	11	0	0	18	37	1
<b>Total</b>	5	0	11	6	22	0	17	2	0	19	0	0	0	0	0	20	46	0	0	66	107	6
17:00	2	0	2	1	5	0	10	0	0	10	0	0	0	0	0	6	13	0	0	19	34	1
17:15	4	0	9	2	15	0	7	2	0	9	0	0	0	0	0	5	13	0	0	18	42	2
17:30	4	0	4	0	8	0	5	0	0	5	0	0	0	0	0	11	16	0	0	27	40	0
17:45	3	0	2	0	5	0	10	0	0	10	0	0	0	0	0	7	7	0	0	14	29	0
<b>Total</b>	13	0	17	3	33	0	32	2	0	34	0	0	0	0	0	29	49	0	0	78	145	3
<b>Grand Total</b>	26	0	96	20	142	0	180	16	0	196	0	0	0	0	0	90	135	0	0	225	563	20
Apprch %	18.3%	0.0%	67.6%	14.1%		0.0%	91.8%	8.2%	0.0%		0.0%	0.0%	0.0%	0.0%		40.0%	60.0%	0.0%	0.0%			
Total %	4.6%	0.0%	17.1%	3.6%	25.2%	0.0%	32.0%	2.8%	0.0%	34.8%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	24.0%	0.0%	0.0%	40.0%	100.0%	

AM PEAK HOUR	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	1	0	22	2	25	0	37	3	0	40	0	0	0	0	0	14	3	0	0	17	82
8:00	2	0	13	1	16	0	27	3	0	30	0	0	0	0	0	2	6	0	0	8	54
8:15	1	0	6	1	8	0	18	1	0	19	0	0	0	0	0	9	6	0	0	15	42
8:30	1	0	6	1	8	0	9	2	0	11	0	0	0	0	0	6	13	0	0	19	38
Total Volume	5	0	47	5	57	0	91	9	0	100	0	0	0	0	0	31	28	0	0	59	216
% App Total	8.8%	0.0%	82.5%	8.8%		0.0%	91.0%	9.0%	0.0%		0.0%	0.0%	0.0%	0.0%		52.5%	47.5%	0.0%	0.0%		
PHF	.625	.000	.534	.625	.570	.000	.615	.750	.000	.625	.000	.000	.000	.000	.000	.554	.538	.000	.000	.776	.659

PM PEAK HOUR	Parkland Ave Southbound					Marston Rd Westbound					Parkland Ave Northbound					Marston Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	2	0	5	1	8	0	11	0	0	11	0	0	0	0	0	7	11	0	0	18	37
17:00	2	0	2	1	5	0	10	0	0	10	0	0	0	0	0	6	13	0	0	19	34
17:15	4	0	9	2	15	0	7	2	0	9	0	0	0	0	0	5	13	0	0	18	42
17:30	4	0	4	0	8	0	5	0	0	5	0	0	0	0	0	11	16	0	0	27	40
Total Volume	12	0	20	4	36	0	33	2	0	35	0	0	0	0	0	29	53	0	0	82	153
% App Total	33.3%	0.0%	55.6%	11.1%		0.0%	94.3%	5.7%	0.0%		0.0%	0.0%	0.0%	0.0%		35.4%	64.6%	0.0%	0.0%		
PHF	.750	.000	.556	.500	.600	.000	.750	.250	.000	.795	.000	.000	.000	.000	.000	.659	.828	.000	.000	.759	.911



# ALL TRAFFIC DATA

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File Name : 17-07763-005

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	33	1	6	0	40	0	16	10	0	26	0	1	0	0	1	1	17	1	0	19	86	0
7:15	31	0	5	0	36	0	19	16	0	35	0	0	1	0	1	2	30	0	0	32	104	0
7:30	63	0	7	0	70	1	17	18	0	36	1	0	0	0	1	1	32	0	0	33	140	0
7:45	64	1	13	0	78	0	32	28	0	60	0	1	1	0	2	8	49	0	0	57	197	0
<b>Total</b>	<b>191</b>	<b>2</b>	<b>31</b>	<b>0</b>	<b>224</b>	<b>1</b>	<b>84</b>	<b>72</b>	<b>0</b>	<b>157</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>12</b>	<b>128</b>	<b>1</b>	<b>0</b>	<b>141</b>	<b>527</b>	<b>0</b>
8:00	52	1	11	0	64	0	45	19	0	64	1	1	0	0	2	5	43	1	0	49	179	0
8:15	39	1	10	0	50	0	35	29	0	64	0	1	2	0	3	12	49	0	0	61	178	0
8:30	34	0	6	0	40	0	19	26	0	45	0	0	0	0	0	6	38	0	0	44	129	0
8:45	28	1	3	0	32	0	9	17	0	26	0	0	0	0	0	4	22	0	0	26	84	0
<b>Total</b>	<b>153</b>	<b>3</b>	<b>30</b>	<b>0</b>	<b>186</b>	<b>0</b>	<b>108</b>	<b>91</b>	<b>0</b>	<b>199</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>27</b>	<b>152</b>	<b>1</b>	<b>0</b>	<b>180</b>	<b>570</b>	<b>0</b>
16:00	28	1	7	0	36	0	20	34	0	54	0	1	0	0	1	7	24	0	0	31	122	0
16:15	15	0	6	0	21	0	19	37	0	56	0	0	1	0	1	5	21	0	0	26	104	0
16:30	20	0	4	0	24	1	20	23	0	44	0	0	0	0	0	17	18	0	0	35	103	0
16:45	22	0	13	0	35	0	31	37	0	68	0	0	1	0	1	15	13	0	0	28	132	0
<b>Total</b>	<b>85</b>	<b>1</b>	<b>30</b>	<b>0</b>	<b>116</b>	<b>1</b>	<b>90</b>	<b>131</b>	<b>0</b>	<b>222</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>44</b>	<b>76</b>	<b>0</b>	<b>0</b>	<b>120</b>	<b>461</b>	<b>0</b>
17:00	25	0	4	0	29	0	44	49	0	93	0	0	0	0	0	18	25	0	0	43	165	0
17:15	26	1	10	0	37	0	31	63	0	94	0	1	0	0	1	14	26	0	0	40	172	0
17:30	17	0	13	0	30	2	24	46	0	72	0	0	1	0	1	13	18	3	0	34	137	0
17:45	29	0	5	0	34	0	22	45	0	67	1	0	0	0	1	12	20	1	0	33	135	0
<b>Total</b>	<b>97</b>	<b>1</b>	<b>32</b>	<b>0</b>	<b>130</b>	<b>2</b>	<b>121</b>	<b>203</b>	<b>0</b>	<b>326</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>57</b>	<b>89</b>	<b>4</b>	<b>0</b>	<b>150</b>	<b>609</b>	<b>0</b>
<b>Grand Total</b>	<b>526</b>	<b>7</b>	<b>123</b>	<b>0</b>	<b>656</b>	<b>4</b>	<b>403</b>	<b>497</b>	<b>0</b>	<b>904</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>16</b>	<b>140</b>	<b>445</b>	<b>6</b>	<b>0</b>	<b>591</b>	<b>2167</b>	<b>0</b>
Apprch %	80.2%	1.1%	18.8%	0.0%		0.4%	44.6%	55.0%	0.0%		18.8%	37.5%	43.8%	0.0%		23.7%	75.3%	1.0%	0.0%			
Total %	24.3%	0.3%	5.7%	0.0%	30.3%	0.2%	18.6%	22.9%	0.0%	41.7%	0.1%	0.3%	0.3%	0.0%	0.7%	6.5%	20.5%	0.3%	0.0%	27.3%	100.0%	

AM PEAK HOUR	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	63	0	7	0	70	1	17	18	0	36	1	0	0	0	1	1	32	0	0	33	140
7:45	64	1	13	0	78	0	32	28	0	60	0	1	1	0	2	8	49	0	0	57	197
8:00	52	1	11	0	64	0	45	19	0	64	1	1	0	0	2	5	43	1	0	49	179
8:15	39	1	10	0	50	0	35	29	0	64	0	1	2	0	3	12	49	0	0	61	178
Total Volume	218	3	41	0	262	1	129	94	0	224	2	3	3	0	8	26	173	1	0	200	694
% App Total	83.2%	1.1%	15.6%	0.0%		0.4%	57.6%	42.0%	0.0%		25.0%	37.5%	37.5%	0.0%		13.0%	86.5%	0.5%	0.0%		
PHF	.852	.750	.788	.000	.840	.250	.717	.810	.000	.875	.500	.750	.375	.000	.667	.542	.883	.250	.000	.820	.881

PM PEAK HOUR	East St Southbound					Co Rd 25A Westbound					East St Northbound					Co Rd 25A Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	25	0	4	0	29	0	44	49	0	93	0	0	0	0	0	18	25	0	0	43	165
17:15	26	1	10	0	37	0	31	63	0	94	0	1	0	0	1	14	26	0	0	40	172
17:30	17	0	13	0	30	2	24	46	0	72	0	0	1	0	1	13	18	3	0	34	137
17:45	29	0	5	0	34	0	22	45	0	67	1	0	0	0	1	12	20	1	0	33	135
Total Volume	97	1	32	0	130	2	121	203	0	326	1	1	1	0	3	57	89	4	0	150	609
% App Total	74.6%	0.8%	24.6%	0.0%		0.6%	37.1%	62.3%	0.0%		33.3%	33.3%	33.3%	0.0%		38.0%	59.3%	2.7%	0.0%		
PHF	.836	.250	.615	.000	.878	.250	.688	.806	.000	.867	.250	.250	.250	.000	.750	.792	.856	.333	.000	.872	.885

# ALL TRAFFIC DATA

(916) 771-8700

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File Name : 17-07763-006

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	8	0	8	15	19	0	0	34	0	0	0	0	0	0	5	47	0	52	94	0
7:15	1	0	4	0	5	10	30	0	0	40	0	0	0	0	0	0	15	47	0	62	107	0
7:30	0	1	3	0	4	31	36	0	0	67	0	0	0	0	0	0	15	78	0	93	164	0
7:45	3	0	15	0	18	54	46	0	0	100	0	0	0	0	0	0	20	103	0	123	241	0
Total	4	1	30	0	35	110	131	0	0	241	0	0	0	0	0	0	55	275	0	330	606	0
8:00	1	0	13	0	14	37	49	0	0	86	0	0	0	0	0	0	14	74	0	88	188	0
8:15	2	0	14	0	16	22	51	0	0	73	0	0	0	0	0	0	19	72	0	91	180	0
8:30	1	0	3	0	4	15	41	0	0	56	0	0	0	0	0	0	20	55	0	75	135	0
8:45	1	0	4	0	5	9	21	0	0	30	0	0	0	0	0	0	14	38	0	52	87	0
Total	5	0	34	0	39	83	162	0	0	245	0	0	0	0	0	0	67	239	0	306	590	0
16:00	0	0	5	0	5	2	53	0	0	55	0	0	0	0	0	0	17	33	0	50	110	0
16:15	2	0	0	0	2	2	57	0	0	59	0	0	0	0	0	0	18	23	0	41	102	0
16:30	1	0	3	0	4	3	45	0	0	48	0	0	0	0	0	0	9	31	0	40	92	0
16:45	4	1	4	0	9	8	63	0	0	71	0	0	0	0	0	0	9	28	0	37	117	0
Total	7	1	12	0	20	15	218	0	0	233	0	0	0	0	0	0	53	115	0	168	421	0
17:00	1	0	8	0	9	6	83	0	0	89	0	0	0	0	0	0	16	35	0	51	149	0
17:15	0	0	6	0	6	6	93	0	0	99	0	0	0	0	0	0	21	37	0	58	163	0
17:30	2	0	9	0	11	7	61	0	0	68	0	0	0	0	0	0	14	22	0	36	115	0
17:45	0	0	7	0	7	8	61	0	0	69	0	0	0	0	0	0	10	36	0	46	122	0
Total	3	0	30	0	33	27	298	0	0	325	0	0	0	0	0	0	61	130	0	191	549	0
Grand Total	19	2	106	0	127	235	809	0	0	1044	0	0	0	0	0	0	236	759	0	995	2166	0
Apprch %	15.0%	1.6%	83.5%	0.0%		22.5%	77.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	23.7%	76.3%	0.0%			
Total %	0.9%	0.1%	4.9%	0.0%	5.9%	10.8%	37.3%	0.0%	0.0%	48.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.9%	35.0%	0.0%	45.9%	100.0%	

AM PEAK HOUR	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	1	3	0	4	31	36	0	0	67	0	0	0	0	0	0	15	78	0	93	164
7:45	3	0	15	0	18	54	46	0	0	100	0	0	0	0	0	0	20	103	0	123	241
8:00	1	0	13	0	14	37	49	0	0	86	0	0	0	0	0	0	14	74	0	88	188
8:15	2	0	14	0	16	22	51	0	0	73	0	0	0	0	0	0	19	72	0	91	180
Total Volume	6	1	45	0	52	144	182	0	0	326	0	0	0	0	0	0	68	327	0	395	773
% App Total	11.5%	1.9%	86.5%	0.0%		44.2%	55.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	17.2%	82.8%	0.0%		
PHF	.500	.250	.750	.000	.722	.667	.892	.000	.000	.815	.000	.000	.000	.000	.000	.000	.850	.794	.000	.803	.802

PM PEAK HOUR	SR 113 SB Ramps Southbound					Co Rd 25A Westbound					SR 113 SB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	1	0	8	0	9	6	83	0	0	89	0	0	0	0	0	0	16	35	0	51	149
17:15	0	0	6	0	6	6	93	0	0	99	0	0	0	0	0	0	21	37	0	58	163
17:30	2	0	9	0	11	7	61	0	0	68	0	0	0	0	0	0	14	22	0	36	115
17:45	0	0	7	0	7	8	61	0	0	69	0	0	0	0	0	0	10	36	0	46	122
Total Volume	3	0	30	0	33	27	298	0	0	325	0	0	0	0	0	0	61	130	0	191	549
% App Total	9.1%	0.0%	90.9%	0.0%		8.3%	91.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	31.9%	68.1%	0.0%		
PHF	.375	.000	.833	.000	.750	.844	.801	.000	.000	.821	.000	.000	.000	.000	.000	.000	.726	.878	.000	.823	.842

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 17-07763-007

Date : 09/28/2017

## Unshifted Count = All Vehicles & Uturns

START TIME	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	0	0	0	0	0	21	3	0	24	14	0	4	0	18	2	3	0	0	5	47	0
7:15	0	0	0	0	0	0	17	0	0	17	23	0	4	0	27	3	12	0	0	15	59	0
7:30	0	0	0	0	0	0	45	2	0	47	22	0	3	0	25	5	9	0	0	14	86	0
7:45	0	0	0	0	0	0	70	8	0	78	30	0	5	0	35	5	19	0	0	24	137	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>153</b>	<b>13</b>	<b>0</b>	<b>166</b>	<b>89</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>105</b>	<b>15</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>58</b>	<b>329</b>	<b>0</b>
8:00	0	0	0	0	0	0	64	1	0	65	25	0	4	0	29	4	11	0	0	15	109	0
8:15	0	0	0	0	0	0	34	0	0	34	36	0	4	0	40	6	15	0	0	21	95	0
8:30	0	0	0	0	0	0	22	0	0	22	34	0	8	0	42	8	13	0	0	21	85	0
8:45	0	0	0	0	0	0	10	1	0	11	19	0	1	0	20	8	7	0	0	15	46	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>2</b>	<b>0</b>	<b>132</b>	<b>114</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>131</b>	<b>26</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>72</b>	<b>335</b>	<b>0</b>
16:00	0	0	0	0	0	0	8	0	0	8	48	0	17	0	65	6	9	0	0	15	88	0
16:15	0	0	0	0	0	0	5	1	0	6	55	1	11	0	67	11	11	0	0	22	95	0
16:30	0	0	0	0	0	0	8	0	0	8	42	2	14	0	58	6	3	0	0	9	75	0
16:45	0	0	0	0	0	0	18	2	0	20	53	0	17	0	70	4	9	0	0	13	103	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>3</b>	<b>0</b>	<b>42</b>	<b>198</b>	<b>3</b>	<b>59</b>	<b>0</b>	<b>260</b>	<b>27</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>59</b>	<b>361</b>	<b>0</b>
17:00	0	0	0	0	0	0	19	5	0	24	66	2	15	0	83	4	12	0	0	16	123	0
17:15	0	0	0	0	0	0	22	2	0	24	81	0	25	0	106	10	12	0	0	22	152	0
17:30	0	0	0	0	0	0	15	0	0	15	50	1	31	0	82	8	7	0	0	15	112	0
17:45	0	0	0	0	0	0	20	3	0	23	47	1	15	0	63	3	5	0	0	8	94	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>76</b>	<b>10</b>	<b>0</b>	<b>86</b>	<b>244</b>	<b>4</b>	<b>86</b>	<b>0</b>	<b>334</b>	<b>25</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>61</b>	<b>481</b>	<b>0</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>398</b>	<b>28</b>	<b>0</b>	<b>426</b>	<b>645</b>	<b>7</b>	<b>178</b>	<b>0</b>	<b>830</b>	<b>93</b>	<b>157</b>	<b>0</b>	<b>0</b>	<b>250</b>	<b>1506</b>	<b>0</b>
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	93.4%	6.6%	0.0%		77.7%	0.8%	21.4%	0.0%		37.2%	62.8%	0.0%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	26.4%	1.9%	0.0%	28.3%	42.8%	0.5%	11.8%	0.0%	55.1%	6.2%	10.4%	0.0%	0.0%	16.6%	100.0%	

AM PEAK HOUR	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	0	0	0	0	0	0	45	2	0	47	22	0	3	0	25	5	9	0	0	14	86
7:45	0	0	0	0	0	0	70	8	0	78	30	0	5	0	35	5	19	0	0	24	137
8:00	0	0	0	0	0	0	64	1	0	65	25	0	4	0	29	4	11	0	0	15	109
8:15	0	0	0	0	0	0	34	0	0	34	36	0	4	0	40	6	15	0	0	21	95
Total Volume	0	0	0	0	0	0	213	11	0	224	113	0	16	0	129	20	54	0	0	74	427
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	95.1%	4.9%	0.0%		87.6%	0.0%	12.4%	0.0%		27.0%	73.0%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.761	.344	.000	.718	.785	.000	.800	.000	.806	.833	.711	.000	.000	.771	.779

PM PEAK HOUR	SR 113 NB Ramps Southbound					Co Rd 25A Westbound					SR 113 NB Ramps Northbound					Co Rd 25A Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	18	2	0	20	53	0	17	0	70	4	9	0	0	13	103
17:00	0	0	0	0	0	0	19	5	0	24	66	2	15	0	83	4	12	0	0	16	123
17:15	0	0	0	0	0	0	22	2	0	24	81	0	25	0	106	10	12	0	0	22	152
17:30	0	0	0	0	0	0	15	0	0	15	50	1	31	0	82	8	7	0	0	15	112
Total Volume	0	0	0	0	0	0	74	9	0	83	250	3	88	0	341	26	40	0	0	66	490
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	89.2%	10.8%	0.0%		73.3%	0.9%	25.8%	0.0%		39.4%	60.6%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.841	.450	.000	.865	.772	.375	.710	.000	.804	.650	.833	.000	.000	.750	.806



# VOLUME

SR 113 South of Main St

Day: Tuesday  
Date: 9/26/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										18,184	25,160	0	0	43,344
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	125	162			287	12:00	12.00	209	326			535	
00:15	0.25	125	147			272	12:15	12.25	204	300			504	
00:30	0.50	125	142			267	12:30	12.50	195	296			491	
00:45	0.75	122	497	138	589	260	12:45	12.75	228	836	282	1204	510	
01:00	1.00	116	126			242	13:00	13.00	208	313			521	
01:15	1.25	118	136			254	13:15	13.25	198	297			495	
01:30	1.50	122	134			256	13:30	13.50	204	312			516	
01:45	1.75	118	474	122	518	240	13:45	13.75	205	815	291	1213	496	
02:00	2.00	120	126			246	14:00	14.00	196	309			505	
02:15	2.25	121	124			245	14:15	14.25	236	317			553	
02:30	2.50	120	134			254	14:30	14.50	229	310			539	
02:45	2.75	120	481	135	519	255	14:45	14.75	206	867	321	1257	527	
03:00	3.00	124	140			264	15:00	15.00	248	336			584	
03:15	3.25	126	151			277	15:15	15.25	263	308			571	
03:30	3.50	122	156			278	15:30	15.50	298	343			641	
03:45	3.75	125	497	164	611	289	15:45	15.75	319	1128	327	1314	646	
04:00	4.00	122	164			286	16:00	16.00	287	317			604	
04:15	4.25	133	180			313	16:15	16.25	321	310			631	
04:30	4.50	148	209			357	16:30	16.50	349	313			662	
04:45	4.75	156	559	220	773	376	16:45	16.75	364	1321	324	1264	688	
05:00	5.00	134	228			362	17:00	17.00	365	330			695	
05:15	5.25	136	266			402	17:15	17.25	399	392			791	
05:30	5.50	144	302			446	17:30	17.50	330	309			639	
05:45	5.75	143	557	289	1085	432	17:45	17.75	285	1379	299	1330	584	
06:00	6.00	154	270			424	18:00	18.00	276	292			568	
06:15	6.25	159	281			440	18:15	18.25	227	293			520	
06:30	6.50	165	338			503	18:30	18.50	215	276			491	
06:45	6.75	198	676	364	1253	562	18:45	18.75	224	942	256	1117	480	
07:00	7.00	184	355			539	19:00	19.00	179	250			429	
07:15	7.25	192	389			581	19:15	19.25	190	243			433	
07:30	7.50	255	452			707	19:30	19.50	186	241			427	
07:45	7.75	282	913	489	1685	771	19:45	19.75	174	729	251	985	425	
08:00	8.00	208	471			679	20:00	20.00	172	229			401	
08:15	8.25	233	431			664	20:15	20.25	154	230			384	
08:30	8.50	214	385			599	20:30	20.50	162	238			400	
08:45	8.75	218	873	398	1685	616	20:45	20.75	161	649	215	912	376	
09:00	9.00	184	337			521	21:00	21.00	156	218			374	
09:15	9.25	183	301			484	21:15	21.25	157	205			362	
09:30	9.50	186	334			520	21:30	21.50	152	171			323	
09:45	9.75	183	736	349	1321	532	21:45	21.75	149	614	202	796	351	
10:00	10.00	207	297			504	22:00	22.00	147	173			320	
10:15	10.25	177	310			487	22:15	22.25	145	177			322	
10:30	10.50	177	321			498	22:30	22.50	133	191			324	
10:45	10.75	192	753	328	1256	520	22:45	22.75	148	573	169	710	317	
11:00	11.00	186	293			479	23:00	23.00	128	168			296	
11:15	11.25	210	308			518	23:15	23.25	136	158			294	
11:30	11.50	185	281			466	23:30	23.50	133	139			272	
11:45	11.75	210	791	281	1163	491	23:45	23.75	127	524	135	600	262	
<b>TOTALS</b>			7807	12458		20265	<b>TOTALS</b>		10377	12702			23079	
<b>SPLIT %</b>			38.5%	61.5%		46.8%	<b>SPLIT %</b>		45.0%	55.0%			53.2%	

DAILY TOTALS										NB	SB	EB	WB	Total
										18,184	25,160	0	0	43,344

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:30	16:30			16:30
AM Pk Volume	978	1843			2821	PM Pk Volume	1477	1359			2836
Pk Hr Factor	0.867	0.942			0.915	Pk Hr Factor	0.925	0.867			0.896
7 - 9 Volume	1786	3370	0	0	5156	4 - 6 Volume	2700	2594	0	0	5294
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	978	1843	0	0	2821	4 - 6 Pk Volume	1477	1359	0	0	2836
Pk Hr Factor	0.867	0.942	0.000	0.000	0.915	Pk Hr Factor	0.925	0.867	0.000	0.000	0.896

# VOLUME

SR 113 South of Main St

Day: Wednesday  
Date: 9/27/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										17,978	25,135	0	0	43,113
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	124	149			273	12:00	12.00	194	305			499	
00:15	0.25	133	146			279	12:15	12.25	187	271			458	
00:30	0.50	129	133			262	12:30	12.50	193	290			483	
00:45	0.75	133	519	123	551	256	12:45	12.75	198	772	283	1149	481	
01:00	1.00	124	131			255	13:00	13.00	200	302			502	
01:15	1.25	125	134			259	13:15	13.25	213	288			501	
01:30	1.50	124	134			258	13:30	13.50	196	288			484	
01:45	1.75	124	497	134	533	258	13:45	13.75	220	829	312	1190	532	
02:00	2.00	119	124			243	14:00	14.00	222	318			540	
02:15	2.25	123	136			259	14:15	14.25	233	306			539	
02:30	2.50	123	133			256	14:30	14.50	196	312			508	
02:45	2.75	120	485	142	535	262	14:45	14.75	241	892	292	1228	533	
03:00	3.00	118	138			256	15:00	15.00	237	320			557	
03:15	3.25	125	146			271	15:15	15.25	268	330			598	
03:30	3.50	127	157			284	15:30	15.50	279	349			628	
03:45	3.75	130	500	172	613	302	15:45	15.75	315	1099	302	1301	617	
04:00	4.00	130	163			293	16:00	16.00	313	295			608	
04:15	4.25	127	197			324	16:15	16.25	356	293			649	
04:30	4.50	137	210			347	16:30	16.50	317	339			656	
04:45	4.75	136	530	206	776	342	16:45	16.75	351	1337	363	1290	714	
05:00	5.00	135	249			384	17:00	17.00	381	351			732	
05:15	5.25	135	246			381	17:15	17.25	382	362			744	
05:30	5.50	140	288			428	17:30	17.50	322	300			622	
05:45	5.75	155	565	267	1050	422	17:45	17.75	291	1376	293	1306	584	
06:00	6.00	151	251			402	18:00	18.00	258	315			573	
06:15	6.25	153	304			457	18:15	18.25	278	280			558	
06:30	6.50	178	369			547	18:30	18.50	227	279			506	
06:45	6.75	224	706	366	1290	590	18:45	18.75	209	972	295	1169	504	
07:00	7.00	181	379			560	19:00	19.00	189	230			419	
07:15	7.25	174	396			570	19:15	19.25	209	245			454	
07:30	7.50	224	448			672	19:30	19.50	180	236			416	
07:45	7.75	266	845	444	1667	710	19:45	19.75	182	760	251	962	433	
08:00	8.00	199	468			667	20:00	20.00	174	231			405	
08:15	8.25	204	454			658	20:15	20.25	179	238			417	
08:30	8.50	201	441			642	20:30	20.50	175	219			394	
08:45	8.75	202	806	378	1741	580	20:45	20.75	157	685	236	924	393	
09:00	9.00	186	328			514	21:00	21.00	166	226			392	
09:15	9.25	190	347			537	21:15	21.25	155	177			332	
09:30	9.50	206	359			565	21:30	21.50	148	202			350	
09:45	9.75	204	786	322	1356	526	21:45	21.75	149	618	186	791	335	
10:00	10.00	136	340			476	22:00	22.00	140	171			311	
10:15	10.25	127	316			443	22:15	22.25	144	172			316	
10:30	10.50	129	316			445	22:30	22.50	137	165			302	
10:45	10.75	146	538	306	1278	452	22:45	22.75	134	555	160	668	294	
11:00	11.00	185	293			478	23:00	23.00	133	153			286	
11:15	11.25	198	287			485	23:15	23.25	127	146			273	
11:30	11.50	210	289			499	23:30	23.50	129	146			275	
11:45	11.75	200	793	300	1169	500	23:45	23.75	124	513	153	598	277	
<b>TOTALS</b>			7570	12559		20129	<b>TOTALS</b>		10408	12576			22984	
<b>SPLIT %</b>			37.6%	62.4%		46.7%	<b>SPLIT %</b>		45.3%	54.7%			53.3%	

DAILY TOTALS										NB	SB	EB	WB	Total
										17,978	25,135	0	0	43,113
AM Peak Hour		07:30	07:30			07:30	PM Peak Hour		16:45	16:30			16:30	
AM Pk Volume		893	1814			2707	PM Pk Volume		1436	1415			2846	
Pk Hr Factor		0.839	0.969			0.953	Pk Hr Factor		0.940	0.975			0.956	
7 - 9 Volume		1651	3408	0	0	5059	4 - 6 Volume		2713	2596	0	0	5309	
7 - 9 Peak Hour		07:30	07:30			07:30	4 - 6 Peak Hour		16:45	16:30			16:30	
7 - 9 Pk Volume		893	1814	0	0	2707	4 - 6 Pk Volume		1436	1415	0	0	2846	
Pk Hr Factor		0.839	0.969	0.000	0.000	0.953	Pk Hr Factor		0.940	0.975	0.000	0.000	0.956	

# VOLUME

SR 113 South of Main St

Day: Thursday  
Date: 9/28/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										18,534	25,469	0	0	44,003
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	123	145			268	12:00	12.00	220	282			502	
00:15	0.25	127	131			258	12:15	12.25	211	318			529	
00:30	0.50	122	128			250	12:30	12.50	220	298			518	
00:45	0.75	125	497	132	536	257 1033	12:45	12.75	210	861	292	1190	502 2051	
01:00	1.00	127	124			251	13:00	13.00	210	316			526	
01:15	1.25	123	132			255	13:15	13.25	201	305			506	
01:30	1.50	126	136			262	13:30	13.50	225	325			550	
01:45	1.75	126	502	132	524	258 1026	13:45	13.75	229	865	285	1231	514 2096	
02:00	2.00	118	122			240	14:00	14.00	215	295			510	
02:15	2.25	124	139			263	14:15	14.25	240	314			554	
02:30	2.50	121	135			256	14:30	14.50	219	293			512	
02:45	2.75	128	491	134	530	262 1021	14:45	14.75	258	932	348	1250	606 2182	
03:00	3.00	124	148			272	15:00	15.00	235	322			557	
03:15	3.25	125	149			274	15:15	15.25	256	344			600	
03:30	3.50	124	163			287	15:30	15.50	280	339			619	
03:45	3.75	128	501	153	613	281 1114	15:45	15.75	312	1083	316	1321	628 2404	
04:00	4.00	126	171			297	16:00	16.00	277	311			588	
04:15	4.25	132	184			316	16:15	16.25	337	313			650	
04:30	4.50	136	203			339	16:30	16.50	327	334			661	
04:45	4.75	139	533	228	786	367 1319	16:45	16.75	374	1315	316	1274	690 2589	
05:00	5.00	139	253			392	17:00	17.00	378	347			725	
05:15	5.25	137	255			392	17:15	17.25	399	352			751	
05:30	5.50	141	304			445	17:30	17.50	371	319			690	
05:45	5.75	146	563	292	1104	438 1667	17:45	17.75	294	1442	309	1327	603 2769	
06:00	6.00	158	251			409	18:00	18.00	276	297			573	
06:15	6.25	157	317			474	18:15	18.25	274	269			543	
06:30	6.50	172	352			524	18:30	18.50	251	279			530	
06:45	6.75	225	712	362	1282	587 1994	18:45	18.75	221	1022	281	1126	502 2148	
07:00	7.00	182	359			541	19:00	19.00	213	278			491	
07:15	7.25	191	399			590	19:15	19.25	205	268			473	
07:30	7.50	224	464			688	19:30	19.50	198	236			434	
07:45	7.75	259	856	487	1709	746 2565	19:45	19.75	189	805	262	1044	451 1849	
08:00	8.00	223	449			672	20:00	20.00	178	217			395	
08:15	8.25	218	463			681	20:15	20.25	179	230			409	
08:30	8.50	215	390			605	20:30	20.50	151	229			380	
08:45	8.75	212	868	396	1698	608 2566	20:45	20.75	168	676	250	926	418 1602	
09:00	9.00	180	346			526	21:00	21.00	158	215			373	
09:15	9.25	177	321			498	21:15	21.25	163	194			357	
09:30	9.50	170	358			528	21:30	21.50	145	223			368	
09:45	9.75	188	715	343	1368	531 2083	21:45	21.75	145	611	206	838	351 1449	
10:00	10.00	199	301			500	22:00	22.00	143	173			316	
10:15	10.25	196	335			531	22:15	22.25	147	219			366	
10:30	10.50	209	282			491	22:30	22.50	143	169			312	
10:45	10.75	187	791	315	1233	502 2024	22:45	22.75	130	563	156	717	286 1280	
11:00	11.00	198	275			473	23:00	23.00	136	152			288	
11:15	11.25	193	290			483	23:15	23.25	135	173			308	
11:30	11.50	195	324			519	23:30	23.50	136	139			275	
11:45	11.75	207	793	331	1220	538 2013	23:45	23.75	130	537	158	622	288 1159	
<b>TOTALS</b>			7822	12603		20425	<b>TOTALS</b>		10712	12866			23578	
<b>SPLIT %</b>			38.3%	61.7%		46.4%	<b>SPLIT %</b>		45.4%	54.6%			53.6%	

DAILY TOTALS										NB	SB	EB	WB	Total
										18,534	25,469	0	0	44,003
AM Peak Hour		07:30	07:30			07:30	PM Peak Hour		16:45	14:45			16:45	
AM Pk Volume		924	1863			2787	PM Pk Volume		1522	1353			2856	
Pk Hr Factor		0.892	0.956			0.934	Pk Hr Factor		0.954	0.972			0.951	
7 - 9 Volume		1724	3407	0	0	5131	4 - 6 Volume		2757	2601	0	0	5358	
7 - 9 Peak Hour		07:30	07:30			07:30	4 - 6 Peak Hour		16:45	16:30			16:45	
7 - 9 Pk Volume		924	1863	0	0	2787	4 - 6 Pk Volume		1522	1349	0	0	2856	
Pk Hr Factor		0.892	0.956	0.000	0.000	0.934	Pk Hr Factor		0.954	0.958	0.000	0.000	0.951	



# VOLUME

SR 113 Gibson Rd to CR 25A

Day: Tuesday  
Date: 9/26/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										4,358	26,891	0	0	31,249
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	5	78			83	12:00	12.00	59	403			462	
00:15	0.25	9	65			74	12:15	12.25	66	402			468	
00:30	0.50	7	58			65	12:30	12.50	59	407			466	
00:45	0.75	3	24	47	248	50	12:45	12.75	70	254	423	1635	493	
01:00	1.00	6	43			49	13:00	13.00	56	406			462	
01:15	1.25	6	41			47	13:15	13.25	43	395			438	
01:30	1.50	4	37			41	13:30	13.50	51	408			459	
01:45	1.75	4	20	30	151	34	13:45	13.75	66	216	418	1627	484	
02:00	2.00	5	31			36	14:00	14.00	64	405			469	
02:15	2.25	9	26			35	14:15	14.25	80	416			496	
02:30	2.50	10	30			40	14:30	14.50	61	432			493	
02:45	2.75	6	30	31	118	37	14:45	14.75	54	259	449	1702	503	
03:00	3.00	4	32			36	15:00	15.00	80	430			510	
03:15	3.25	12	40			52	15:15	15.25	88	443			531	
03:30	3.50	6	44			50	15:30	15.50	86	463			549	
03:45	3.75	10	32	45	161	55	15:45	15.75	105	359	448	1784	553	
04:00	4.00	4	54			58	16:00	16.00	84	453			537	
04:15	4.25	16	60			76	16:15	16.25	98	433			531	
04:30	4.50	15	89			104	16:30	16.50	88	460			548	
04:45	4.75	22	57	101	304	123	16:45	16.75	103	373	424	1770	527	
05:00	5.00	18	112			130	17:00	17.00	95	427			522	
05:15	5.25	29	160			189	17:15	17.25	108	418			526	
05:30	5.50	34	231			265	17:30	17.50	103	389			492	
05:45	5.75	23	104	264	767	287	17:45	17.75	78	384	399	1633	477	
06:00	6.00	36	309			345	18:00	18.00	74	380			454	
06:15	6.25	34	370			404	18:15	18.25	49	375			424	
06:30	6.50	51	407			458	18:30	18.50	63	356			419	
06:45	6.75	80	201	422	1508	502	18:45	18.75	59	245	341	1452	400	
07:00	7.00	63	428			491	19:00	19.00	43	322			365	
07:15	7.25	58	440			498	19:15	19.25	36	289			325	
07:30	7.50	102	468			570	19:30	19.50	52	280			332	
07:45	7.75	119	342	438	1774	557	19:45	19.75	60	191	257	1148	317	
08:00	8.00	86	396			482	20:00	20.00	42	253			295	
08:15	8.25	85	398			483	20:15	20.25	40	256			296	
08:30	8.50	68	402			470	20:30	20.50	30	238			268	
08:45	8.75	60	299	402	1598	462	20:45	20.75	35	147	238	985	273	
09:00	9.00	46	386			432	21:00	21.00	32	227			259	
09:15	9.25	50	386			436	21:15	21.25	31	230			261	
09:30	9.50	54	379			433	21:30	21.50	28	216			244	
09:45	9.75	50	200	382	1533	432	21:45	21.75	17	108	199	872	216	
10:00	10.00	59	374			433	22:00	22.00	18	177			195	
10:15	10.25	48	382			430	22:15	22.25	16	167			183	
10:30	10.50	36	379			415	22:30	22.50	12	167			179	
10:45	10.75	46	189	385	1520	431	22:45	22.75	17	63	140	651	157	
11:00	11.00	48	378			426	23:00	23.00	8	123			131	
11:15	11.25	49	388			437	23:15	23.25	14	109			123	
11:30	11.50	50	394			444	23:30	23.50	12	95			107	
11:45	11.75	71	218	376	1536	447	23:45	23.75	9	43	87	414	96	
<b>TOTALS</b>			1716	11218		12934	<b>TOTALS</b>		2642	15673			18315	
<b>SPLIT %</b>			13.3%	86.7%		41.4%	<b>SPLIT %</b>		14.4%	85.6%			58.6%	

DAILY TOTALS										NB	SB	EB	WB	Total
										4,358	26,891	0	0	31,249

AM Peak Hour	07:30	07:00	07:00	PM Peak Hour	16:45	15:15	15:15				
AM Pk Volume	392	1774	2116	PM Pk Volume	409	1807	2170				
Pk Hr Factor	0.824	0.948	0.928	Pk Hr Factor	0.947	0.976	0.981				
7 - 9 Volume	641	3372	0	0	4160	4 - 6 Volume	757	3403	0	0	4160
7 - 9 Peak Hour	07:30	07:00	07:00	4 - 6 Peak Hour	16:45	16:00	16:00				
7 - 9 Pk Volume	392	1774	2116	4 - 6 Pk Volume	409	1770	2143				
Pk Hr Factor	0.824	0.948	0.928	Pk Hr Factor	0.947	0.962	0.978				

# VOLUME

SR 113 Gibson Rd to CR 25A

Day: Wednesday  
Date: 9/27/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										4,339	27,362	0	0	31,701
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	7	77			84	12:00	12.00	49	392			441	
00:15	0.25	10	67			77	12:15	12.25	62	390			452	
00:30	0.50	9	59			68	12:30	12.50	55	387			442	
00:45	0.75	20	46	50	253	70	12:45	12.75	47	213	406	1575	453	
01:00	1.00	4	42			46	13:00	13.00	71	397			468	
01:15	1.25	10	41			51	13:15	13.25	64	410			474	
01:30	1.50	9	38			47	13:30	13.50	53	389			442	
01:45	1.75	7	30	36	157	43	13:45	13.75	61	249	401	1597	462	
02:00	2.00	3	35			38	14:00	14.00	64	411			475	
02:15	2.25	10	30			40	14:15	14.25	73	420			493	
02:30	2.50	6	29			35	14:30	14.50	55	445			500	
02:45	2.75	6	25	30	124	36	14:45	14.75	73	265	433	1709	506	
03:00	3.00	10	29			39	15:00	15.00	65	437			502	
03:15	3.25	13	36			49	15:15	15.25	81	449			530	
03:30	3.50	7	44			51	15:30	15.50	68	483			551	
03:45	3.75	11	41	46	155	57	15:45	15.75	87	301	473	1842	560	
04:00	4.00	19	42			61	16:00	16.00	90	492			582	
04:15	4.25	11	59			70	16:15	16.25	104	475			579	
04:30	4.50	9	82			91	16:30	16.50	99	501			600	
04:45	4.75	17	56	102	285	119	16:45	16.75	102	395	472	1940	574	
05:00	5.00	13	105			118	17:00	17.00	112	449			561	
05:15	5.25	23	156			179	17:15	17.25	115	413			528	
05:30	5.50	28	217			245	17:30	17.50	96	417			513	
05:45	5.75	32	96	259	737	291	17:45	17.75	90	413	411	1690	501	
06:00	6.00	43	288			331	18:00	18.00	87	414			501	
06:15	6.25	28	358			386	18:15	18.25	82	375			457	
06:30	6.50	48	392			440	18:30	18.50	76	351			427	
06:45	6.75	87	206	422	1460	509	18:45	18.75	69	314	358	1498	427	
07:00	7.00	54	435			489	19:00	19.00	56	340			396	
07:15	7.25	55	463			518	19:15	19.25	59	330			389	
07:30	7.50	87	464			551	19:30	19.50	34	293			327	
07:45	7.75	123	319	469	1831	592	19:45	19.75	33	182	291	1254	324	
08:00	8.00	81	391			472	20:00	20.00	48	268			316	
08:15	8.25	53	386			439	20:15	20.25	46	278			324	
08:30	8.50	49	395			444	20:30	20.50	35	244			279	
08:45	8.75	64	247	404	1576	468	20:45	20.75	30	159	249	1039	279	
09:00	9.00	49	369			418	21:00	21.00	35	251			286	
09:15	9.25	49	374			423	21:15	21.25	25	236			261	
09:30	9.50	48	379			427	21:30	21.50	30	227			257	
09:45	9.75	51	197	386	1508	437	21:45	21.75	21	111	207	921	228	
10:00	10.00	40	377			417	22:00	22.00	21	199			220	
10:15	10.25	35	382			417	22:15	22.25	15	182			197	
10:30	10.50	39	379			418	22:30	22.50	17	165			182	
10:45	10.75	37	151	386	1524	423	22:45	22.75	7	60	143	689	150	
11:00	11.00	46	378			424	23:00	23.00	9	128			137	
11:15	11.25	60	392			452	23:15	23.25	6	113			119	
11:30	11.50	58	395			453	23:30	23.50	12	103			115	
11:45	11.75	66	230	398	1563	464	23:45	23.75	6	33	91	435	97	
<b>TOTALS</b>			1644	11173		12817	<b>TOTALS</b>			2695	16189		18884	
<b>SPLIT %</b>			12.8%	87.2%		40.4%	<b>SPLIT %</b>			14.3%	85.7%		59.6%	

DAILY TOTALS										NB	SB	EB	WB	Total
										4,339	27,362	0	0	31,701

AM Peak Hour	07:15	07:00	07:00	PM Peak Hour	16:30	15:45	16:00
AM Pk Volume	346	1831	2150	PM Pk Volume	428	1941	2335
Pk Hr Factor	0.703	0.976	0.908	Pk Hr Factor	0.930	0.969	0.973
7 - 9 Volume	566	3407	3973	4 - 6 Volume	808	3630	4438
7 - 9 Peak Hour	07:15	07:00	07:00	4 - 6 Peak Hour	16:30	16:00	16:00
7 - 9 Pk Volume	346	1831	2150	4 - 6 Pk Volume	428	1940	2335
Pk Hr Factor	0.703	0.976	0.908	Pk Hr Factor	0.930	0.968	0.973

# VOLUME

SR 113 Gibson Rd to CR 25A

Day: Thursday  
Date: 9/28/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										4,304	28,054	0	0	32,358
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	5	87			92	12:00	12.00	58	395			453	
00:15	0.25	5	69			74	12:15	12.25	52	411			463	
00:30	0.50	6	59			65	12:30	12.50	58	402			460	
00:45	0.75	6	22	54	269	60	12:45	12.75	51	219	410	1618	461	
01:00	1.00	8	46			54	13:00	13.00	63	398			461	
01:15	1.25	8	45			53	13:15	13.25	48	386			434	
01:30	1.50	7	40			47	13:30	13.50	53	408			461	
01:45	1.75	5	28	43	174	48	13:45	13.75	58	222	412	1604	470	
02:00	2.00	3	36			39	14:00	14.00	62	414			476	
02:15	2.25	16	34			50	14:15	14.25	71	426			497	
02:30	2.50	4	31			35	14:30	14.50	56	448			504	
02:45	2.75	14	37	33	134	47	14:45	14.75	82	271	459	1747	541	
03:00	3.00	6	38			44	15:00	15.00	67	476			543	
03:15	3.25	9	37			46	15:15	15.25	90	529			619	
03:30	3.50	8	43			51	15:30	15.50	83	540			623	
03:45	3.75	11	34	45	163	56	15:45	15.75	99	339	493	2038	592	
04:00	4.00	11	49			60	16:00	16.00	82	471			553	
04:15	4.25	8	64			72	16:15	16.25	106	447			553	
04:30	4.50	12	90			102	16:30	16.50	88	487			575	
04:45	4.75	23	54	111	314	134	16:45	16.75	109	385	417	1822	526	
05:00	5.00	16	106			122	17:00	17.00	114	434			548	
05:15	5.25	24	156			180	17:15	17.25	110	427			537	
05:30	5.50	36	229			265	17:30	17.50	100	427			527	
05:45	5.75	24	100	280	771	304	17:45	17.75	65	389	430	1718	495	
06:00	6.00	37	303			340	18:00	18.00	71	413			484	
06:15	6.25	42	392			434	18:15	18.25	84	400			484	
06:30	6.50	52	415			467	18:30	18.50	52	381			433	
06:45	6.75	84	215	424	1534	508	18:45	18.75	58	265	368	1562	426	
07:00	7.00	75	450			525	19:00	19.00	48	344			392	
07:15	7.25	54	499			553	19:15	19.25	47	319			366	
07:30	7.50	88	468			556	19:30	19.50	67	311			378	
07:45	7.75	113	330	438	1855	551	19:45	19.75	39	201	293	1267	332	
08:00	8.00	77	404			481	20:00	20.00	42	269			311	
08:15	8.25	62	402			464	20:15	20.25	31	297			328	
08:30	8.50	58	416			474	20:30	20.50	23	262			285	
08:45	8.75	66	263	407	1629	473	20:45	20.75	33	129	252	1080	285	
09:00	9.00	47	368			415	21:00	21.00	29	245			274	
09:15	9.25	33	374			407	21:15	21.25	26	241			267	
09:30	9.50	45	386			431	21:30	21.50	31	224			255	
09:45	9.75	35	160	381	1509	416	21:45	21.75	23	109	219	929	242	
10:00	10.00	57	385			442	22:00	22.00	17	200			217	
10:15	10.25	45	398			443	22:15	22.25	20	192			212	
10:30	10.50	45	396			441	22:30	22.50	16	178			194	
10:45	10.75	46	193	388	1567	434	22:45	22.75	14	67	151	721	165	
11:00	11.00	51	372			423	23:00	23.00	19	143			162	
11:15	11.25	62	397			459	23:15	23.25	17	126			143	
11:30	11.50	51	399			450	23:30	23.50	8	106			114	
11:45	11.75	55	219	393	1561	448	23:45	23.75	9	53	93	468	102	
<b>TOTALS</b>			1655	11480		13135	<b>TOTALS</b>		2649	16574			19223	
<b>SPLIT %</b>			12.6%	87.4%		40.6%	<b>SPLIT %</b>		13.8%	86.2%			59.4%	

DAILY TOTALS										NB	SB	EB	WB	Total
										4,304	28,054	0	0	32,358

AM Peak Hour	07:30	07:00	07:00	PM Peak Hour	16:45	15:00	15:15				
AM Pk Volume	340	1855	2185	PM Pk Volume	433	2038	2387				
Pk Hr Factor	0.752	0.929	0.982	Pk Hr Factor	0.950	0.944	0.958				
7 - 9 Volume	593	3484	0	0	4077	4 - 6 Volume	774	3540	0	0	4314
7 - 9 Peak Hour	07:30	07:00	07:00	4 - 6 Peak Hour	16:45	16:00	16:00				
7 - 9 Pk Volume	340	1855	2185	4 - 6 Pk Volume	433	1822	2207				
Pk Hr Factor	0.752	0.929	0.000	0.000	0.950	0.935	0.000	0.000	0.960		



# VOLUME

SR 113 CR 25A to CR 27

Day: Tuesday  
Date: 9/26/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										17,483	16,595	0	0	34,078
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	39	40			79	12:00	12.00	259	244			503	
00:15	0.25	31	31			62	12:15	12.25	227	211			438	
00:30	0.50	38	36			74	12:30	12.50	210	218			428	
00:45	0.75	26	134	29	136	55 270	12:45	12.75	253	949	192	865	445 1814	
01:00	1.00	24	27			51	13:00	13.00	241	217			458	
01:15	1.25	17	27			44	13:15	13.25	227	205			432	
01:30	1.50	18	27			45	13:30	13.50	241	213			454	
01:45	1.75	22	81	18	99	40 180	13:45	13.75	231	940	209	844	440 1784	
02:00	2.00	18	18			36	14:00	14.00	247	204			451	
02:15	2.25	24	20			44	14:15	14.25	294	247			541	
02:30	2.50	23	37			60	14:30	14.50	292	230			522	
02:45	2.75	28	93	29	104	57 197	14:45	14.75	261	1094	235	916	496 2010	
03:00	3.00	24	37			61	15:00	15.00	316	256			572	
03:15	3.25	29	38			67	15:15	15.25	365	251			616	
03:30	3.50	18	52			70	15:30	15.50	405	237			642	
03:45	3.75	33	104	52	179	85 283	15:45	15.75	444	1530	243	987	687 2517	
04:00	4.00	37	49			86	16:00	16.00	402	236			638	
04:15	4.25	52	72			124	16:15	16.25	471	228			699	
04:30	4.50	82	130			212	16:30	16.50	500	243			743	
04:45	4.75	89	260	116	367	205 627	16:45	16.75	537	1910	247	954	784 2864	
05:00	5.00	59	131			190	17:00	17.00	511	278			789	
05:15	5.25	55	182			237	17:15	17.25	605	298			903	
05:30	5.50	78	237			315	17:30	17.50	474	237			711	
05:45	5.75	79	271	200	750	279 1021	17:45	17.75	401	1991	214	1027	615 3018	
06:00	6.00	88	188			276	18:00	18.00	365	225			590	
06:15	6.25	103	196			299	18:15	18.25	322	183			505	
06:30	6.50	148	286			434	18:30	18.50	243	166			409	
06:45	6.75	160	499	332	1002	492 1501	18:45	18.75	258	1188	140	714	398 1902	
07:00	7.00	142	304			446	19:00	19.00	192	158			350	
07:15	7.25	175	361			536	19:15	19.25	211	139			350	
07:30	7.50	264	466			730	19:30	19.50	213	135			348	
07:45	7.75	328	909	511	1642	839 2551	19:45	19.75	152	768	131	563	283 1331	
08:00	8.00	210	470			680	20:00	20.00	137	122			259	
08:15	8.25	257	415			672	20:15	20.25	138	102			240	
08:30	8.50	260	365			625	20:30	20.50	142	126			268	
08:45	8.75	237	964	335	1585	572 2549	20:45	20.75	121	538	109	459	230 997	
09:00	9.00	166	284			450	21:00	21.00	117	105			222	
09:15	9.25	178	219			397	21:15	21.25	115	88			203	
09:30	9.50	185	245			430	21:30	21.50	110	62			172	
09:45	9.75	177	706	239	987	416 1693	21:45	21.75	106	448	82	337	188 785	
10:00	10.00	205	201			406	22:00	22.00	96	66			162	
10:15	10.25	176	205			381	22:15	22.25	95	65			160	
10:30	10.50	175	236			411	22:30	22.50	52	75			127	
10:45	10.75	205	761	229	871	434 1632	22:45	22.75	73	316	57	263	130 579	
11:00	11.00	174	189			363	23:00	23.00	53	54			107	
11:15	11.25	235	220			455	23:15	23.25	52	43			95	
11:30	11.50	183	185			368	23:30	23.50	50	27			77	
11:45	11.75	250	842	192	786	442 1628	23:45	23.75	32	187	34	158	66 345	
TOTALS		5624	8508			14132	TOTALS		11859	8087			19946	
SPLIT %		39.8%	60.2%			41.5%	SPLIT %		59.5%	40.5%			58.5%	

DAILY TOTALS										NB	SB	EB	WB	Total
										17,483	16,595	0	0	34,078
AM Peak Hour		07:30	07:30			07:30	PM Peak Hour		16:30	16:30			16:30	
AM Pk Volume		1059	1862			2921	PM Pk Volume		2153	1066			3219	
Pk Hr Factor		0.807	0.911			0.870	Pk Hr Factor		0.890	0.894			0.891	
7 - 9 Volume		1873	3227	0	0	5100	4 - 6 Volume		3901	1981	0	0	5882	
7 - 9 Peak Hour		07:30	07:30			07:30	4 - 6 Peak Hour		16:30	16:30			16:30	
7 - 9 Pk Volume		1059	1862	0	0	2921	4 - 6 Pk Volume		2153	1066	0	0	3219	
Pk Hr Factor		0.807	0.911	0.000	0.000	0.870	Pk Hr Factor		0.890	0.894	0.000	0.000	0.891	

# VOLUME

SR 113 CR 25A to CR 27

Day: Wednesday  
Date: 9/27/2017

City: Woodland  
Project #:

DAILY TOTALS		NB	SB	EB	WB	Total
		17,005	16,459	0	0	33,464

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0.00	34	37		71	12:00	12.00	228	204		432
00:15	0.25	46	31		77	12:15	12.25	207	162		369
00:30	0.50	33	27		60	12:30	12.50	217	202		419
00:45	0.75	21	134	14	109	12:45	12.75	228	880	175	743
01:00	1.00	29	19		48	13:00	13.00	215	207		422
01:15	1.25	18	17		35	13:15	13.25	257	212		469
01:30	1.50	24	22		46	13:30	13.50	225	181		406
01:45	1.75	30	101	19	77	13:45	13.75	275	972	233	833
02:00	2.00	8	14		22	14:00	14.00	264	224		488
02:15	2.25	22	22		44	14:15	14.25	293	233		526
02:30	2.50	20	21		41	14:30	14.50	256	244		500
02:45	2.75	20	70	23	80	14:45	14.75	316	1129	204	905
03:00	3.00	17	25		42	15:00	15.00	300	227		527
03:15	3.25	23	31		54	15:15	15.25	355	240		595
03:30	3.50	29	42		71	15:30	15.50	392	276		668
03:45	3.75	32	101	58	156	15:45	15.75	445	1492	236	979
04:00	4.00	52	49		101	16:00	16.00	423	215		638
04:15	4.25	46	76		122	16:15	16.25	504	223		727
04:30	4.50	72	95		167	16:30	16.50	474	266		740
04:45	4.75	59	229	90	310	16:45	16.75	498	1899	303	1007
05:00	5.00	60	136		196	17:00	17.00	539	303		842
05:15	5.25	67	147		214	17:15	17.25	572	299		871
05:30	5.50	79	192		271	17:30	17.50	456	209		665
05:45	5.75	84	290	196	671	17:45	17.75	404	1971	187	998
06:00	6.00	77	169		246	18:00	18.00	365	208		573
06:15	6.25	108	231		339	18:15	18.25	390	191		581
06:30	6.50	148	305		453	18:30	18.50	284	178		462
06:45	6.75	184	517	323	1028	18:45	18.75	257	1296	202	779
07:00	7.00	153	339		492	19:00	19.00	213	143		356
07:15	7.25	171	370		541	19:15	19.25	246	125		371
07:30	7.50	233	440		673	19:30	19.50	199	124		323
07:45	7.75	297	854	491	1640	19:45	19.75	176	834	135	527
08:00	8.00	195	453		648	20:00	20.00	175	112		287
08:15	8.25	216	451		667	20:15	20.25	178	119		297
08:30	8.50	234	407		641	20:30	20.50	155	116		271
08:45	8.75	212	857	345	1656	20:45	20.75	126	634	112	459
09:00	9.00	185	273		458	21:00	21.00	136	108		244
09:15	9.25	212	293		505	21:15	21.25	133	62		195
09:30	9.50	228	279		507	21:30	21.50	95	79		174
09:45	9.75	226	851	236	1081	21:45	21.75	109	473	68	317
10:00	10.00	28	279		307	22:00	22.00	95	70		165
10:15	10.25	2	221		223	22:15	22.25	96	52		148
10:30	10.50	3	234		237	22:30	22.50	63	50		113
10:45	10.75	77	110	215	949	22:45	22.75	55	309	50	222
11:00	11.00	192	202		394	23:00	23.00	49	46		95
11:15	11.25	207	186		393	23:15	23.25	45	32		77
11:30	11.50	230	191		421	23:30	23.50	38	39		77
11:45	11.75	210	839	198	777	23:45	23.75	31	163	39	156
TOTALS		4953	8534		13487	TOTALS		12052	7925		19977
SPLIT %		36.7%	63.3%		40.3%	SPLIT %		60.3%	39.7%		59.7%

DAILY TOTALS		NB	SB	EB	WB	Total
		17,005	16,459	0	0	33,464

AM Peak Hour	07:45	07:30	07:30	PM Peak Hour	16:30	16:30	16:30
AM Pk Volume	942	1835	2776	PM Pk Volume	2083	1171	3254
Pk Hr Factor	0.793	0.934	0.881	Pk Hr Factor	0.910	0.966	0.934
7 - 9 Volume	1711	3296	5007	4 - 6 Volume	3870	2005	5875
7 - 9 Peak Hour	07:45	07:30	07:30	4 - 6 Peak Hour	16:30	16:30	16:30
7 - 9 Pk Volume	942	1835	2776	4 - 6 Pk Volume	2083	1171	3254
Pk Hr Factor	0.793	0.934	0.881	Pk Hr Factor	0.910	0.966	0.934



# VOLUME

SR 113 CR 25A to CR 27

Day: Thursday  
Date: 9/28/2017

City: Woodland  
Project #:

DAILY TOTALS										NB	SB	EB	WB	Total
										18,248	17,057	0	0	35,305
AM Period		NB	SB	EB	WB	TOTAL	PM Period		NB	SB	EB	WB	TOTAL	
00:00	0.00	26	26			52	12:00	12.00	273	202			475	
00:15	0.25	45	15			60	12:15	12.25	241	237			478	
00:30	0.50	23	16			39	12:30	12.50	260	214			474	
00:45	0.75	26	120	21	78	47	12:45	12.75	242	1016	216	869	458	
01:00	1.00	24	12			36	13:00	13.00	257	213			470	
01:15	1.25	24	22			46	13:15	13.25	224	205			429	
01:30	1.50	28	20			48	13:30	13.50	251	230			481	
01:45	1.75	32	108	23	77	55	13:45	13.75	282	1014	210	858	492	
02:00	2.00	14	23			37	14:00	14.00	275	224			499	
02:15	2.25	34	25			59	14:15	14.25	305	222			527	
02:30	2.50	16	23			39	14:30	14.50	270	207			477	
02:45	2.75	35	99	20	91	55	14:45	14.75	316	1166	248	901	564	
03:00	3.00	24	32			56	15:00	15.00	283	258			541	
03:15	3.25	29	33			62	15:15	15.25	355	261			616	
03:30	3.50	32	49			81	15:30	15.50	385	266			651	
03:45	3.75	38	123	38	152	76	15:45	15.75	447	1470	234	1019	681	
04:00	4.00	39	52			91	16:00	16.00	372	243			615	
04:15	4.25	54	80			134	16:15	16.25	465	232			697	
04:30	4.50	69	100			169	16:30	16.50	460	283			743	
04:45	4.75	56	218	120	352	176	16:45	16.75	524	1821	252	1010	776	
05:00	5.00	68	138			206	17:00	17.00	535	291			826	
05:15	5.25	65	145			210	17:15	17.25	600	287			887	
05:30	5.50	81	222			303	17:30	17.50	502	243			745	
05:45	5.75	97	311	211	716	308	17:45	17.75	417	2054	237	1058	654	
06:00	6.00	86	156			242	18:00	18.00	402	224			626	
06:15	6.25	99	250			349	18:15	18.25	363	159			522	
06:30	6.50	138	301			439	18:30	18.50	343	186			529	
06:45	6.75	204	527	314	1021	518	18:45	18.75	278	1386	178	747	456	
07:00	7.00	139	297			436	19:00	19.00	269	186			455	
07:15	7.25	191	391			582	19:15	19.25	239	152			391	
07:30	7.50	228	427			655	19:30	19.50	206	124			330	
07:45	7.75	275	833	532	1647	807	19:45	19.75	195	909	163	625	358	
08:00	8.00	231	474			705	20:00	20.00	175	135			310	
08:15	8.25	243	447			690	20:15	20.25	192	119			311	
08:30	8.50	274	348			622	20:30	20.50	135	127			262	
08:45	8.75	226	974	350	1619	576	20:45	20.75	136	638	146	527	282	
09:00	9.00	168	267			435	21:00	21.00	121	114			235	
09:15	9.25	179	262			441	21:15	21.25	141	83			224	
09:30	9.50	172	276			448	21:30	21.50	107	106			213	
09:45	9.75	195	714	272	1077	467	21:45	21.75	102	471	89	392	191	
10:00	10.00	188	217			405	22:00	22.00	97	75			172	
10:15	10.25	220	258			478	22:15	22.25	102	106			208	
10:30	10.50	230	194			424	22:30	22.50	82	88			170	
10:45	10.75	195	833	224	893	419	22:45	22.75	63	344	53	322	116	
11:00	11.00	211	186			397	23:00	23.00	64	45			109	
11:15	11.25	212	178			390	23:15	23.25	53	56			109	
11:30	11.50	206	222			428	23:30	23.50	56	47			103	
11:45	11.75	253	882	231	817	484	23:45	23.75	44	217	41	189	85	
<b>TOTALS</b>			5742	8540		14282	<b>TOTALS</b>		12506	8517			21023	
<b>SPLIT %</b>			40.2%	59.8%		40.5%	<b>SPLIT %</b>		59.5%	40.5%			59.5%	























DAILY TOTALS										NB	SB	EB	WB	Total
										18,248	17,057	0	0	35,305
AM Peak Hour		11:45	07:30			07:30	PM Peak Hour		16:45	16:30			16:45	
AM Pk Volume		1027	1880			2857	PM Pk Volume		2161	1113			3234	
Pk Hr Factor		0.940	0.883			0.885	Pk Hr Factor		0.900	0.956			0.911	
7 - 9 Volume		1807	3266	0	0	5073	4 - 6 Volume		3875	2068	0	0	5943	
7 - 9 Peak Hour		07:45	07:30			07:30	4 - 6 Peak Hour		16:45	16:30			16:45	
7 - 9 Pk Volume		1023	1880	0	0	2857	4 - 6 Pk Volume		2161	1113	0	0	3234	
Pk Hr Factor		0.930	0.883	0.000	0.000	0.885	Pk Hr Factor		0.900	0.956	0.000	0.000	0.911	

# **APPENDIX B**

## **LEVEL OF SERVICE CALCULATIONS**

HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing Conditions  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	350	57	69	560	359	45	273	74	153	183	44
Future Volume (veh/h)	48	350	57	69	560	359	45	273	74	153	183	44
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	52	380	21	75	609	322	49	297	58	166	199	32
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	62	1185	521	93	783	414	58	474	91	213	759	120
Arrive On Green	0.04	0.34	0.34	0.05	0.36	0.36	0.03	0.16	0.16	0.12	0.25	0.25
Sat Flow, veh/h	1757	3505	1542	1757	2200	1163	1757	2925	563	1757	3030	480
Grp Volume(v), veh/h	52	380	21	75	485	446	49	176	179	166	114	117
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1611	1757	1752	1735	1757	1752	1757
Q Serve(g_s), s	1.3	3.5	0.4	1.8	10.8	10.8	1.2	4.1	4.2	4.0	2.3	2.3
Cycle Q Clear(g_c), s	1.3	3.5	0.4	1.8	10.8	10.8	1.2	4.1	4.2	4.0	2.3	2.3
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.32	1.00		0.27
Lane Grp Cap(c), veh/h	62	1185	521	93	623	573	58	284	281	213	439	440
V/C Ratio(X)	0.84	0.32	0.04	0.81	0.78	0.78	0.84	0.62	0.64	0.78	0.26	0.27
Avail Cap(c_a), veh/h	805	3212	1413	805	1606	1476	966	1606	1590	966	1606	1610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	10.7	9.7	20.5	12.5	12.5	21.0	17.0	17.1	18.6	13.1	13.1
Incr Delay (d2), s/veh	10.5	0.1	0.0	6.1	0.8	0.9	11.4	0.8	0.9	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.7	0.2	1.0	5.3	4.8	0.8	2.0	2.1	2.1	1.1	1.2
LnGrp Delay(d),s/veh	31.4	10.8	9.7	26.5	13.3	13.4	32.4	17.9	18.0	20.9	13.2	13.3
LnGrp LOS	C	B	A	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		453			1006			404			397	
Approach Delay, s/veh		13.1			14.3			19.7			16.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.5	19.6	4.4	15.0	5.3	18.9	8.3	11.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.3	12.8	3.2	4.3	3.8	5.5	6.0	6.2				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.6	0.0	1.3	0.1	1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	53	54	101.3%	22.6	3.4	C
	Through	16	15	95.6%	21.8	10.3	C
	Right Turn	50	47	93.8%	11.0	3.2	B
	Subtotal	119	116	97.4%	18.2	3.1	B
SB	Left Turn	63	61	97.3%	24.7	4.6	C
	Through	68	69	100.7%	25.2	5.2	C
	Right Turn	16	16	101.9%	21.9	7.6	C
	Subtotal	147	146	99.4%	24.2	3.5	C
EB	Left Turn	28	26	93.2%	34.2	8.5	C
	Through	527	542	102.9%	21.5	3.2	C
	Right Turn	158	160	100.9%	17.1	4.6	B
	Subtotal	713	728	102.1%	21.0	3.4	C
WB	Left Turn	429	430	100.2%	68.6	30.0	E
	Through	1,019	1,022	100.3%	13.1	3.3	B
	Right Turn	102	101	99.1%	11.1	1.9	B
	Subtotal	1,550	1,553	100.2%	28.6	9.1	C
Total		2,529	2,543	100.6%	25.7	6.3	C

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	275	267	96.9%	16.6	2.1	B
	Through						
	Right Turn	294	296	100.6%	9.3	1.7	A
	Subtotal	569	562	98.8%	12.6	1.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	625	636	101.8%	13.1	2.3	B
	Right Turn	17	17	98.2%	12.3	5.3	B
	Subtotal	642	653	101.7%	13.0	2.4	B
WB	Left Turn	21	21	101.4%	28.7	8.6	C
	Through	1,275	1,289	101.1%	13.2	1.2	B
	Right Turn						
	Subtotal	1,296	1,311	101.1%	13.5	1.2	B
Total		2,507	2,526	100.7%	13.2	1.4	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	241	245	101.8%	41.0	4.4	D
	Through	199	194	97.2%	30.6	2.6	C
	Right Turn	161	155	96.0%	21.5	3.8	C
	Subtotal	601	593	98.7%	32.3	2.0	C
SB	Left Turn	72	73	101.8%	46.3	10.9	D
	Through	121	121	100.2%	35.5	8.1	D
	Right Turn	54	54	99.8%	18.5	7.2	B
	Subtotal	247	248	100.6%	35.5	6.3	D
EB	Left Turn	130	139	106.9%	45.6	6.8	D
	Through	627	633	100.9%	25.3	5.0	C
	Right Turn	208	207	99.5%	26.2	6.6	C
	Subtotal	965	979	101.4%	28.6	5.0	C
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	91	91	99.9%	77.5	7.3	E
	Through	1,016	1,021	100.5%	74.2	8.3	E
	Right Turn	106	106	99.9%	51.2	6.2	D
	Subtotal	1,213	1,218	100.4%	72.4	8.3	E
Total		3,026	3,038	100.4%	59.0	5.4	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	957	967	101.0%	73.3	25.4	E
	Through						
	Right Turn	7	8	107.1%	40.0	30.3	D
	Subtotal	964	974	101.1%	73.2	25.5	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	279	276	99.0%	18.2	2.3	B
	Right Turn						
	Subtotal	279	276	99.0%	18.2	2.3	B
WB	Left Turn						
	Through	257	247	96.1%	23.0	2.7	C
	Right Turn						
	Subtotal	257	247	96.1%	23.0	2.7	C
Total		1,500	1,498	99.8%	55.3	17.2	E

**Intersection 6**                      **CR 102/Hays Lane-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	36	38	105.6%	30.2	5.3	C
	Through	232	228	98.1%	13.1	2.4	B
	Right Turn	94	93	98.8%	2.8	0.3	A
	Subtotal	362	358	99.0%	12.4	2.1	B
SB	Left Turn						
	Through	413	401	97.1%	19.6	3.7	B
	Right Turn	8	9	110.0%	7.0	5.4	A
	Subtotal	421	410	97.3%	19.3	3.6	B
EB	Left Turn	13	15	111.5%	24.1	9.3	C
	Through						
	Right Turn	48	45	94.4%	24.4	6.3	C
	Subtotal	61	60	98.0%	24.0	4.7	C
WB	Left Turn	423	436	103.2%	17.9	2.3	B
	Through	37	36	97.3%	21.9	4.0	C
	Right Turn	183	179	97.5%	16.3	2.6	B
	Subtotal	643	651	101.2%	17.7	1.7	B
Total		1,487	1,479	99.4%	17.1	1.5	B

**Intersection 7**                      **CR 102/I-5 SB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	310	310	100.0%	3.1	0.6	A
	Right Turn	421	420	99.7%	3.8	0.3	A
	Subtotal	731	730	99.8%	3.5	0.2	A
SB	Left Turn						
	Through	722	722	100.0%	5.5	0.5	A
	Right Turn	117	112	95.8%	5.8	0.6	A
	Subtotal	839	834	99.4%	5.6	0.5	A
EB	Left Turn	52	50	95.8%	7.8	1.6	A
	Through						
	Right Turn	121	120	98.9%	4.4	1.3	A
	Subtotal	173	170	98.0%	5.4	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		1,743	1,733	99.4%	4.7	0.3	A

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	731	95	31	701	111	48	68	15	97	116	108
Future Volume (veh/h)	144	731	95	31	701	111	48	68	15	97	116	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	173	881	107	37	845	53	58	82	1	117	140	7
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	296	1236	150	147	1082	475	197	449	5	270	572	28
Arrive On Green	0.17	0.39	0.39	0.08	0.31	0.31	0.11	0.13	0.13	0.15	0.17	0.17
Sat Flow, veh/h	1757	3139	381	1757	3505	1538	1757	3545	43	1757	3398	169
Grp Volume(v), veh/h	173	492	496	37	845	53	58	40	43	117	72	75
Grp Sat Flow(s),veh/h/ln	1757	1752	1768	1757	1752	1538	1757	1752	1836	1757	1752	1815
Q Serve(g_s), s	5.6	14.6	14.6	1.2	13.6	1.5	1.9	1.3	1.3	3.7	2.2	2.2
Cycle Q Clear(g_c), s	5.6	14.6	14.6	1.2	13.6	1.5	1.9	1.3	1.3	3.7	2.2	2.2
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	296	690	696	147	1082	475	197	222	232	270	295	305
V/C Ratio(X)	0.58	0.71	0.71	0.25	0.78	0.11	0.29	0.18	0.18	0.43	0.24	0.25
Avail Cap(c_a), veh/h	795	1132	1143	568	2265	994	568	1132	1186	795	1132	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	15.8	15.8	26.5	19.5	15.3	25.2	24.2	24.2	23.7	22.3	22.3
Incr Delay (d2), s/veh	0.7	0.5	0.5	0.3	0.5	0.0	0.3	0.1	0.1	0.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	7.1	7.1	0.6	6.6	0.6	0.9	0.6	0.7	1.9	1.1	1.1
LnGrp Delay(d),s/veh	24.4	16.3	16.3	26.9	20.0	15.4	25.5	24.3	24.3	24.1	22.5	22.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1161			935			141			264	
Approach Delay, s/veh		17.5			20.0			24.8			23.2	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	12.7	8.2	28.5	9.9	15.3	13.4	23.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I), s	11.7	3.3	3.2	16.6	3.9	4.2	7.6	15.6				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.1	0.0	0.5	0.2	3.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				19.5								
HCM 2010 LOS				B								



**Intersection 9**                      **Matmor Rd/E Gibson Rd-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	47	94.2%	29.7	8.1	C
	Through	27	25	91.9%	29.2	7.3	C
	Right Turn	158	162	102.4%	17.3	3.3	B
	Subtotal	235	234	99.4%	20.8	3.4	C
SB	Left Turn	189	186	98.3%	48.7	20.3	D
	Through	25	27	108.4%	36.8	17.4	D
	Right Turn	112	111	98.8%	21.4	12.8	C
	Subtotal	326	323	99.2%	37.7	17.5	D
EB	Left Turn	105	106	100.5%	37.6	6.7	D
	Through	779	785	100.7%	23.2	2.1	C
	Right Turn	26	23	88.5%	19.7	5.0	B
	Subtotal	910	913	100.4%	24.8	2.1	C
WB	Left Turn	48	51	106.3%	44.6	7.6	D
	Through	741	751	101.3%	27.2	4.7	C
	Right Turn	129	136	105.5%	7.5	1.3	A
	Subtotal	918	938	102.2%	25.0	3.9	C
<b>Total</b>		<b>2,389</b>	<b>2,408</b>	<b>100.8%</b>	<b>26.2</b>	<b>3.5</b>	<b>C</b>

**Intersection 10**                      **SR 113 SB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	119	116	97.5%	18.0	2.1	B
	Through						
	Right Turn	69	72	104.1%	0.9	0.2	A
	Subtotal	188	188	99.9%	11.7	1.5	B
EB	Left Turn						
	Through	894	905	101.2%	13.6	2.0	B
	Right Turn	232	225	97.0%	8.1	2.1	A
	Subtotal	1,126	1,130	100.4%	12.5	1.9	B
WB	Left Turn						
	Through	849	859	101.2%	11.2	3.0	B
	Right Turn	406	411	101.3%	6.2	0.6	A
	Subtotal	1,255	1,270	101.2%	9.6	2.2	A
<b>Total</b>		<b>2,569</b>	<b>2,588</b>	<b>100.8%</b>	<b>11.1</b>	<b>1.7</b>	<b>B</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	112	109	97.1%	17.5	3.4	B
	Through						
	Right Turn	153	150	98.2%	1.3	0.2	A
	Subtotal	265	259	97.7%	7.9	2.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	875	881	100.7%	8.5	1.3	A
	Right Turn	138	139	101.0%	6.2	0.7	A
	Subtotal	1,013	1,021	100.8%	8.2	1.2	A
WB	Left Turn						
	Through	1,143	1,159	101.4%	13.4	1.1	B
	Right Turn	124	130	104.8%	10.2	0.7	B
	Subtotal	1,267	1,289	101.7%	13.1	1.0	B
<b>Total</b>		<b>2,545</b>	<b>2,569</b>	<b>100.9%</b>	<b>10.6</b>	<b>0.9</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	2	2	120.0%	6.2	6.0	A
	Subtotal	2	2	120.0%	6.2	6.0	A
SB	Left Turn						
	Through						
	Right Turn	131	129	98.7%	26.0	5.7	D
	Subtotal	131	129	98.7%	26.0	5.7	D
EB	Left Turn						
	Through	1,026	1,030	100.4%	4.6	0.7	A
	Right Turn	2	3	145.0%	0.7	1.3	A
	Subtotal	1,028	1,033	100.5%	4.6	0.7	A
WB	Left Turn						
	Through	1,136	1,160	102.1%	6.7	0.5	A
	Right Turn	30	32	105.0%	5.5	1.3	A
	Subtotal	1,166	1,191	102.2%	6.7	0.5	A
<b>Total</b>		<b>2,327</b>	<b>2,356</b>	<b>101.3%</b>	<b>6.9</b>	<b>0.4</b>	<b>A</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	399	404	101.3%	69.2	13.3	E
	Through	324	317	97.9%	25.1	2.7	C
	Right Turn	86	87	100.7%	7.2	2.1	A
	Subtotal	809	808	99.9%	44.9	7.0	D
SB	Left Turn	63	61	96.8%	46.0	6.3	D
	Through	288	295	102.3%	33.3	4.6	C
	Right Turn	273	282	103.3%	55.5	22.3	E
	Subtotal	624	638	102.2%	44.2	8.4	D
EB	Left Turn	179	176	98.4%	52.1	4.3	D
	Through	508	517	101.8%	38.9	3.5	D
	Right Turn	341	343	100.6%	25.2	9.3	C
	Subtotal	1,028	1,036	100.8%	36.7	4.5	D
WB	Left Turn	115	115	99.7%	47.6	4.2	D
	Through	486	498	102.5%	38.1	4.8	D
	Right Turn	20	18	91.0%	28.7	8.9	C
	Subtotal	621	631	101.6%	39.5	4.2	D
Total		3,082	3,113	101.0%	41.0	1.6	D

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing Conditions  
 Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	299	3	110	1	0	1	101	298	0	3	144	373
Future Volume (vph)	299	3	110	1	0	1	101	298	0	3	144	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1662		1736	3471		1736	1827	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1662		1736	3471		1736	1827	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	365	4	134	1	0	1	123	363	0	4	176	455
RTOR Reduction (vph)	0	0	107	0	2	0	0	0	0	0	0	344
Lane Group Flow (vph)	186	183	27	0	0	0	123	363	0	4	176	111
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	13.0	13.0	13.0		1.6		9.6	31.0		1.6	15.7	15.7
Effective Green, g (s)	13.0	13.0	13.0		1.6		9.6	31.0		1.6	15.7	15.7
Actuated g/C Ratio	0.20	0.20	0.20		0.02		0.15	0.48		0.02	0.24	0.24
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	333	334	313		41		259	1673		43	446	373
v/s Ratio Prot	c0.11	0.11			c0.00		c0.07	c0.10		0.00	c0.10	
v/s Ratio Perm			0.02									0.07
v/c Ratio	0.56	0.55	0.09		0.00		0.47	0.22		0.09	0.39	0.30
Uniform Delay, d1	23.1	23.0	20.8		30.6		25.0	9.6		30.6	20.3	19.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	1.0	0.0		0.0		0.5	0.0		0.3	0.2	0.2
Delay (s)	24.2	24.0	20.9		30.6		25.5	9.7		31.0	20.5	20.0
Level of Service	C	C	C		C		C	A		C	C	B
Approach Delay (s)		23.3			30.6			13.7			20.2	
Approach LOS		C			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.2				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			64.3				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			59.1%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	13	27	119	35	31	12	31	78	6	13	191	14
Future Volume (veh/h)	13	27	119	35	31	12	31	78	6	13	191	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	16	33	5	43	38	5	38	96	2	16	236	12
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	260	183	24	342	128	14	114	428	9	59	358	18
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.07	0.24	0.24	0.03	0.21	0.21
Sat Flow, veh/h	355	1159	154	668	813	91	1740	1783	37	1740	1723	88
Grp Volume(v), veh/h	54	0	0	86	0	0	38	0	98	16	0	248
Grp Sat Flow(s),veh/h/ln1668	0	0	1572	0	0	1740	0	1820	1740	0	1811	
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.5	0.0	1.0	0.2	0.0	2.9
Cycle Q Clear(g_c), s	0.6	0.0	0.0	1.0	0.0	0.0	0.5	0.0	1.0	0.2	0.0	2.9
Prop In Lane	0.30		0.09	0.50		0.06	1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	468	0	0	485	0	0	114	0	437	59	0	377
V/C Ratio(X)	0.12	0.00	0.00	0.18	0.00	0.00	0.33	0.00	0.22	0.27	0.00	0.66
Avail Cap(c_a), veh/h	1980	0	0	1911	0	0	1521	0	2387	1521	0	2374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	8.5	0.0	0.0	10.2	0.0	7.0	10.8	0.0	8.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.1	0.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.3	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.5	0.1	0.0	1.5
LnGrp Delay(d),s/veh	8.4	0.0	0.0	8.6	0.0	0.0	10.8	0.0	7.1	11.7	0.0	9.0
LnGrp LOS	A			A			B		A	B		A
Approach Vol, veh/h		54			86			136			264	
Approach Delay, s/veh		8.4			8.6			8.1			9.2	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	4.5	10.4		8.0	3.8	11.1				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+1), s		2.6	2.5	4.9		3.0	2.2	3.0				
Green Ext Time (p_c), s		0.1	0.0	0.4		0.1	0.0	0.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									
<b>Notes</b>												

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	40	25	1	2	16	266	2	99	0	94	38	15
Future Vol, veh/h	40	25	1	2	16	266	2	99	0	94	38	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	27	1	2	17	289	2	108	0	102	41	16
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.9	10.4	9.1	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	61%	100%	0%	64%
Vol Thru, %	98%	38%	0%	6%	26%
Vol Right, %	0%	2%	0%	94%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	66	2	282	147
LT Vol	2	40	2	0	94
Through Vol	99	25	0	16	38
RT Vol	0	1	0	266	15
Lane Flow Rate	110	72	2	307	160
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.155	0.104	0.004	0.395	0.225
Departure Headway (Hd)	5.076	5.226	5.813	4.645	5.067
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	681	614	772	703
Service Time	3.147	3.299	3.565	2.396	3.133
HCM Lane V/C Ratio	0.157	0.106	0.003	0.398	0.228
HCM Control Delay	9.1	8.9	8.6	10.4	9.6
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.5	0.3	0	1.9	0.9

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑↔		↔↔	↑↔	
Traffic Volume (veh/h)	0	37	17	20	17	7	45	2	51	14	5	3
Future Volume (veh/h)	0	37	17	20	17	7	45	2	51	14	5	3
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	50	0	27	23	0	61	3	0	19	7	0
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	2	2	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	8	161	0	162	585	497	306	436	0	210	41	0
Arrive On Green	0.00	0.08	0.00	0.09	0.31	0.00	0.17	0.12	0.00	0.06	0.01	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	3705	0	3510	3705	0
Grp Volume(v), veh/h	0	50	0	27	23	0	61	3	0	19	7	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	1805	0	1755	1805	0
Q Serve(g_s), s	0.0	0.6	0.0	0.3	0.2	0.0	0.7	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.6	0.0	0.3	0.2	0.0	0.7	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	8	161	0	162	585	497	306	436	0	210	41	0
V/C Ratio(X)	0.00	0.31	0.00	0.17	0.04	0.00	0.20	0.01	0.00	0.09	0.17	0.00
Avail Cap(c_a), veh/h	1610	2113	0	1610	2113	1796	1610	4015	0	3123	4015	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.7	0.0	9.5	5.4	0.0	8.0	8.7	0.0	10.0	11.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.0	0.2	0.1	0.0	0.3	0.0	0.0	0.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.1	0.0	9.6	5.5	0.0	8.1	8.7	0.0	10.1	11.7	0.0
LnGrp LOS		B		A	A		A	A		B	B	
Approach Vol, veh/h		50			50			64			26	
Approach Delay, s/veh		10.1			7.7			8.2			10.5	
Approach LOS		B			A			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	6.3	6.8	4.4	0.0	11.3	4.3	6.8				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+I), s	12.3	2.6	2.7	2.0	0.0	2.2	2.1	2.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.9								
HCM 2010 LOS				A								
<b>Notes</b>												



User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	80	8	211	0	0	10	42	180	2	12	356	54
Future Volume (veh/h)	80	8	211	0	0	10	42	180	2	12	356	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	98	10	16	0	0	0	51	220	1	15	434	16
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	116	21	34	8	9	0	65	648	539	21	602	500
Arrive On Green	0.07	0.03	0.03	0.00	0.00	0.00	0.04	0.35	0.35	0.01	0.33	0.33
Sat Flow, veh/h	1757	640	1024	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	98	0	26	0	0	0	51	220	1	15	434	16
Grp Sat Flow(s),veh/h/ln1757	0	1664	1757	1845	0	1757	1845	1535	1757	1845	1531	
Q Serve(g_s), s	1.2	0.0	0.3	0.0	0.0	0.0	0.6	1.8	0.0	0.2	4.3	0.1
Cycle Q Clear(g_c), s	1.2	0.0	0.3	0.0	0.0	0.0	0.6	1.8	0.0	0.2	4.3	0.1
Prop In Lane	1.00		0.62	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	0	56	8	9	0	65	648	539	21	602	500
V/C Ratio(X)	0.85	0.00	0.47	0.00	0.00	0.00	0.79	0.34	0.00	0.71	0.72	0.03
Avail Cap(c_a), veh/h	1261	0	1991	1261	2208	0	1682	2649	2204	1682	2649	2198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	9.9	0.0	0.0	0.0	10.0	5.0	4.4	10.3	6.2	4.8
Incr Delay (d2), s/veh	6.2	0.0	2.2	0.0	0.0	0.0	7.7	0.1	0.0	15.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.9	0.0	0.2	2.3	0.1
LnGrp Delay(d),s/veh	15.9	0.0	12.1	0.0	0.0	0.0	17.7	5.1	4.4	25.5	6.8	4.8
LnGrp LOS	B		B				B	A	A	C	A	A
Approach Vol, veh/h		124			0			272			465	
Approach Delay, s/veh		15.1			0.0			7.5			7.3	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s0.0	4.8	3.8	12.3	4.4	0.4	3.3	12.8					
Change Period (Y+Rc), s 3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5					
Max Green Setting (Gmax), s 15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0					
Max Q Clear Time (g_c+I), s 10.0	2.3	2.6	6.3	3.2	0.0	2.2	3.8					
Green Ext Time (p_c), s 0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.5					
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.5									
HCM 2010 LOS			A									

Intersection			
Intersection Delay, s/veh	4.4		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	89	152	86
Demand Flow Rate, veh/h	89	153	87
Vehicles Circulating, veh/h	15	47	139
Vehicles Exiting, veh/h	211	57	61
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	2
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.6	4.5
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	89	153	87
Cap Entry Lane, veh/h	1113	1078	983
Entry HV Adj Factor	0.995	0.991	0.989
Flow Entry, veh/h	89	152	86
Cap Entry, veh/h	1108	1068	972
V/C Ratio	0.080	0.142	0.089
Control Delay, s/veh	3.9	4.6	4.5
LOS	A	A	A
95th %tile Queue, veh	0	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	2	1	60.0%	1.1	1.8	A
	Through	3	4	126.7%	6.3	3.4	A
	Right Turn	3	4	130.0%	1.7	1.9	A
	Subtotal	8	9	111.3%	5.8	1.7	A
SB	Left Turn	218	220	100.9%	8.0	1.1	A
	Through	3	3	103.3%	6.3	5.3	A
	Right Turn	41	39	94.6%	4.8	0.7	A
	Subtotal	262	262	100.0%	7.6	0.9	A
EB	Left Turn	26	23	89.6%	7.2	2.1	A
	Through	174	170	97.8%	10.1	0.6	B
	Right Turn	1	2	170.0%	1.0	2.3	A
	Subtotal	201	195	97.1%	9.8	0.7	A
WB	Left Turn	1	0	30.0%	7.8	1.7	A
	Through	132	136	103.3%	19.3	2.6	C
	Right Turn	94	100	106.2%	14.1	2.4	B
	Subtotal	227	237	104.2%	17.1	2.5	C
Total		698	703	100.6%	11.5	1.0	B

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	6	6	95.0%	17.2	19.8	C
	Through	1	1	130.0%	9.1	16.0	A
	Right Turn	45	43	95.8%	3.5	1.6	A
	Subtotal	52	50	96.3%	5.8	2.0	A
EB	Left Turn						
	Through	68	65	96.0%	6.6	1.0	A
	Right Turn	327	329	100.6%	3.8	0.4	A
	Subtotal	395	394	99.8%	4.3	0.5	A
WB	Left Turn	144	138	95.8%	9.8	1.9	A
	Through	182	194	106.8%	7.1	1.6	A
	Right Turn						
	Subtotal	326	332	101.9%	8.2	1.8	A
Total		773	777	100.5%	6.0	0.8	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
AM Peak Hour

Intersection 22























SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	113	116	102.7%	5.5	0.7	A
	Through						
	Right Turn	16	17	107.5%	3.4	1.0	A
	Subtotal	129	133	103.3%	5.2	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	20	18	91.5%	2.7	1.0	A
	Through	54	53	98.1%	1.9	0.5	A
	Right Turn						
	Subtotal	74	71	96.4%	2.2	0.4	A
WB	Left Turn						
	Through	213	215	101.0%	0.7	0.2	A
	Right Turn	11	10	90.9%	0.1	0.2	A
	Subtotal	224	225	100.5%	0.6	0.2	A
Total		427	430	100.6%	2.4	0.3	A

HCM 2010 Signalized Intersection Summary  
1: East St & E Main St

Existing Conditions  
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	574	96	109	503	352	88	277	87	286	365	61
Future Volume (veh/h)	56	574	96	109	503	352	88	277	87	286	365	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	64	660	42	125	578	310	101	318	70	329	420	59
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1004	440	160	726	389	130	453	98	381	931	130
Arrive On Green	0.05	0.28	0.28	0.09	0.33	0.33	0.07	0.16	0.16	0.22	0.30	0.30
Sat Flow, veh/h	1774	3539	1550	1774	2209	1184	1774	2886	626	1774	3111	434
Grp Volume(v), veh/h	64	660	42	125	463	425	101	193	195	329	238	241
Grp Sat Flow(s),veh/h/ln	1774	1770	1550	1774	1770	1624	1774	1770	1742	1774	1770	1776
Q Serve(g_s), s	2.0	9.2	1.1	3.9	13.3	13.3	3.1	5.8	5.9	10.0	6.1	6.2
Cycle Q Clear(g_c), s	2.0	9.2	1.1	3.9	13.3	13.3	3.1	5.8	5.9	10.0	6.1	6.2
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.36	1.00		0.24
Lane Grp Cap(c), veh/h	81	1004	440	160	582	534	130	278	274	381	529	531
V/C Ratio(X)	0.79	0.66	0.10	0.78	0.80	0.80	0.78	0.70	0.71	0.86	0.45	0.45
Avail Cap(c_a), veh/h	761	2530	1108	761	1265	1161	634	1265	1246	634	1265	1270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	17.6	14.8	24.9	17.1	17.1	25.5	22.3	22.4	21.2	15.9	15.9
Incr Delay (d2), s/veh	6.4	0.3	0.0	3.1	1.0	1.0	3.8	1.2	1.3	3.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.5	0.5	2.0	6.6	6.1	1.7	2.9	3.0	5.2	3.0	3.1
LnGrp Delay(d),s/veh	32.9	17.9	14.8	28.0	18.0	18.1	29.3	23.5	23.7	24.4	16.1	16.1
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		766			1013			489			808	
Approach Delay, s/veh		19.0			19.3			24.7			19.5	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	12.9	8.1	20.0	7.1	20.8	5.5	22.5				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+1), s	12.0	7.9	5.9	11.2	5.1	8.2	4.0	15.3				
Green Ext Time (p_c), s	0.1	0.9	0.0	2.3	0.0	1.3	0.0	2.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			20.1									
HCM 2010 LOS			C									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	12	9	78.3%	20.7	14.5	C
	Through						
	Right Turn	33	32	97.3%	18.3	8.5	B
	Subtotal	45	42	92.2%	19.3	7.1	B
SB	Left Turn	61	64	105.6%	32.4	5.6	C
	Through	64	67	105.2%	32.5	7.1	C
	Right Turn	27	26	97.0%	22.1	6.4	C
	Subtotal	152	158	103.9%	30.7	5.3	C
EB	Left Turn	28	29	105.0%	39.6	11.8	D
	Through	860	864	100.4%	55.3	29.8	E
	Right Turn	162	163	100.4%	55.8	36.5	E
	Subtotal	1,050	1,056	100.5%	54.9	30.1	D
WB	Left Turn	293	292	99.6%	42.6	11.9	D
	Through	924	916	99.1%	11.6	2.9	B
	Right Turn	78	82	105.3%	8.7	3.0	A
	Subtotal	1,295	1,290	99.6%	18.3	2.9	B
Total		2,542	2,545	100.1%	33.8	12.6	C

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	231	237	102.6%	36.8	2.9	D
	Through						
	Right Turn	514	492	95.6%	132.6	64.2	F
	Subtotal	745	729	97.8%	99.6	41.8	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	928	911	98.2%	85.6	19.2	F
	Right Turn	28	28	99.3%	102.7	27.9	F
	Subtotal	956	939	98.2%	86.1	19.4	F
WB	Left Turn	41	38	92.9%	28.2	7.3	C
	Through	1,064	1,051	98.8%	8.9	1.9	A
	Right Turn						
	Subtotal	1,105	1,089	98.6%	9.6	1.7	A
Total		2,806	2,757	98.2%	59.4	13.8	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	201	199	99.0%	39.8	5.4	D
	Through	139	140	100.8%	28.0	4.2	C
	Right Turn	178	176	99.0%	29.4	3.8	C
	Subtotal	518	515	99.5%	33.2	2.6	C
SB	Left Turn	125	123	98.5%	44.4	7.8	D
	Through	221	219	99.3%	35.0	4.4	D
	Right Turn	71	72	101.3%	17.6	4.6	B
	Subtotal	417	414	99.4%	34.7	3.1	C
EB	Left Turn	63	63	100.6%	48.5	9.9	D
	Through	1,141	1,113	97.5%	46.6	3.9	D
	Right Turn	224	209	93.2%	52.5	5.4	D
	Subtotal	1,428	1,385	97.0%	47.6	3.6	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	181	177	97.7%	42.9	4.1	D
	Through	852	836	98.2%	23.5	2.1	C
	Right Turn	101	102	100.8%	8.8	1.3	A
	Subtotal	1,134	1,115	98.3%	25.3	2.3	C
Total		3,497	3,430	98.1%	42.9	2.4	D



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	569	568	99.7%	12.3	1.2	B
	Through						
	Right Turn	18	19	107.8%	10.2	3.2	B
	Subtotal	587	587	100.0%	12.3	1.2	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	539	536	99.4%	12.0	2.4	B
	Right Turn						
	Subtotal	539	536	99.4%	12.0	2.4	B
WB	Left Turn						
	Through	572	556	97.2%	9.3	1.3	A
	Right Turn						
	Subtotal	572	556	97.2%	9.3	1.3	A
Total		1,698	1,678	98.8%	11.2	0.9	B

**Intersection 6**                      **CR 102/Hays Lane-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	54	47	87.6%	37.4	6.0	D
	Through	465	478	102.8%	17.3	1.8	B
	Right Turn	175	173	98.8%	3.8	0.4	A
	Subtotal	694	698	100.6%	15.2	1.5	B
SB	Left Turn						
	Through	719	712	99.0%	25.8	2.4	C
	Right Turn	8	9	106.3%	12.1	7.3	B
	Subtotal	727	720	99.1%	25.6	2.4	C
EB	Left Turn	34	33	96.8%	29.9	9.7	C
	Through						
	Right Turn	104	105	101.2%	28.2	5.7	C
	Subtotal	138	138	100.1%	28.8	5.5	C
WB	Left Turn	530	541	102.1%	23.9	1.7	C
	Through	30	30	100.0%	26.5	5.2	C
	Right Turn	136	135	99.3%	19.1	3.7	B
	Subtotal	696	706	101.4%	23.1	1.6	C
Total		2,255	2,263	100.3%	21.8	1.3	C

**Intersection 7**                      **CR 102/I-5 SB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	641	642	100.1%	4.5	0.8	A
	Right Turn	543	535	98.5%	4.8	0.6	A
	Subtotal	1,184	1,176	99.4%	4.7	0.6	A
SB	Left Turn						
	Through	1,103	1,107	100.3%	9.4	1.2	A
	Right Turn	157	152	97.0%	7.9	0.5	A
	Subtotal	1,260	1,259	99.9%	9.2	1.1	A
EB	Left Turn	53	55	103.2%	9.9	2.3	A
	Through						
	Right Turn	208	205	98.6%	7.9	0.7	A
	Subtotal	261	260	99.5%	8.3	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,705	2,695	99.6%	7.1	0.7	A

HCM 2010 Signalized Intersection Summary  
 8: East St & E Gibson Rd

Existing Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	74	768	92	21	703	134	128	155	32	191	141	156
Future Volume (veh/h)	74	768	92	21	703	134	128	155	32	191	141	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1881	1881	1881	1900	1881	1881	1900
Adj Flow Rate, veh/h	80	826	94	23	756	73	138	167	20	205	152	20
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	242	1148	131	105	997	438	295	512	60	317	545	71
Arrive On Green	0.13	0.36	0.36	0.06	0.28	0.28	0.16	0.16	0.16	0.18	0.17	0.17
Sat Flow, veh/h	1792	3229	367	1792	3574	1571	1792	3215	380	1792	3178	412
Grp Volume(v), veh/h	80	457	463	23	756	73	138	92	95	205	84	88
Grp Sat Flow(s),veh/h/ln	1792	1787	1809	1792	1787	1571	1792	1787	1808	1792	1787	1803
Q Serve(g_s), s	2.4	13.3	13.3	0.7	11.6	2.1	4.2	2.7	2.8	6.4	2.5	2.5
Cycle Q Clear(g_c), s	2.4	13.3	13.3	0.7	11.6	2.1	4.2	2.7	2.8	6.4	2.5	2.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.21	1.00		0.23
Lane Grp Cap(c), veh/h	242	635	643	105	997	438	295	284	288	317	306	309
V/C Ratio(X)	0.33	0.72	0.72	0.22	0.76	0.17	0.47	0.32	0.33	0.65	0.28	0.28
Avail Cap(c_a), veh/h	835	1190	1205	597	2381	1046	597	1190	1204	835	1190	1201
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	16.8	16.8	27.0	19.8	16.4	22.7	22.4	22.4	23.0	21.6	21.7
Incr Delay (d2), s/veh	0.3	0.6	0.6	0.4	0.5	0.1	0.4	0.2	0.2	0.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.6	6.7	0.4	5.7	0.9	2.1	1.4	1.4	3.2	1.2	1.3
LnGrp Delay(d),s/veh	23.8	17.3	17.3	27.4	20.3	16.4	23.1	22.6	22.7	23.8	21.8	21.8
LnGrp LOS	C	B	B	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1000			852			325			377	
Approach Delay, s/veh		17.9			20.1			22.8			22.9	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	14.5	6.5	25.5	12.9	15.2	11.1	20.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1), s	10.4	4.8	2.7	15.3	6.2	4.5	4.4	13.6				
Green Ext Time (p_c), s	0.1	0.6	0.0	2.8	0.0	0.6	0.1	2.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				20.0								
HCM 2010 LOS				B								

**Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	44	45	102.5%	28.1	3.1	C
	Through	50	51	101.0%	25.3	6.4	C
	Right Turn	103	101	98.1%	16.1	3.8	B
	Subtotal	197	197	99.8%	20.9	3.1	C
SB	Left Turn	123	122	99.4%	34.5	7.9	C
	Through	36	33	92.5%	23.0	8.6	C
	Right Turn	113	116	102.9%	13.3	6.0	B
	Subtotal	272	272	100.0%	24.0	6.3	C
EB	Left Turn	164	167	102.1%	34.0	4.2	C
	Through	823	811	98.5%	23.1	2.2	C
	Right Turn	72	69	96.0%	16.8	2.3	B
	Subtotal	1,059	1,047	98.9%	24.4	2.4	C
WB	Left Turn	184	188	102.0%	43.4	3.8	D
	Through	818	806	98.6%	24.4	3.5	C
	Right Turn	212	206	97.3%	9.5	1.5	A
	Subtotal	1,214	1,200	98.9%	24.9	2.1	C
Total		2,742	2,716	99.0%	24.3	1.5	C

**Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	59	55	93.1%	16.8	3.4	B
	Through						
	Right Turn	104	108	103.7%	0.5	0.2	A
	Subtotal	163	163	99.8%	6.0	1.8	A
EB	Left Turn						
	Through	928	910	98.0%	13.5	2.4	B
	Right Turn	126	128	101.9%	6.2	0.9	A
	Subtotal	1,054	1,038	98.5%	12.6	2.3	B
WB	Left Turn						
	Through	1,110	1,091	98.3%	12.8	2.1	B
	Right Turn	201	205	102.1%	6.1	0.9	A
	Subtotal	1,311	1,296	98.9%	11.7	1.8	B
Total		2,528	2,497	98.8%	11.7	1.5	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	219	212	96.7%	18.6	1.4	B
	Through						
	Right Turn	616	621	100.9%	4.7	2.4	A
	Subtotal	835	833	99.8%	8.2	1.9	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	919	894	97.3%	9.1	1.2	A
	Right Turn	68	65	96.2%	5.2	0.9	A
	Subtotal	987	960	97.2%	8.8	1.2	A
WB	Left Turn						
	Through	1,092	1,087	99.5%	13.3	1.5	B
	Right Turn	91	96	105.3%	9.7	1.0	A
	Subtotal	1,183	1,182	99.9%	13.0	1.4	B
<b>Total</b>		<b>3,005</b>	<b>2,975</b>	<b>99.0%</b>	<b>10.3</b>	<b>0.6</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	3	2	80.0%	6.2	7.8	A
	Subtotal	3	2	80.0%	6.2	7.8	A
SB	Left Turn						
	Through						
	Right Turn	79	80	100.9%	11.4	3.9	B
	Subtotal	79	80	100.9%	11.4	3.9	B
EB	Left Turn						
	Through	1,535	1,518	98.9%	10.2	1.7	B
	Right Turn						
	Subtotal	1,535	1,518	98.9%	10.2	1.7	B
WB	Left Turn						
	Through	1,104	1,103	99.9%	6.6	0.7	A
	Right Turn	78	80	102.1%	6.1	1.3	A
	Subtotal	1,182	1,183	100.1%	6.6	0.7	A
<b>Total</b>		<b>2,799</b>	<b>2,783</b>	<b>99.4%</b>	<b>8.7</b>	<b>0.9</b>	<b>A</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

Intersection 13

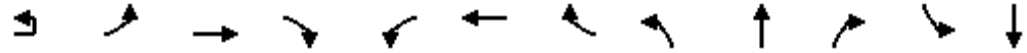
Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	200	199	99.6%	38.5	6.8	D
	Through	104	105	100.7%	24.2	4.8	C
	Right Turn	38	37	96.8%	7.8	3.5	A
	Subtotal	342	341	99.6%	30.9	5.3	C
SB	Left Turn	57	54	95.4%	37.6	8.3	D
	Through	114	110	96.4%	30.0	4.6	C
	Right Turn	203	203	99.9%	16.5	3.0	B
	Subtotal	374	367	98.1%	23.2	3.1	C
EB	Left Turn	417	409	98.0%	51.7	3.6	D
	Through	845	842	99.7%	39.7	5.1	D
	Right Turn	276	272	98.7%	18.8	2.3	B
	Subtotal	1,538	1,523	99.1%	38.8	3.6	D
WB	Left Turn	107	100	93.1%	40.9	4.8	D
	Through	734	738	100.5%	40.1	9.8	D
	Right Turn	45	51	113.1%	32.6	10.8	C
	Subtotal	886	888	100.2%	39.7	9.0	D
Total		3,140	3,119	99.3%	36.3	4.5	D

HCM Signalized Intersection Capacity Analysis  
 14: E. Gibson Rd/CR 24 & CR 102

Existing Conditions  
 Timing Plan: PM Peak Hour



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	10	627	0	81	0	1	2	125	419	0	1	454
Future Volume (vph)	10	627	0	81	0	1	2	125	419	0	1	454
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2
Lane Util. Factor		0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00
Frbp, ped/bikes		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Frt		1.00	1.00	0.85		0.91		1.00	1.00		1.00	1.00
Flt Protected		0.95	0.95	1.00		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1698	1698	1599		1712		1787	3574		1787	1881
Flt Permitted		0.95	0.95	1.00		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)		1698	1698	1599		1712		1787	3574		1787	1881
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	697	0	90	0	1	2	139	466	0	1	504
RTOR Reduction (vph)	0	0	0	68	0	2	0	0	0	0	0	0
Lane Group Flow (vph)	0	353	355	22	0	1	0	139	466	0	1	504
Confl. Bikes (#/hr)										1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Split	Split	NA	Perm		NA		Prot	NA		Prot	NA
Protected Phases	2	2	2		6	6		3	8		7	4
Permitted Phases				2								
Actuated Green, G (s)		23.2	23.2	23.2		1.9		13.1	51.4		1.9	33.1
Effective Green, g (s)		23.2	23.2	23.2		1.9		13.1	51.4		1.9	33.1
Actuated g/C Ratio		0.24	0.24	0.24		0.02		0.14	0.54		0.02	0.35
Clearance Time (s)		5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2
Vehicle Extension (s)		1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5
Lane Grp Cap (vph)		412	412	388		34		245	1923		35	651
v/s Ratio Prot		0.21	c0.21			c0.00		c0.08	c0.13		0.00	c0.27
v/s Ratio Perm				0.01								
v/c Ratio		0.86	0.86	0.06		0.03		0.57	0.24		0.03	0.77
Uniform Delay, d1		34.6	34.6	27.7		45.9		38.5	11.7		45.9	27.9
Progression Factor		1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2		15.4	16.2	0.0		0.1		1.8	0.0		0.1	5.2
Delay (s)		50.0	50.8	27.8		46.0		40.3	11.7		46.0	33.1
Level of Service		D	D	C		D		D	B		D	C
Approach Delay (s)			47.8			46.0			18.3			28.6
Approach LOS			D			D			B			C
<b>Intersection Summary</b>												
HCM 2000 Control Delay			32.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			95.5			Sum of lost time (s)			19.1			
Intersection Capacity Utilization			76.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 14: E. Gibson Rd/CR 24 & CR 102

Existing Conditions  
 Timing Plan: PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	485
Future Volume (vph)	485
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.2
Lane Util. Factor	1.00
Frbp, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	539
RTOR Reduction (vph)	294
Lane Group Flow (vph)	245
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	33.1
Effective Green, g (s)	33.1
Actuated g/C Ratio	0.35
Clearance Time (s)	5.2
Vehicle Extension (s)	1.5
Lane Grp Cap (vph)	554
v/s Ratio Prot	
v/s Ratio Perm	0.15
v/c Ratio	0.44
Uniform Delay, d1	24.1
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	24.3
Level of Service	C
Approach Delay (s)	
Approach LOS	
<b>Intersection Summary</b>	



HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔				↔		↗	↖		↗	↖	
Traffic Volume (veh/h)	18	43	41	1	11	25	29	77	171	42	19	164	40
Future Volume (veh/h)	18	43	41	1	11	25	29	77	171	42	19	164	40
Number	5	2	12		1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99		1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900		1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	47	21		12	27	0	85	188	38	21	180	35
Adj No. of Lanes	0	1	0		0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91		0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2		2	2	2	2	2	2	2	2	2
Cap, veh/h	45	106	47		31	70	0	209	361	73	76	250	49
Arrive On Green	0.11	0.11	0.11		0.06	0.06	0.00	0.12	0.24	0.24	0.04	0.17	0.17
Sat Flow, veh/h	400	941	421		564	1270	0	1774	1504	304	1774	1512	294
Grp Volume(v), veh/h	88	0	0		39	0	0	85	0	226	21	0	215
Grp Sat Flow(s),veh/h/ln1762	0	0	0		1835	0	0	1774	0	1808	1774	0	1806
Q Serve(g_s), s	1.4	0.0	0.0		0.6	0.0	0.0	1.4	0.0	3.3	0.3	0.0	3.4
Cycle Q Clear(g_c), s	1.4	0.0	0.0		0.6	0.0	0.0	1.4	0.0	3.3	0.3	0.0	3.4
Prop In Lane	0.23		0.24		0.31		0.00	1.00		0.17	1.00		0.16
Lane Grp Cap(c), veh/h	198	0	0		102	0	0	209	0	434	76	0	298
V/C Ratio(X)	0.44	0.00	0.00		0.38	0.00	0.00	0.41	0.00	0.52	0.28	0.00	0.72
Avail Cap(c_a), veh/h	1448	0	0		1508	0	0	1166	0	1783	1166	0	1781
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00		1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0		13.9	0.0	0.0	12.4	0.0	10.0	14.1	0.0	12.0
Incr Delay (d2), s/veh	0.6	0.0	0.0		0.9	0.0	0.0	0.5	0.0	0.4	0.7	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.7	0.0	0.0	0.0		0.3	0.0	0.0	0.7	0.0	1.7	0.2	0.0	1.8
LnGrp Delay(d),s/veh	13.2	0.0	0.0		14.7	0.0	0.0	12.9	0.0	10.4	14.8	0.0	13.3
LnGrp LOS	B				B			B		B	B		B
Approach Vol, veh/h		88				39			311			236	
Approach Delay, s/veh		13.2				14.7			11.1			13.4	
Approach LOS		B				B			B			B	
Timer	1	2	3	4	5	6	7	8					
Assigned Phs		2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s		7.8	6.6	10.6		5.4	4.3	12.9					
Change Period (Y+Rc), s		4.4	3.0	* 5.6		3.7	3.0	5.6					
Max Green Setting (Gmax), s		25.0	20.0	* 30		25.0	20.0	30.0					
Max Q Clear Time (g_c+1), s		3.4	3.4	5.4		2.6	2.3	5.3					
Green Ext Time (p_c), s		0.1	0.0	0.4		0.0	0.0	0.4					
<b>Intersection Summary</b>													
HCM 2010 Ctrl Delay				12.4									
HCM 2010 LOS				B									
<b>Notes</b>													

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

**Intersection**

Intersection Delay, s/veh 10.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	26	27	3	3	21	164	4	56	1	225	74	33
Future Vol, veh/h	26	27	3	3	21	164	4	56	1	225	74	33
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	29	30	3	3	23	182	4	62	1	250	82	37
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.1	9.8	8.7	12.3
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	46%	100%	0%	68%
Vol Thru, %	92%	48%	0%	11%	22%
Vol Right, %	2%	5%	0%	89%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	61	56	3	185	332
LT Vol	4	26	3	0	225
Through Vol	56	27	0	21	74
RT Vol	1	3	0	164	33
Lane Flow Rate	68	62	3	206	369
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.095	0.094	0.006	0.286	0.486
Departure Headway (Hd)	5.047	5.415	6.138	5.006	4.741
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	655	580	711	756
Service Time	3.132	3.504	3.91	2.777	2.801
HCM Lane V/C Ratio	0.097	0.095	0.005	0.29	0.488
HCM Control Delay	8.7	9.1	8.9	9.8	12.3
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.3	0.3	0	1.2	2.7

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing Conditions  
 Timing Plan: PM Peak Hour



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑		↔	↑	↔	↔	↑		↔	↑	
Traffic Volume (veh/h)	2	5	14	20	58	20	15	21	3	33	11	2	1
Future Volume (veh/h)	2	5	14	20	58	20	15	21	3	33	11	2	1
Number		7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h		5	15	2	62	22	0	23	3	0	12	2	0
Adj No. of Lanes		1	1	0	1	1	1	1	2	0	2	2	0
Peak Hour Factor		0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %		0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h		30	56	8	315	365	310	141	155	0	147	25	0
Arrive On Green		0.02	0.03	0.03	0.17	0.19	0.00	0.08	0.04	0.00	0.04	0.01	0.00
Sat Flow, veh/h		1810	1642	219	1810	1900	1615	1810	3705	0	3510	3705	0
Grp Volume(v), veh/h		5	0	17	62	22	0	23	3	0	12	2	0
Grp Sat Flow(s),veh/h/ln		1810	0	1861	1810	1900	1615	1810	1805	0	1755	1805	0
Q Serve(g_s), s		0.1	0.0	0.2	0.6	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s		0.1	0.0	0.2	0.6	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Prop In Lane		1.00		0.12	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h		30	0	64	315	365	310	141	155	0	147	25	0
V/C Ratio(X)		0.17	0.00	0.27	0.20	0.06	0.00	0.16	0.02	0.00	0.08	0.08	0.00
Avail Cap(c_a), veh/h		1764	0	2267	1764	2315	1968	1764	4399	0	3422	4399	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		10.0	0.0	9.7	7.2	6.8	0.0	8.8	9.4	0.0	9.4	10.1	0.0
Incr Delay (d2), s/veh		1.0	0.0	0.8	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.0	0.0	0.1	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh		10.9	0.0	10.5	7.4	6.8	0.0	9.0	9.4	0.0	9.5	10.6	0.0
LnGrp LOS		B		B	A	A		A	A		A	B	
Approach Vol, veh/h			22			84			26			14	
Approach Delay, s/veh			10.6			7.2			9.1			9.7	
Approach LOS			B			A			A			A	
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	3.9	5.3	6.6	4.8	4.6	4.5	3.3	8.0					
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1					
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0					
Max Q Clear Time (g_c+1), s	12.1	2.0	2.6	2.2	2.2	2.0	2.1	2.2					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
<b>Intersection Summary</b>													
HCM 2010 Ctrl Delay			8.3										
HCM 2010 LOS			A										
<b>Notes</b>													

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy

Existing Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1	48	0	5	12	108	409	0	9	322	82
Future Volume (veh/h)	52	1	48	0	5	12	108	409	0	9	322	82
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1900	1881	1881	1900	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	56	1	4	0	5	0	116	440	0	10	346	31
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	69	53	214	7	13	0	144	620	527	14	484	403
Arrive On Green	0.04	0.16	0.16	0.00	0.01	0.00	0.08	0.33	0.00	0.01	0.26	0.26
Sat Flow, veh/h	1792	326	1304	1792	1881	0	1792	1881	1599	1792	1881	1565
Grp Volume(v), veh/h	56	0	5	0	5	0	116	440	0	10	346	31
Grp Sat Flow(s),veh/h/ln	1792	0	1631	1792	1881	0	1792	1881	1599	1792	1881	1565
Q Serve(g_s), s	0.8	0.0	0.1	0.0	0.1	0.0	1.6	5.2	0.0	0.1	4.2	0.4
Cycle Q Clear(g_c), s	0.8	0.0	0.1	0.0	0.1	0.0	1.6	5.2	0.0	0.1	4.2	0.4
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	0	267	7	13	0	144	620	527	14	484	403
V/C Ratio(X)	0.81	0.00	0.02	0.00	0.39	0.00	0.81	0.71	0.00	0.69	0.71	0.08
Avail Cap(c_a), veh/h	1063	0	1612	1063	1860	0	1417	2232	1897	1417	2232	1856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	8.9	0.0	12.5	0.0	11.4	7.4	0.0	12.5	8.5	7.1
Incr Delay (d2), s/veh	8.1	0.0	0.0	0.0	7.0	0.0	4.0	0.6	0.0	19.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.0	0.1	0.0	0.9	2.7	0.0	0.1	2.2	0.2
LnGrp Delay(d),s/veh	20.2	0.0	8.9	0.0	19.5	0.0	15.4	8.0	0.0	32.3	9.3	7.1
LnGrp LOS	C		A		B		B	A		C	A	A
Approach Vol, veh/h		61			5			556			387	
Approach Delay, s/veh		19.3			19.5			9.5			9.7	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	8.2	5.0	12.0	4.0	4.3	3.2	13.8				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.1	3.6	6.2	2.8	2.1	2.1	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.2									
HCM 2010 LOS			B									

Intersection			
Intersection Delay, s/veh	3.8		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	90	38	39
Demand Flow Rate, veh/h	90	38	39
Vehicles Circulating, veh/h	17	36	36
Vehicles Exiting, veh/h	58	71	38
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	1
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.9	3.6	3.6
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	90	38	39
Cap Entry Lane, veh/h	1111	1090	1090
Entry HV Adj Factor	1.000	1.000	1.000
Flow Entry, veh/h	90	38	39
Cap Entry, veh/h	1111	1090	1090
V/C Ratio	0.081	0.035	0.036
Control Delay, s/veh	3.9	3.6	3.6
LOS	A	A	A
95th %tile Queue, veh	0	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

Intersection 20

East St/CR 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	1	1	80.0%	0.6	1.2	A
	Through	1	1	80.0%	0.0	0.0	A
	Right Turn	1	2	190.0%	0.7	0.9	A
	Subtotal	3	4	116.7%	1.3	1.2	A
SB	Left Turn	99	99	100.3%	4.7	0.5	A
	Through	1	0	40.0%	0.7	2.2	A
	Right Turn	32	33	101.9%	3.2	0.6	A
	Subtotal	132	132	100.2%	4.3	0.4	A
EB	Left Turn	57	54	94.9%	5.1	0.6	A
	Through	91	89	97.9%	8.6	0.3	A
	Right Turn	4	5	135.0%	3.9	2.5	A
	Subtotal	152	149	97.8%	7.2	0.2	A
WB	Left Turn	2	2	85.0%	3.3	2.7	A
	Through	122	119	97.5%	11.9	0.5	B
	Right Turn	204	205	100.3%	7.5	0.7	A
	Subtotal	328	325	99.2%	9.1	0.6	A
Total		615	610	99.2%	7.5	0.3	A

Intersection 21

SR 113 SB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	3	3	83.3%	3.1	3.8	A
	Through						
	Right Turn	30	29	96.3%	2.7	0.8	A
	Subtotal	33	31	95.2%	2.9	0.8	A
EB	Left Turn						
	Through	61	59	96.7%	3.6	0.9	A
	Right Turn	130	131	100.5%	2.4	0.2	A
	Subtotal	191	190	99.3%	2.8	0.3	A
WB	Left Turn	27	25	93.0%	2.0	0.7	A
	Through	298	298	100.1%	1.4	0.2	A
	Right Turn						
	Subtotal	325	323	99.5%	1.4	0.2	A
Total		549	544	99.2%	2.0	0.2	A



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Conditions  
PM Peak Hour

Intersection 22























SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	248	242	97.7%	6.1	0.6	A
	Through	4	3	75.0%	6.7	4.0	A
	Right Turn	86	85	99.2%	5.6	0.4	A
	Subtotal	338	331	97.8%	6.0	0.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	26	23	89.2%	1.6	0.5	A
	Through	38	40	104.7%	1.1	0.5	A
	Right Turn						
	Subtotal	64	63	98.4%	1.3	0.4	A
WB	Left Turn						
	Through	77	81	105.6%	0.8	0.3	A
	Right Turn	10	10	95.0%	0.0	0.1	A
	Subtotal	87	91	104.4%	0.7	0.3	A
Total		489	484	99.1%	4.3	0.3	A

HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing + Project  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	360	70	80	590	380	60	320	90	160	230	50
Future Volume (veh/h)	60	360	70	80	590	380	60	320	90	160	230	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	391	22	87	641	348	65	348	77	174	250	39
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	1213	533	110	790	429	80	512	112	222	791	122
Arrive On Green	0.05	0.35	0.35	0.06	0.36	0.36	0.05	0.18	0.18	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1542	1757	2177	1182	1757	2853	623	1757	3043	469
Grp Volume(v), veh/h	65	391	22	87	516	473	65	212	213	174	143	146
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1607	1757	1752	1724	1757	1752	1759
Q Serve(g_s), s	1.8	4.1	0.5	2.4	13.2	13.2	1.8	5.6	5.7	4.8	3.3	3.3
Cycle Q Clear(g_c), s	1.8	4.1	0.5	2.4	13.2	13.2	1.8	5.6	5.7	4.8	3.3	3.3
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.36	1.00		0.27
Lane Grp Cap(c), veh/h	80	1213	533	110	636	583	80	314	309	222	455	457
V/C Ratio(X)	0.81	0.32	0.04	0.79	0.81	0.81	0.81	0.67	0.69	0.78	0.31	0.32
Avail Cap(c_a), veh/h	707	2822	1241	707	1411	1294	849	1411	1388	849	1411	1416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	12.0	10.8	23.0	14.3	14.3	23.5	19.0	19.1	21.1	14.8	14.8
Incr Delay (d2), s/veh	7.0	0.1	0.0	4.7	1.0	1.0	7.0	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.2	1.3	6.5	6.0	1.0	2.8	2.8	2.5	1.6	1.6
LnGrp Delay(d),s/veh	30.5	12.0	10.8	27.7	15.3	15.3	30.5	20.0	20.1	23.4	15.0	15.0
LnGrp LOS	C	B	B	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		478			1076			490			463	
Approach Delay, s/veh		14.5			16.3			21.4			18.1	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	22.1	5.3	17.0	6.1	21.3	9.3	13.0				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.8	15.2	3.8	5.3	4.4	6.1	6.8	7.7				
Green Ext Time (p_c), s	0.0	2.7	0.0	0.8	0.0	1.3	0.1	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions  
AM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	60	100.3%	29.4	6.7	C
	Through	20	18	87.5%	37.9	33.1	D
	Right Turn	50	49	98.8%	16.7	5.5	B
	Subtotal	130	127	97.8%	24.2	3.9	C
SB	Left Turn	70	68	97.3%	26.7	5.9	C
	Through	90	93	102.9%	26.0	7.3	C
	Right Turn	20	21	106.0%	17.1	6.9	B
	Subtotal	180	182	101.1%	25.7	5.1	C
EB	Left Turn	30	26	87.3%	33.5	12.6	C
	Through	540	530	98.2%	27.2	12.9	C
	Right Turn	190	184	96.9%	24.6	18.6	C
	Subtotal	760	741	97.5%	26.9	13.8	C
WB	Left Turn	520	434	83.4%	165.2	45.8	F
	Through	1,100	1,045	95.0%	14.6	2.8	B
	Right Turn	120	117	97.3%	12.2	3.6	B
	Subtotal	1,740	1,595	91.7%	56.3	12.2	E
Total		2,810	2,645	94.1%	44.3	8.7	D

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	288	99.4%	26.3	4.0	C
	Through						
	Right Turn	500	485	97.0%	27.8	28.3	C
	Subtotal	790	773	97.9%	27.5	19.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	640	626	97.8%	41.5	51.8	D
	Right Turn	20	17	84.0%	38.9	58.0	D
	Subtotal	660	643	97.4%	41.4	51.8	D
WB	Left Turn	30	26	85.7%	61.4	29.8	E
	Through	1,450	1,326	91.5%	36.7	17.9	D
	Right Turn						
	Subtotal	1,480	1,352	91.4%	37.1	18.0	D
Total		2,930	2,768	94.5%	35.4	17.7	D

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions  
AM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	260	261	100.2%	43.7	9.8	D
	Through	260	257	99.0%	26.2	4.6	C
	Right Turn	100	101	100.9%	31.3	5.2	C
	Subtotal	620	619	99.8%	34.4	4.6	C
SB	Left Turn	40	36	89.3%	50.7	12.2	D
	Through	140	142	101.6%	37.2	5.8	D
	Right Turn	70	72	103.0%	21.7	6.8	C
	Subtotal	250	250	100.0%	34.6	3.7	C
EB	Left Turn	120	111	92.8%	49.1	9.1	D
	Through	860	841	97.8%	37.0	11.3	D
	Right Turn	210	208	98.8%	36.2	12.0	D
	Subtotal	1,190	1,160	97.5%	38.1	11.0	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	110	102	92.4%	78.1	6.5	E
	Through	1,180	1,060	89.9%	77.1	10.3	E
	Right Turn	110	99	89.8%	53.9	7.1	D
	Subtotal	1,400	1,261	90.1%	75.4	9.6	E
Total		3,460	3,290	95.1%	63.0	8.5	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,120	991	88.5%	343.8	60.5	F
	Through						
	Right Turn	10	10	98.0%	331.5	60.3	F
	Subtotal	1,130	1,001	88.6%	343.9	60.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	390	385	98.8%	18.8	1.6	B
	Right Turn						
	Subtotal	390	385	98.8%	18.8	1.6	B
WB	Left Turn						
	Through	290	284	98.0%	25.2	6.0	C
	Right Turn						
	Subtotal	290	284	98.0%	25.2	6.0	C
Total		1,810	1,670	92.3%	214.5	35.7	F

**Intersection 6**                      **CR 102/Hays Lane-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	40	99.3%	34.2	6.5	C
	Through	240	236	98.4%	15.8	3.4	B
	Right Turn	100	96	96.3%	3.2	0.4	A
	Subtotal	380	372	97.9%	14.5	2.5	B
SB	Left Turn						
	Through	440	440	100.0%	20.1	1.9	C
	Right Turn	10	10	101.0%	7.5	6.2	A
	Subtotal	450	450	100.0%	19.8	1.9	B
EB	Left Turn	20	17	82.5%	21.9	9.1	C
	Through						
	Right Turn	60	61	100.8%	20.5	6.8	C
	Subtotal	80	77	96.3%	21.0	4.9	C
WB	Left Turn	650	646	99.4%	20.3	1.2	C
	Through	40	39	97.3%	27.8	8.0	C
	Right Turn	200	201	100.5%	18.9	3.4	B
	Subtotal	890	886	99.5%	20.4	1.3	C
Total		1,800	1,785	99.2%	19.0	1.7	B

**Intersection 7**                      **CR 102/I-5 SB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	320	315	98.3%	3.1	0.4	A
	Right Turn	540	535	99.1%	4.3	0.5	A
	Subtotal	860	850	98.8%	3.8	0.3	A
SB	Left Turn						
	Through	960	961	100.1%	6.5	0.6	A
	Right Turn	120	121	100.8%	6.0	0.6	A
	Subtotal	1,080	1,082	100.1%	6.5	0.5	A
EB	Left Turn	60	57	95.3%	7.6	1.2	A
	Through						
	Right Turn	130	136	104.9%	4.7	1.0	A
	Subtotal	190	194	101.9%	5.6	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,130	2,125	99.8%	5.3	0.3	A

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	800	100	50	750	130	80	120	20	140	150	120
Future Volume (veh/h)	160	800	100	50	750	130	80	120	20	140	150	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	193	964	113	60	904	82	96	145	-27	169	181	12
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	281	1169	137	194	1125	494	241	479	0	277	525	35
Arrive On Green	0.16	0.37	0.37	0.11	0.32	0.32	0.14	0.14	0.00	0.16	0.16	0.16
Sat Flow, veh/h	1757	3153	370	1757	3505	1539	1757	3597	0	1757	3338	220
Grp Volume(v), veh/h	193	536	541	60	904	82	96	118	0	169	94	99
Grp Sat Flow(s),veh/h/ln	1757	1752	1770	1757	1752	1539	1757	1752	0	1757	1752	1805
Q Serve(g_s), s	6.9	18.5	18.5	2.1	15.8	2.6	3.3	2.0	0.0	6.0	3.2	3.3
Cycle Q Clear(g_c), s	6.9	18.5	18.5	2.1	15.8	2.6	3.3	2.0	0.0	6.0	3.2	3.3
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.00	1.00		0.12
Lane Grp Cap(c), veh/h	281	649	656	194	1125	494	241	479	0	277	275	284
V/C Ratio(X)	0.69	0.82	0.83	0.31	0.80	0.17	0.40	0.25	0.00	0.61	0.34	0.35
Avail Cap(c_a), veh/h	737	1050	1061	526	2100	922	526	2100	0	737	1050	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	19.0	19.0	27.3	20.7	16.3	26.3	25.8	0.0	26.2	25.1	25.1
Incr Delay (d2), s/veh	1.1	1.3	1.3	0.3	0.5	0.1	0.4	0.1	0.0	0.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	9.2	9.3	1.0	7.6	1.1	1.6	1.0	0.0	3.0	1.6	1.6
LnGrp Delay(d),s/veh	27.6	20.3	20.3	27.7	21.3	16.3	26.7	25.9	0.0	27.0	25.3	25.4
LnGrp LOS	C	C	C	C	C	B	C	C		C	C	C
Approach Vol, veh/h		1270			1046			214			362	
Approach Delay, s/veh		21.4			21.2			26.2			26.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	14.0	10.4	28.8	12.1	15.4	13.7	25.5				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1), s	10.0	4.0	4.1	20.5	5.3	5.3	8.9	17.8				
Green Ext Time (p_c), s	0.1	0.4	0.0	3.4	0.0	0.7	0.2	3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.3								
HCM 2010 LOS				C								

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Project Conditions**  
**AM Peak Hour**

**Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	59	98.7%	26.7	5.6	C
	Through	30	30	101.0%	23.8	8.4	C
	Right Turn	170	174	102.5%	13.2	3.3	B
	Subtotal	260	264	101.4%	17.4	2.3	B
SB	Left Turn	270	272	100.6%	134.8	39.7	F
	Through	30	30	101.3%	123.8	37.3	F
	Right Turn	120	115	95.8%	109.6	40.5	F
	Subtotal	420	417	99.3%	127.1	39.1	F
EB	Left Turn	110	103	93.4%	38.8	5.4	D
	Through	920	898	97.6%	25.0	2.6	C
	Right Turn	30	30	100.7%	20.6	7.4	C
	Subtotal	1,060	1,031	97.2%	26.2	2.4	C
WB	Left Turn	60	62	103.0%	46.4	6.9	D
	Through	830	829	99.9%	26.8	2.2	C
	Right Turn	160	159	99.6%	6.7	1.1	A
	Subtotal	1,050	1,051	100.1%	24.8	2.3	C
Total		2,790	2,762	99.0%	43.1	6.9	D

**Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	170	168	99.1%	15.8	1.4	B
	Through						
	Right Turn	120	123	102.6%	0.9	0.2	A
	Subtotal	290	292	100.5%	9.5	1.0	A
EB	Left Turn						
	Through	960	948	98.7%	14.6	1.9	B
	Right Turn	400	400	100.0%	9.5	1.0	A
	Subtotal	1,360	1,348	99.1%	13.1	1.6	B
WB	Left Turn						
	Through	930	927	99.7%	11.3	1.8	B
	Right Turn	460	453	98.5%	7.2	0.5	A
	Subtotal	1,390	1,380	99.3%	10.0	1.3	A
Total		3,040	3,019	99.3%	11.3	0.6	B



**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Project Conditions**  
**AM Peak Hour**

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	160	151	94.4%	18.6	2.4	B
	Through						
	Right Turn	190	184	97.0%	1.7	0.2	A
	Subtotal	350	335	95.8%	9.4	1.4	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	890	874	98.2%	9.7	1.1	A
	Right Turn	240	243	101.4%	6.5	0.9	A
	Subtotal	1,130	1,117	98.9%	9.0	1.0	A
WB	Left Turn						
	Through	1,230	1,228	99.8%	15.6	1.1	B
	Right Turn	160	154	96.1%	11.1	0.8	B
	Subtotal	1,390	1,382	99.4%	15.1	1.0	B
<b>Total</b>		<b>2,870</b>	<b>2,835</b>	<b>98.8%</b>	<b>11.9</b>	<b>0.9</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	230	229	99.6%	44.5	24.7	E
	Subtotal	230	229	99.6%	44.5	24.7	E
SB	Left Turn						
	Through						
	Right Turn	160	158	99.0%	48.4	26.2	E
	Subtotal	160	158	99.0%	48.4	26.2	E
EB	Left Turn						
	Through	930	911	97.9%	7.5	0.8	A
	Right Turn	150	147	97.8%	7.1	1.4	A
	Subtotal	1,080	1,057	97.9%	7.4	0.7	A
WB	Left Turn						
	Through	1,230	1,223	99.5%	6.8	0.6	A
	Right Turn	40	37	92.5%	6.2	1.0	A
	Subtotal	1,270	1,260	99.2%	6.8	0.6	A
<b>Total</b>		<b>2,740</b>	<b>2,705</b>	<b>98.7%</b>	<b>13.0</b>	<b>2.8</b>	<b>B</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Project Conditions  
AM Peak Hour

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	490	481	98.2%	113.2	28.0	F
	Through	350	353	100.7%	32.1	4.1	C
	Right Turn	200	207	103.6%	13.2	2.2	B
	Subtotal	1,040	1,041	100.1%	62.1	14.2	E
SB	Left Turn	70	73	103.7%	53.8	7.4	D
	Through	360	367	101.9%	38.5	3.6	D
	Right Turn	290	294	101.3%	82.7	32.5	F
	Subtotal	720	733	101.8%	57.5	14.1	E
EB	Left Turn	280	272	97.1%	59.2	5.1	E
	Through	530	530	99.9%	48.5	3.9	D
	Right Turn	350	347	99.2%	36.1	6.9	D
	Subtotal	1,160	1,149	99.0%	47.1	3.7	D
WB	Left Turn	330	333	100.8%	64.5	14.6	E
	Through	490	484	98.8%	42.5	4.2	D
	Right Turn	50	48	96.8%	33.1	7.6	C
	Subtotal	870	865	99.5%	50.6	5.9	D
Total		3,790	3,788	99.9%	54.0	3.9	D

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Future Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	488	12	134	12	12	12	171	378	0	12	220	683
RTOR Reduction (vph)	0	0	106	0	11	0	0	0	0	0	0	515
Lane Group Flow (vph)	249	251	28	0	25	0	171	378	0	12	220	168
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.9	16.9	16.9		6.1		14.6	40.5		1.7	20.2	20.2
Effective Green, g (s)	16.9	16.9	16.9		6.1		14.6	40.5		1.7	20.2	20.2
Actuated g/C Ratio	0.21	0.21	0.21		0.07		0.18	0.49		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	338	340	318		127		307	1708		35	448	375
v/s Ratio Prot	0.15	c0.15			c0.01		c0.10	c0.11		0.01	c0.12	
v/s Ratio Perm			0.02									0.11
v/c Ratio	0.74	0.74	0.09		0.20		0.56	0.22		0.34	0.49	0.45
Uniform Delay, d1	30.6	30.6	26.5		35.8		30.9	11.9		39.7	26.6	26.3
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.0	7.0	0.0		0.3		1.2	0.0		2.1	0.3	0.3
Delay (s)	37.6	37.7	26.5		36.1		32.1	11.9		41.9	26.9	26.6
Level of Service	D	D	C		D		C	B		D	C	C
Approach Delay (s)		35.3			36.1			18.2			26.9	
Approach LOS		D			D			B			C	

Intersection Summary		
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.53	
Actuated Cycle Length (s)	82.3	Sum of lost time (s) 19.1
Intersection Capacity Utilization	74.3%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	30	140	40	40	20	40	160	10	20	220	20
Future Volume (veh/h)	20	30	140	40	40	20	40	160	10	20	220	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	54	49	49	14	49	198	11	25	272	23
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	213	120	141	301	168	38	140	428	24	89	365	31
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.25	0.25	0.05	0.22	0.22
Sat Flow, veh/h	220	628	738	515	880	199	1740	1715	95	1740	1660	140
Grp Volume(v), veh/h	116	0	0	112	0	0	49	0	209	25	0	295
Grp Sat Flow(s),veh/h/ln	1586	0	0	1594	0	0	1740	0	1810	1740	0	1801
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	2.5	0.4	0.0	3.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.4	0.0	0.0	0.7	0.0	2.5	0.4	0.0	3.9
Prop In Lane	0.22		0.47	0.44		0.12	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	475	0	0	507	0	0	140	0	452	89	0	396
V/C Ratio(X)	0.24	0.00	0.00	0.22	0.00	0.00	0.35	0.00	0.46	0.28	0.00	0.74
Avail Cap(c_a), veh/h	1689	0	0	1691	0	0	1360	0	2123	1360	0	2112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	0.0	8.9	0.0	0.0	11.1	0.0	8.1	11.7	0.0	9.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.3	0.6	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.7	0.0	0.0	0.3	0.0	1.3	0.2	0.0	2.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	9.0	0.0	0.0	11.7	0.0	8.4	12.3	0.0	10.4
LnGrp LOS	A			A			B		A	B		B
Approach Vol, veh/h		116			112			258			320	
Approach Delay, s/veh		9.1			9.0			9.0			10.5	
Approach LOS		A			A			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	5.1	11.2		9.3	4.3	12.0				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+1), s		3.5	2.7	5.9		3.4	2.4	4.5				
Green Ext Time (p_c), s		0.2	0.0	0.5		0.2	0.0	0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				9.6								
HCM 2010 LOS				A								
<b>Notes</b>												

Intersection	
Intersection Delay, s/veh	43
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	40	30	10	30	20	270	10	380	10	100	380	20
Future Vol, veh/h	40	30	10	30	20	270	10	380	10	100	380	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	43	33	11	33	22	293	11	413	11	109	413	22
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	14.1	21.2	35.2	67.7
HCM LOS	B	C	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	50%	100%	0%	20%
Vol Thru, %	95%	38%	0%	7%	76%
Vol Right, %	3%	12%	0%	93%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	80	30	290	500
LT Vol	10	40	30	0	100
Through Vol	380	30	0	20	380
RT Vol	10	10	0	270	20
Lane Flow Rate	435	87	33	315	543
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.829	0.209	0.077	0.638	1.012
Departure Headway (Hd)	6.867	8.672	8.481	7.292	6.702
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	526	412	422	495	543
Service Time	4.925	6.764	6.24	5.05	4.702
HCM Lane V/C Ratio	0.827	0.211	0.078	0.636	1
HCM Control Delay	35.2	14.1	12	22.1	67.7
HCM Lane LOS	E	B	B	C	F
HCM 95th-tile Q	8.3	0.8	0.2	4.4	14.7

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑		↔	↑	↔
Traffic Volume (veh/h)	10	40	20	40	20	50	50	160	90	90	70	10
Future Volume (veh/h)	10	40	20	40	20	50	50	160	90	90	70	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	54	-50	54	27	0	68	216	106	122	95	-67
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	39	4580	267	230	196	290	282	138	791	571	485
Arrive On Green	0.05	0.02	0.00	0.15	0.12	0.00	0.16	0.24	0.24	0.23	0.30	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1196	587	3510	1900	1615
Grp Volume(v), veh/h	14	4	0	54	27	0	68	0	322	122	95	-67
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1783	1755	1900	1615
Q Serve(g_s), s	0.3	0.1	0.0	1.0	0.5	0.0	1.3	0.0	6.6	1.1	1.4	0.0
Cycle Q Clear(g_c), s	0.3	0.1	0.0	1.0	0.5	0.0	1.3	0.0	6.6	1.1	1.4	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	85	39	0	267	230	196	290	0	420	791	571	485
V/C Ratio(X)	0.16	0.10	0.00	0.20	0.12	0.00	0.23	0.00	0.77	0.15	0.17	-0.14
Avail Cap(c_a), veh/h	926	1216	0	926	1216	1034	926	0	1141	1797	1216	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	18.8	0.0	14.6	15.3	0.0	14.3	0.0	13.9	12.1	10.1	0.0
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.1	0.1	0.0	0.2	0.0	1.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.5	0.3	0.0	0.7	0.0	3.4	0.5	0.7	0.0
LnGrp Delay(d),s/veh	18.2	19.2	0.0	14.8	15.4	0.0	14.5	0.0	15.1	12.2	10.1	0.0
LnGrp LOS	B	B		B	B		B		B	B	B	
Approach Vol, veh/h		18			81			390			150	
Approach Delay, s/veh		18.4			15.0			14.9			16.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	5.2	9.3	15.8	4.8	9.1	11.8	13.3				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	13.0	2.1	3.3	3.4	2.3	2.5	3.1	8.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									
<b>Notes</b>												

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	310	0	0	10	60	190	10	20	360	80
Future Volume (veh/h)	110	10	310	0	0	10	60	190	10	20	360	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	134	12	111	0	0	0	73	232	3	24	439	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	166	18	166	7	8	0	85	647	538	32	592	491
Arrive On Green	0.09	0.12	0.12	0.00	0.00	0.00	0.05	0.35	0.35	0.02	0.32	0.32
Sat Flow, veh/h	1757	155	1436	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	134	0	123	0	0	0	73	232	3	24	439	13
Grp Sat Flow(s),veh/h/ln	1757	0	1591	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	1.8	0.0	1.8	0.0	0.0	0.0	1.0	2.3	0.0	0.3	5.2	0.1
Cycle Q Clear(g_c), s	1.8	0.0	1.8	0.0	0.0	0.0	1.0	2.3	0.0	0.3	5.2	0.1
Prop In Lane	1.00		0.90	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	0	184	7	8	0	85	647	538	32	592	491
V/C Ratio(X)	0.81	0.00	0.67	0.00	0.00	0.00	0.86	0.36	0.01	0.74	0.74	0.03
Avail Cap(c_a), veh/h	1077	0	1626	1077	1885	0	1436	2262	1882	1436	2262	1877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	10.4	0.0	0.0	0.0	11.6	5.9	5.2	11.9	7.4	5.7
Incr Delay (d2), s/veh	3.5	0.0	1.6	0.0	0.0	0.0	9.0	0.1	0.0	11.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.9	0.0	0.0	0.0	0.7	1.2	0.0	0.3	2.7	0.1
LnGrp Delay(d),s/veh	14.4	0.0	11.9	0.0	0.0	0.0	20.6	6.0	5.2	23.5	8.1	5.7
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h		257			0			308			476	
Approach Delay, s/veh		13.2			0.0			9.5			8.8	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	6.9	4.2	13.3	5.3	1.6	3.5	14.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	3.8	3.0	7.2	3.8	0.0	2.3	4.3				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.0	0.0	0.0	0.0	0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection			
Intersection Delay, s/veh	6.0		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	319	167	151
Demand Flow Rate, veh/h	329	172	155
Vehicles Circulating, veh/h	15	266	157
Vehicles Exiting, veh/h	297	78	281
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.2	6.3	5.4
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	329	172	155
Cap Entry Lane, veh/h	1113	866	966
Entry HV Adj Factor	0.970	0.973	0.974
Flow Entry, veh/h	319	167	151
Cap Entry, veh/h	1079	842	940
V/C Ratio	0.296	0.199	0.161
Control Delay, s/veh	6.2	6.3	5.4
LOS	A	A	A
95th %tile Queue, veh	1	1	1



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
AM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	97.0%	4.1	0.7	A
	Through	10	10	104.0%	9.9	2.1	A
	Right Turn	10	11	111.0%	4.1	2.1	A
	Subtotal	30	31	104.0%	6.5	1.0	A
SB	Left Turn	270	270	99.9%	11.2	2.6	B
	Through	10	9	90.0%	16.4	6.2	C
	Right Turn	50	50	99.4%	7.4	2.6	A
	Subtotal	330	329	99.5%	10.8	2.6	B
EB	Left Turn	30	30	99.3%	12.4	5.6	B
	Through	300	293	97.8%	16.8	6.3	C
	Right Turn	10	10	103.0%	9.1	6.5	A
	Subtotal	340	334	98.1%	16.3	5.9	C
WB	Left Turn	10	5	50.0%	8.1	7.9	A
	Through	180	106	58.6%	14.0	2.1	B
	Right Turn	190	117	61.4%	7.5	1.0	A
	Subtotal	380	227	59.8%	10.6	1.7	B
Total		1,080	920	85.2%	12.8	3.1	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
AM Peak Hour

Intersection 21 SR 113 SB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	1	0.3%	893.8	9.1	F
	Through	10	0	0.0%	719.9	379.4	F
	Right Turn	50	0	0.0%	899.9	0.2	F
	Subtotal	250	1	0.2%	353.8	456.8	F
EB	Left Turn						
	Through	250	250	99.9%	7.9	0.8	A
	Right Turn	330	327	99.0%	4.8	0.4	A
	Subtotal	580	576	99.4%	6.2	0.5	A
WB	Left Turn	650	480	73.8%	194.9	35.0	F
	Through	330	229	69.4%	204.8	26.7	F
	Right Turn						
	Subtotal	980	709	72.3%	198.2	31.8	F
Total		1,810	1,286	71.0%	80.2	10.2	F

Intersection 22 SR 113 NB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	67	56.1%	473.6	169.5	F
	Through						
	Right Turn	350	201	57.3%	446.2	170.0	F
	Subtotal	470	268	57.0%	364.0	142.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	88.3%	10.8	13.2	B
	Through	410	224	54.5%	4.9	6.4	A
	Right Turn						
	Subtotal	440	250	56.8%	5.5	7.1	A
WB	Left Turn						
	Through	860	641	74.5%	79.1	10.8	F
	Right Turn	250	184	73.8%	75.7	11.3	F
	Subtotal	1,110	825	74.3%	78.4	10.9	F
Total		2,020	1,343	66.5%	125.8	30.3	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	101.5%	3.9	1.9	A
	Subtotal	20	20	101.5%	3.9	1.9	A
SB	Left Turn						
	Through						
	Right Turn	160	98	61.3%	381.5	229.3	F
	Subtotal	160	98	61.3%	310.3	225.8	F
EB	Left Turn						
	Through	540	308	57.1%	4.7	4.5	A
	Right Turn	220	116	52.8%	2.6	3.5	A
	Subtotal	760	425	55.9%	4.2	4.2	A
WB	Left Turn						
	Through	950	739	77.8%	81.5	32.2	F
	Right Turn	10	9	85.0%	65.4	93.0	F
	Subtotal	960	747	77.9%	81.5	32.3	F
Total		1,900	1,290	67.9%	64.2	21.4	F

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	76	206	33	33
Demand Flow Rate, veh/h	78	212	33	33
Vehicles Circulating, veh/h	89	33	78	212
Vehicles Exiting, veh/h	156	78	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.2	5.2	3.8	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	78	212	33	33
Cap Entry Lane, veh/h	1034	1093	1045	914
Entry HV Adj Factor	0.979	0.972	0.990	0.990
Flow Entry, veh/h	76	206	33	33
Cap Entry, veh/h	1011	1062	1034	905
V/C Ratio	0.076	0.194	0.032	0.036
Control Delay, s/veh	4.2	5.2	3.8	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
AM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	100	88	87.6%	374.5	62.0	F
	Through	20	21	102.5%	197.2	89.2	F
	Right Turn	10	8	84.0%	159.5	110.1	F
	Subtotal	130	117	89.6%	331.1	56.9	F
SB	Left Turn	10	6	61.0%	153.1	89.5	F
	Through	60	37	61.2%	166.7	37.7	F
	Right Turn	530	352	66.3%	148.6	28.8	F
	Subtotal	600	394	65.7%	151.1	28.7	F
EB	Left Turn	450	263	58.5%	64.3	16.6	E
	Through	100	58	58.1%	39.5	13.7	D
	Right Turn	10	5	50.0%	22.0	23.8	C
	Subtotal	560	327	58.3%	59.6	16.2	E
WB	Left Turn	30	28	93.3%	321.5	167.5	F
	Through	330	315	95.3%	313.9	101.4	F
	Right Turn	10	8	81.0%	230.4	127.3	F
	Subtotal	370	351	94.8%	312.0	101.5	F
Total		1,660	1,188	71.6%	190.0	31.6	F

HCM 2010 Signalized Intersection Summary  
 26: Road B & Road C

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	30	20	20	220	30	70	100	260	70	50	380	60
Future Volume (veh/h)	30	20	20	220	30	70	100	260	70	50	380	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	22	7	239	33	66	109	283	55	54	413	54
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	110	73	23	306	42	84	251	702	135	183	627	81
Arrive On Green	0.12	0.12	0.12	0.25	0.25	0.25	0.14	0.24	0.24	0.10	0.20	0.20
Sat Flow, veh/h	937	625	199	1218	168	336	1757	2930	561	1757	3115	405
Grp Volume(v), veh/h	62	0	0	338	0	0	109	168	170	54	231	236
Grp Sat Flow(s),veh/h/ln1760	0	0	0	1722	0	0	1757	1752	1739	1757	1752	1767
Q Serve(g_s), s	2.2	0.0	0.0	12.2	0.0	0.0	3.8	5.4	5.5	1.9	8.1	8.2
Cycle Q Clear(g_c), s	2.2	0.0	0.0	12.2	0.0	0.0	3.8	5.4	5.5	1.9	8.1	8.2
Prop In Lane	0.53		0.11	0.71		0.20	1.00		0.32	1.00		0.23
Lane Grp Cap(c), veh/h	206	0	0	432	0	0	251	420	417	183	353	356
V/C Ratio(X)	0.30	0.00	0.00	0.78	0.00	0.00	0.43	0.40	0.41	0.30	0.66	0.66
Avail Cap(c_a), veh/h	736	0	0	872	0	0	341	728	722	289	676	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	0.0	23.4	0.0	0.0	26.2	21.4	21.4	27.7	24.6	24.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.1	0.0	0.0	1.2	0.6	0.6	0.9	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.1	0.0	0.0	0.0	6.2	0.0	0.0	1.9	2.7	2.7	1.0	4.1	4.2
LnGrp Delay(d),s/veh	27.9	0.0	0.0	26.5	0.0	0.0	27.4	22.0	22.1	28.6	26.7	26.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		62			338			447			521	
Approach Delay, s/veh		27.9			26.5			23.4			26.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.0	21.1		12.9	13.6	18.6		21.9				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	27.8			28.0	13.0	25.8		33.9				
Max Q Clear Time (g_c+1), s	7.5			4.2	5.8	10.2		14.2				
Green Ext Time (p_c), s	0.0	1.9		0.3	0.1	2.5		2.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				25.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
 28: Road B & Marston Dr

Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	30	10	60	80	30	20	130	220	30	10	390	90
Future Volume (veh/h)	30	10	60	80	30	20	130	220	30	10	390	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	11	10	87	33	15	141	239	25	11	424	81
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	122	41	37	185	70	32	295	1163	121	54	663	126
Arrive On Green	0.11	0.11	0.11	0.16	0.16	0.16	0.17	0.36	0.36	0.03	0.23	0.23
Sat Flow, veh/h	1058	353	321	1129	428	195	1757	3204	332	1757	2935	556
Grp Volume(v), veh/h	54	0	0	135	0	0	141	130	134	11	252	253
Grp Sat Flow(s),veh/h/ln	1732	0	0	1752	0	0	1757	1752	1783	1757	1752	1739
Q Serve(g_s), s	1.7	0.0	0.0	4.1	0.0	0.0	4.3	3.0	3.1	0.4	7.7	7.8
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.1	0.0	0.0	4.3	3.0	3.1	0.4	7.7	7.8
Prop In Lane	0.61		0.19	0.64		0.11	1.00		0.19	1.00		0.32
Lane Grp Cap(c), veh/h	199	0	0	288	0	0	295	636	647	54	396	393
V/C Ratio(X)	0.27	0.00	0.00	0.47	0.00	0.00	0.48	0.20	0.21	0.20	0.64	0.64
Avail Cap(c_a), veh/h	825	0	0	834	0	0	506	995	1013	328	817	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	22.3	0.0	0.0	22.2	12.9	12.9	27.9	20.6	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.2	0.0	0.0	1.2	0.2	0.2	1.8	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.1	0.0	0.0	2.2	1.5	1.5	0.2	3.9	3.9
LnGrp Delay(d),s/veh	24.6	0.0	0.0	23.5	0.0	0.0	23.4	13.1	13.1	29.7	22.3	22.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		54			135			405			516	
Approach Delay, s/veh		24.6			23.5			16.7			22.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	26.5		11.9	13.9	18.4		14.8				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	33.5			28.1	17.0	27.5		28.1				
Max Q Clear Time (g_c+1), s	12.4	5.1		3.7	6.3	9.8		6.1				
Green Ext Time (p_c), s	0.0	1.6		0.2	0.2	2.9		0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				20.6								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
29: Road B & Road E

Existing + Project  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	130	10	100	70	10	130	60	140	20	70	410	120
Future Volume (veh/h)	130	10	100	70	10	130	60	140	20	70	410	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	141	11	85	76	11	86	65	152	11	76	446	105
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	192	15	116	116	17	131	205	750	54	222	663	155
Arrive On Green	0.19	0.19	0.19	0.16	0.16	0.16	0.12	0.23	0.23	0.13	0.24	0.24
Sat Flow, veh/h	1001	78	603	727	105	822	1757	3314	238	1757	2815	658
Grp Volume(v), veh/h	237	0	0	173	0	0	65	80	83	76	276	275
Grp Sat Flow(s),veh/h/ln	1683	0	0	1654	0	0	1757	1752	1800	1757	1752	1720
Q Serve(g_s), s	8.6	0.0	0.0	6.4	0.0	0.0	2.2	2.4	2.4	2.6	9.3	9.5
Cycle Q Clear(g_c), s	8.6	0.0	0.0	6.4	0.0	0.0	2.2	2.4	2.4	2.6	9.3	9.5
Prop In Lane	0.59		0.36	0.44		0.50	1.00		0.13	1.00		0.38
Lane Grp Cap(c), veh/h	323	0	0	264	0	0	205	396	407	222	413	405
V/C Ratio(X)	0.73	0.00	0.00	0.66	0.00	0.00	0.32	0.20	0.20	0.34	0.67	0.68
Avail Cap(c_a), veh/h	751	0	0	733	0	0	297	852	875	297	852	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	0.0	25.7	0.0	0.0	26.4	20.4	20.5	26.0	22.6	22.7
Incr Delay (d2), s/veh	3.2	0.0	0.0	2.8	0.0	0.0	0.9	0.2	0.2	0.9	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	3.1	0.0	0.0	1.1	1.2	1.2	1.3	4.7	4.7
LnGrp Delay(d),s/veh	28.0	0.0	0.0	28.5	0.0	0.0	27.3	20.7	20.7	26.9	24.5	24.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		237			173			228			627	
Approach Delay, s/veh		28.0			28.5			22.6			24.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.2	19.8		17.6	11.6	20.5		15.5				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	31.7	31.7		29.1	11.0	31.7		28.9				
Max Q Clear Time (g_c+1/4), s	4.4	4.4		10.6	4.2	11.5		8.4				
Green Ext Time (p_c), s	0.1	0.9		1.3	0.1	3.3		0.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				25.5								
HCM 2010 LOS				C								



HCM 2010 Signalized Intersection Summary  
30: Road B & Parkland Ave

Existing + Project  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	490	10	70	10	30	360	150	100	10
Future Volume (veh/h)	10	10	10	490	10	70	10	30	360	150	100	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	533	11	30	11	33	21	163	109	10
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	52	224	0	586	745	663	192	202	170	207	138	13
Arrive On Green	0.03	0.12	0.00	0.33	0.43	0.43	0.11	0.11	0.11	0.20	0.20	0.20
Sat Flow, veh/h	1757	1845	0	1757	1752	1559	1757	1845	1549	1030	688	63
Grp Volume(v), veh/h	11	11	0	533	11	30	11	33	21	282	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1559	1757	1845	1549	1781	0	0
Q Serve(g_s), s	0.5	0.4	0.0	23.3	0.3	0.9	0.4	1.3	1.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.4	0.0	23.3	0.3	0.9	0.4	1.3	1.0	12.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.58		0.04
Lane Grp Cap(c), veh/h	52	224	0	586	745	663	192	202	170	358	0	0
V/C Ratio(X)	0.21	0.05	0.00	0.91	0.01	0.05	0.06	0.16	0.12	0.79	0.00	0.00
Avail Cap(c_a), veh/h	241	645	0	816	1181	1051	614	645	541	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.9	31.1	0.0	25.5	13.3	13.5	32.0	32.3	32.2	30.4	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.1	0.0	11.1	0.0	0.0	0.1	0.4	0.3	3.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.0	13.1	0.1	0.4	0.2	0.7	0.4	6.3	0.0	0.0
LnGrp Delay(d),s/veh	39.9	31.2	0.0	36.6	13.3	13.5	32.1	32.7	32.5	34.3	0.0	0.0
LnGrp LOS	D	C		D	B	B	C	C	C	C		
Approach Vol, veh/h		22			574			65			282	
Approach Delay, s/veh		35.6			34.9			32.6			34.3	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.9	30.7	14.8		20.7	6.4	39.2				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.0	37.2	28.0		28.0	11.0	54.0				
Max Q Clear Time (g_c+1), s		3.3	25.3	2.4		14.0	2.5	2.9				
Green Ext Time (p_c), s		0.2	1.5	0.0		1.4	0.0	0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				34.6								
HCM 2010 LOS				C								

HCM 2010 Roundabout  
 31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing + Project  
 Timing Plan: AM Peak Hour

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	33	55	337	196
Demand Flow Rate, veh/h	33	56	344	199
Vehicles Circulating, veh/h	222	321	33	56
Vehicles Exiting, veh/h	33	56	222	321
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	5.2	6.5	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	33	56	344	199
Cap Entry Lane, veh/h	905	820	1093	1068
Entry HV Adj Factor	0.993	0.978	0.980	0.983
Flow Entry, veh/h	33	55	337	196
Cap Entry, veh/h	899	802	1071	1050
V/C Ratio	0.036	0.068	0.315	0.186
Control Delay, s/veh	4.3	5.2	6.5	5.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

Intersection			
Intersection Delay, s/veh	6.6		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	239	44	413
Demand Flow Rate, veh/h	246	45	425
Vehicles Circulating, veh/h	44	202	34
Vehicles Exiting, veh/h	415	88	213
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.6	4.4	7.5
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	246	45	425
Cap Entry Lane, veh/h	1081	923	1092
Entry HV Adj Factor	0.970	0.978	0.972
Flow Entry, veh/h	239	44	413
Cap Entry, veh/h	1049	902	1061
V/C Ratio	0.228	0.049	0.389
Control Delay, s/veh	5.6	4.4	7.5
LOS	A	A	A
95th %tile Queue, veh	1	0	2

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	60	10	80	10	30	260	20
Future Vol, veh/h	10	10	10	10	10	60	10	80	10	30	260	20
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	11	11	11	11	65	11	87	11	33	283	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	523	490	304	496	496	103	310	0	0	103	0	0
Stage 1	365	365	-	120	120	-	-	-	-	-	-	-
Stage 2	158	125	-	376	376	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	463	477	733	483	474	949	1245	-	-	1483	-	-
Stage 1	652	622	-	882	794	-	-	-	-	-	-	-
Stage 2	842	791	-	643	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	408	456	727	451	453	941	1239	-	-	1476	-	-
Mov Cap-2 Maneuver	408	456	-	451	453	-	-	-	-	-	-	-
Stage 1	643	602	-	870	783	-	-	-	-	-	-	-
Stage 2	763	780	-	603	595	-	-	-	-	-	-	-

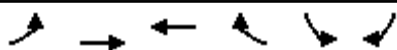
Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.7		10.5		0.8		0.7	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1239	-	-	498	741	1476	-	-
HCM Lane V/C Ratio	0.009	-	-	0.065	0.117	0.022	-	-
HCM Control Delay (s)	7.9	0	-	12.7	10.5	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.1	-	-

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	87	261	163	153
Demand Flow Rate, veh/h	90	269	168	158
Vehicles Circulating, veh/h	337	78	78	281
Vehicles Exiting, veh/h	102	168	349	66
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	5.7	6.1	5.0	6.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	90	269	168	158
Cap Entry Lane, veh/h	807	1045	1045	853
Entry HV Adj Factor	0.971	0.972	0.969	0.971
Flow Entry, veh/h	87	261	163	153
Cap Entry, veh/h	783	1015	1012	828
V/C Ratio	0.112	0.258	0.161	0.185
Control Delay, s/veh	5.7	6.1	5.0	6.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	1

HCM 2010 Signalized Intersection Summary  
 35: Parkland Ave & Harry Lorenzo Ave

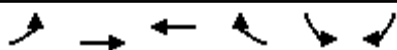
Existing + Project  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	260	260	420	10	40	150		
Future Volume (veh/h)	260	260	420	10	40	150		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	283	283	457	9	43	25		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	413	2074	807	16	161	94		
Arrive On Green	0.23	0.59	0.23	0.23	0.15	0.15		
Sat Flow, veh/h	1757	3597	3607	69	1047	609		
Grp Volume(v), veh/h	283	283	228	238	69	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1832	1680	0		
Q Serve(g_s), s	6.7	1.6	5.2	5.2	1.7	0.0		
Cycle Q Clear(g_c), s	6.7	1.6	5.2	5.2	1.7	0.0		
Prop In Lane	1.00			0.04	0.62	0.36		
Lane Grp Cap(c), veh/h	413	2074	402	420	258	0		
V/C Ratio(X)	0.69	0.14	0.57	0.57	0.27	0.00		
Avail Cap(c_a), veh/h	856	4110	977	1022	923	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	15.9	4.1	15.5	15.5	17.0	0.0		
Incr Delay (d2), s/veh	2.0	0.0	1.3	1.2	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.5	0.8	2.7	2.8	0.8	0.0		
LnGrp Delay(d),s/veh	17.9	4.2	16.8	16.7	17.6	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		566	466		69			
Approach Delay, s/veh		11.0	16.8		17.6			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		32.7		12.8	16.5	16.2		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		53.4		25.0	22.2	25.4		
Max Q Clear Time (g_c+I1), s		3.6		3.7	8.7	7.2		
Green Ext Time (p_c), s		2.0		0.1	0.7	2.6		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			13.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
 36: Parkland Ave & Pioneer Ave

Existing + Project  
 Timing Plan: AM Peak Hour

























Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	200	100	40	200	30	390		
Future Volume (veh/h)	200	100	40	200	30	390		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	217	109	43	33	33	73		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	420	975	147	113	99	218		
Arrive On Green	0.24	0.53	0.15	0.15	0.20	0.20		
Sat Flow, veh/h	1757	1845	965	740	499	1103		
Grp Volume(v), veh/h	217	109	0	76	107	0		
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1705	1617	0		
Q Serve(g_s), s	4.5	1.3	0.0	1.7	2.4	0.0		
Cycle Q Clear(g_c), s	4.5	1.3	0.0	1.7	2.4	0.0		
Prop In Lane	1.00			0.43	0.31	0.68		
Lane Grp Cap(c), veh/h	420	975	0	260	320	0		
V/C Ratio(X)	0.52	0.11	0.00	0.29	0.33	0.00		
Avail Cap(c_a), veh/h	795	2270	0	1093	999	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.0	5.0	0.0	15.9	14.6	0.0		
Incr Delay (d2), s/veh	1.0	0.1	0.0	0.6	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.6	0.0	0.8	1.1	0.0		
LnGrp Delay(d),s/veh	15.0	5.1	0.0	16.5	15.2	0.0		
LnGrp LOS	B	A		B	B			
Approach Vol, veh/h		326	76		107			
Approach Delay, s/veh		11.7	16.5		15.2			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		28.2		14.2	15.9	12.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		52.2		26.2	19.2	27.2		
Max Q Clear Time (g_c+I1), s		3.3		4.4	6.5	3.7		
Green Ext Time (p_c), s		0.3		0.5	0.5	0.2		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			13.1					
HCM 2010 LOS			B					
<b>Notes</b>								

User approved volume balancing among the lanes for turning movement.



HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing + Project  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	580	110	110	510	360	100	290	110	290	390	70
Future Volume (veh/h)	60	580	110	110	510	360	100	290	110	290	390	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	630	36	120	554	296	109	315	91	315	424	66
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	955	420	153	687	367	139	456	129	371	917	142
Arrive On Green	0.05	0.27	0.27	0.09	0.31	0.31	0.08	0.17	0.17	0.21	0.30	0.30
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2687	762	1757	3042	470
Grp Volume(v), veh/h	65	630	36	120	443	407	109	203	203	315	243	247
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1697	1757	1752	1759
Q Serve(g_s), s	2.0	8.7	1.0	3.7	12.7	12.7	3.3	6.0	6.2	9.4	6.2	6.2
Cycle Q Clear(g_c), s	2.0	8.7	1.0	3.7	12.7	12.7	3.3	6.0	6.2	9.4	6.2	6.2
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.45	1.00		0.27
Lane Grp Cap(c), veh/h	81	955	420	153	550	504	139	297	288	371	528	530
V/C Ratio(X)	0.80	0.66	0.09	0.78	0.81	0.81	0.78	0.68	0.70	0.85	0.46	0.47
Avail Cap(c_a), veh/h	642	2560	1125	642	1280	1174	770	1280	1240	770	1280	1285
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	17.7	14.8	24.5	17.3	17.3	24.7	21.4	21.4	20.8	15.5	15.5
Incr Delay (d2), s/veh	6.7	0.3	0.0	3.3	1.1	1.2	3.6	1.0	1.2	2.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.2	0.4	1.9	6.2	5.8	1.7	3.0	3.0	4.8	3.0	3.1
LnGrp Delay(d),s/veh	32.6	18.0	14.9	27.7	18.3	18.5	28.3	22.4	22.6	22.9	15.7	15.8
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		731			970			515			805	
Approach Delay, s/veh		19.1			19.5			23.7			18.5	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	21.3	7.3	20.6	7.8	19.0	14.6	13.4				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	4.0	14.7	5.3	8.2	5.7	10.7	11.4	8.2				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.4	0.0	2.2	0.2	1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.9									
HCM 2010 LOS			B									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project  
PM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	22	109.0%	31.0	14.6	C
	Through	10	11	105.0%	31.0	28.1	C
	Right Turn	40	39	98.5%	31.2	16.4	C
	Subtotal	70	72	102.4%	30.8	14.0	C
SB	Left Turn	70	63	89.9%	39.5	9.8	D
	Through	80	80	100.0%	46.0	20.5	D
	Right Turn	30	32	106.0%	33.7	9.3	C
	Subtotal	180	175	97.1%	40.5	12.9	D
EB	Left Turn	30	27	88.7%	56.0	18.3	E
	Through	910	819	89.9%	105.2	13.1	F
	Right Turn	180	166	92.4%	119.2	17.4	F
	Subtotal	1,120	1,011	90.3%	105.9	12.4	F
WB	Left Turn	490	365	74.4%	149.9	53.9	F
	Through	930	908	97.6%	15.5	4.3	B
	Right Turn	80	98	122.4%	12.7	3.8	B
	Subtotal	1,500	1,370	91.3%	51.6	16.3	D
Total		2,870	2,628	91.6%	70.4	9.6	E

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	250	234	93.4%	274.0	94.5	F
	Through						
	Right Turn	690	489	70.8%	507.6	106.1	F
	Subtotal	940	722	76.8%	434.3	93.6	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	882	88.2%	94.8	6.8	F
	Right Turn	30	27	89.7%	113.7	21.2	F
	Subtotal	1,030	909	88.2%	95.4	6.4	F
WB	Left Turn	50	53	105.2%	43.1	23.6	D
	Through	1,250	1,154	92.3%	21.9	17.0	C
	Right Turn						
	Subtotal	1,300	1,206	92.8%	22.8	17.0	C
Total		3,270	2,837	86.8%	148.0	22.7	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project  
PM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	200	90.8%	40.7	5.0	D
	Through	180	154	85.7%	34.3	6.3	C
	Right Turn	210	95	45.1%	33.9	4.3	C
	Subtotal	610	449	73.6%	36.8	1.9	D
SB	Left Turn	130	91	70.0%	44.7	4.8	D
	Through	310	241	77.7%	35.9	4.3	D
	Right Turn	80	87	109.0%	20.7	6.4	C
	Subtotal	520	419	80.6%	34.8	2.3	C
EB	Left Turn	80	54	67.9%	50.7	7.3	D
	Through	1,360	1,113	81.8%	48.1	5.4	D
	Right Turn	230	187	81.3%	50.6	7.0	D
	Subtotal	1,670	1,354	81.1%	48.5	5.2	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	370	267	72.2%	47.4	7.1	D
	Through	1,020	930	91.1%	25.7	3.4	C
	Right Turn	110	109	99.4%	10.5	2.7	B
	Subtotal	1,500	1,306	87.1%	28.5	3.5	C
Total		4,300	3,529	82.1%	43.4	2.8	D

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project  
PM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	800	683	85.3%	22.3	1.7	C
	Through						
	Right Turn	20	22	111.5%	19.7	4.1	B
	Subtotal	820	705	86.0%	22.2	1.7	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	580	512	88.2%	13.1	2.6	B
	Right Turn						
	Subtotal	580	512	88.2%	13.1	2.6	B
WB	Left Turn						
	Through	710	633	89.1%	9.7	1.2	A
	Right Turn						
	Subtotal	710	633	89.1%	9.7	1.2	A
Total		2,110	1,849	87.6%	15.4	1.1	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing+ Project Conditions  
PM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	60	99.7%	45.2	4.9	D
	Through	510	513	100.6%	18.7	2.7	B
	Right Turn	180	181	100.7%	3.9	0.4	A
	Subtotal	750	754	100.5%	17.4	2.0	B
SB	Left Turn						
	Through	780	774	99.2%	28.1	4.1	C
	Right Turn	10	11	106.0%	12.4	5.3	B
	Subtotal	790	784	99.3%	27.9	4.1	C
EB	Left Turn	40	43	106.3%	32.4	8.5	C
	Through						
	Right Turn	110	114	103.5%	28.7	4.9	C
	Subtotal	150	156	104.3%	29.8	5.0	C
WB	Left Turn	620	624	100.7%	29.2	2.1	C
	Through	30	30	98.7%	32.4	8.4	C
	Right Turn	140	132	94.0%	20.4	2.5	C
	Subtotal	790	786	99.4%	27.8	2.4	C
Total		2,480	2,480	100.0%	24.8	2.3	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	690	697	101.0%	4.9	0.6	A
	Right Turn	740	740	100.0%	6.3	0.6	A
	Subtotal	1,430	1,437	100.5%	5.6	0.5	A
SB	Left Turn						
	Through	1,230	1,232	100.2%	10.8	1.2	B
	Right Turn	160	156	97.4%	8.8	0.7	A
	Subtotal	1,390	1,388	99.8%	10.6	1.1	B
EB	Left Turn	60	58	96.7%	10.0	2.2	B
	Through						
	Right Turn	210	212	100.9%	8.7	2.0	A
	Subtotal	270	270	99.9%	9.0	1.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,090	3,095	100.1%	8.2	0.7	A

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	80	770	110	50	750	180	130	160	60	200	210	160
Future Volume (veh/h)	80	770	110	50	750	180	130	160	60	200	210	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	928	123	60	904	137	157	193	32	241	253	73
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	239	1102	146	194	1153	506	272	451	73	285	425	120
Arrive On Green	0.14	0.36	0.36	0.11	0.33	0.33	0.15	0.15	0.15	0.16	0.16	0.16
Sat Flow, veh/h	1757	3103	411	1757	3505	1539	1757	3010	490	1757	2699	762
Grp Volume(v), veh/h	96	524	527	60	904	137	157	111	114	241	162	164
Grp Sat Flow(s),veh/h/ln	1757	1752	1762	1757	1752	1539	1757	1752	1748	1757	1752	1708
Q Serve(g_s), s	3.4	18.5	18.5	2.1	15.7	4.4	5.6	3.9	4.0	9.0	5.8	6.0
Cycle Q Clear(g_c), s	3.4	18.5	18.5	2.1	15.7	4.4	5.6	3.9	4.0	9.0	5.8	6.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.28	1.00		0.45
Lane Grp Cap(c), veh/h	239	622	626	194	1153	506	272	262	262	285	276	269
V/C Ratio(X)	0.40	0.84	0.84	0.31	0.78	0.27	0.58	0.42	0.44	0.84	0.59	0.61
Avail Cap(c_a), veh/h	730	1041	1046	522	2081	914	522	1041	1038	730	1041	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	20.0	20.0	27.6	20.4	16.6	26.4	26.0	26.1	27.4	26.4	26.4
Incr Delay (d2), s/veh	0.4	1.3	1.3	0.3	0.5	0.1	0.7	0.4	0.4	2.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.1	9.2	1.1	7.6	1.9	2.8	1.9	2.0	4.6	2.9	2.9
LnGrp Delay(d),s/veh	27.0	21.3	21.3	27.9	20.9	16.7	27.2	26.4	26.5	30.0	27.1	27.3
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1147			1101			382			567	
Approach Delay, s/veh		21.8			20.8			26.7			28.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	15.0	10.4	28.0	13.4	15.5	12.2	26.3				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+I1), s	11.0	6.0	4.1	20.5	7.6	8.0	5.4	17.7				
Green Ext Time (p_c), s	0.1	0.7	0.0	3.3	0.0	1.2	0.1	3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									

**Intersection 9**                      **Matmor Rd/E Gibson Rd-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	50	100.6%	32.5	5.9	C
	Through	60	47	78.7%	28.7	5.7	C
	Right Turn	140	102	72.8%	15.6	4.0	B
	Subtotal	250	199	79.8%	23.8	2.2	C
SB	Left Turn	170	150	88.5%	45.4	9.2	D
	Through	40	39	98.5%	34.8	8.7	C
	Right Turn	120	118	98.4%	17.4	6.5	B
	Subtotal	330	308	93.3%	32.9	7.1	C
EB	Left Turn	170	174	102.1%	43.8	6.4	D
	Through	980	841	85.8%	26.9	3.3	C
	Right Turn	80	76	94.9%	22.0	7.6	C
	Subtotal	1,230	1,091	88.7%	29.2	3.3	C
WB	Left Turn	240	234	97.3%	48.1	5.7	D
	Through	1,000	942	94.2%	26.9	2.4	C
	Right Turn	290	250	86.0%	9.8	1.0	A
	Subtotal	1,530	1,425	93.1%	27.4	1.8	C
Total		3,340	3,023	90.5%	28.4	2.1	C

**Intersection 10**                      **SR 113 SB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	120	80.1%	17.3	2.3	B
	Through						
	Right Turn	290	165	56.8%	0.9	0.2	A
	Subtotal	440	285	64.8%	8.1	1.4	A
EB	Left Turn						
	Through	1,140	955	83.8%	18.5	3.3	B
	Right Turn	150	137	91.3%	8.8	1.8	A
	Subtotal	1,290	1,092	84.7%	17.2	3.0	B
WB	Left Turn						
	Through	1,240	1,259	101.6%	11.7	1.7	B
	Right Turn	270	222	82.3%	7.1	1.0	A
	Subtotal	1,510	1,482	98.1%	11.0	1.5	B
Total		3,240	2,858	88.2%	13.0	1.4	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project  
PM Peak Hour

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	370	376	101.5%	20.7	2.0	C
	Through						
	Right Turn	690	652	94.5%	7.4	5.7	A
	Subtotal	1,060	1,028	97.0%	12.5	4.1	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,100	1,004	91.3%	13.1	1.2	B
	Right Turn	190	74	38.9%	6.8	1.3	A
	Subtotal	1,290	1,078	83.6%	12.7	1.2	B
WB	Left Turn						
	Through	1,140	1,104	96.8%	16.2	2.1	B
	Right Turn	130	111	85.2%	10.8	1.1	B
	Subtotal	1,270	1,215	95.6%	15.7	2.0	B
<b>Total</b>		<b>3,620</b>	<b>3,321</b>	<b>91.7%</b>	<b>13.8</b>	<b>1.6</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	20	92	461.0%	19.5	8.0	C
	Subtotal	20	92	461.0%	19.5	8.0	C
SB	Left Turn						
	Through						
	Right Turn	90	93	103.6%	12.3	3.3	B
	Subtotal	90	93	103.6%	12.3	3.3	B
EB	Left Turn						
	Through	1,570	1,463	93.2%	14.3	3.1	B
	Right Turn	220	195	88.4%	13.4	2.0	B
	Subtotal	1,790	1,657	92.6%	14.2	2.9	B
WB	Left Turn						
	Through	1,180	1,122	95.1%	7.0	0.6	A
	Right Turn	110	90	81.7%	6.4	1.2	A
	Subtotal	1,290	1,212	93.9%	7.0	0.7	A
<b>Total</b>		<b>3,190</b>	<b>3,054</b>	<b>95.7%</b>	<b>11.5</b>	<b>1.6</b>	<b>B</b>



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project  
PM Peak Hour

Intersection 13






















Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	340	237	69.7%	39.7	4.5	D
	Through	280	161	57.5%	24.1	3.2	C
	Right Turn	430	213	49.5%	12.1	1.6	B
	Subtotal	1,050	611	58.2%	26.3	2.2	C
SB	Left Turn	60	59	98.7%	45.3	10.6	D
	Through	430	193	44.8%	35.0	3.9	D
	Right Turn	210	215	102.3%	17.4	3.1	B
	Subtotal	700	467	66.7%	27.7	2.6	C
EB	Left Turn	380	404	106.4%	59.5	6.7	E
	Through	850	868	102.1%	59.6	11.0	E
	Right Turn	360	282	78.4%	30.0	7.6	C
	Subtotal	1,590	1,554	97.8%	54.1	9.0	D
WB	Left Turn	540	317	58.8%	47.4	4.5	D
	Through	740	757	102.4%	43.8	9.7	D
	Right Turn	50	51	101.2%	35.1	15.6	D
	Subtotal	1,330	1,125	84.6%	44.4	8.0	D
Total		4,670	3,757	80.5%	43.4	5.3	D

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing + Project  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Future Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	976	12	110	12	12	12	171	537	0	12	610	683
RTOR Reduction (vph)	0	0	79	0	11	0	0	0	0	0	0	329
Lane Group Flow (vph)	498	490	31	0	25	0	171	537	0	12	610	354
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.9	52.6		2.2	32.8	32.8
Effective Green, g (s)	30.3	30.3	30.3		6.7		14.9	52.6		2.2	32.8	32.8
Actuated g/C Ratio	0.28	0.28	0.28		0.06		0.14	0.48		0.02	0.30	0.30
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	458	460	432		105		237	1676		35	550	461
v/s Ratio Prot	c0.30	0.30			c0.01		c0.10	c0.15		0.01	c0.33	
v/s Ratio Perm			0.02									0.23
v/c Ratio	1.09	1.07	0.07		0.24		0.72	0.32		0.34	1.11	0.77
Uniform Delay, d1	39.3	39.3	28.9		48.7		45.0	17.2		52.6	38.1	34.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	67.7	60.4	0.0		0.4		8.8	0.0		2.1	71.8	6.8
Delay (s)	107.0	99.7	29.0		49.1		53.8	17.3		54.8	109.9	41.4
Level of Service	F	F	C		D		D	B		D	F	D
Approach Delay (s)		95.9			49.1			26.1			73.5	
Approach LOS		F			D			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			70.4				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			108.9				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			85.8%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	50	50	20	30	30	100	180	50	20	270	50
Future Volume (veh/h)	20	50	50	20	30	30	100	180	50	20	270	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	54	24	22	33	8	109	196	49	22	293	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	99	44	48	72	18	226	468	117	78	376	63
Arrive On Green	0.10	0.10	0.10	0.08	0.08	0.08	0.13	0.33	0.33	0.04	0.24	0.24
Sat Flow, veh/h	389	955	424	626	938	227	1774	1439	360	1774	1557	260
Grp Volume(v), veh/h	100	0	0	63	0	0	109	0	245	22	0	342
Grp Sat Flow(s),veh/h/ln1768	0	0	1791	0	0	1774	0	1799	1774	0	1817	
Q Serve(g_s), s	2.0	0.0	0.0	1.2	0.0	0.0	2.1	0.0	3.9	0.4	0.0	6.5
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.2	0.0	0.0	2.1	0.0	3.9	0.4	0.0	6.5
Prop In Lane	0.22		0.24	0.35		0.13	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	184	0	0	138	0	0	226	0	585	78	0	439
V/C Ratio(X)	0.54	0.00	0.00	0.46	0.00	0.00	0.48	0.00	0.42	0.28	0.00	0.78
Avail Cap(c_a), veh/h	1191	0	0	1206	0	0	956	0	1454	956	0	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh 15.8	0.0	0.0	16.4	0.0	0.0	15.1	0.0	9.8	17.2	0.0	13.1	
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.2	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.0	0.0	0.0	0.6	0.0	0.0	1.1	0.0	1.9	0.2	0.0	3.4	
LnGrp Delay(d),s/veh	16.7	0.0	0.0	17.3	0.0	0.0	15.7	0.0	10.0	17.9	0.0	14.3
LnGrp LOS	B			B			B		A	B		B
Approach Vol, veh/h		100			63			354			364	
Approach Delay, s/veh		16.7			17.3			11.7			14.5	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	7.7	14.6		6.6	4.6	17.7				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		3.7	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		25.0	20.0	30.0				
Max Q Clear Time (g_c+11), s		4.0	4.1	8.5		3.2	2.4	5.9				
Green Ext Time (p_c), s		0.2	0.0	0.7		0.1	0.0	0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									
<b>Notes</b>												

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	97.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	30	30	10	30	20	270	10	360	40	230	400	40
Future Vol, veh/h	30	30	10	30	20	270	10	360	40	230	400	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	33	33	11	33	22	293	11	391	43	250	435	43
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	14.4	21.3	34.2	180.6
HCM LOS	B	C	D	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	43%	100%	0%	34%
Vol Thru, %	88%	43%	0%	7%	60%
Vol Right, %	10%	14%	0%	93%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	410	70	30	290	670
LT Vol	10	30	30	0	230
Through Vol	360	30	0	20	400
RT Vol	40	10	0	270	40
Lane Flow Rate	446	76	33	315	728
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.811	0.178	0.074	0.617	1.329
Departure Headway (Hd)	7.167	9.346	8.95	7.754	6.569
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	508	387	403	470	561
Service Time	5.167	7.346	6.65	5.454	4.573
HCM Lane V/C Ratio	0.878	0.196	0.082	0.67	1.298
HCM Control Delay	34.2	14.4	12.4	22.2	180.6
HCM Lane LOS	D	B	B	C	F
HCM 95th-tile Q	7.8	0.6	0.2	4.1	31.3

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↗	↔	↑		↔	↑	↗
Traffic Volume (veh/h)	10	20	20	140	20	40	30	80	80	50	90	10
Future Volume (veh/h)	10	20	20	140	20	40	30	80	80	50	90	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	27	-41	189	27	0	41	108	93	68	122	-117
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	86	0	376	608	280	238	208	157	135	602	427	363
Arrive On Green	0.05	0.00	0.00	0.34	0.15	0.00	0.12	0.17	0.17	0.17	0.22	0.00
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	934	804	3510	1900	1615
Grp Volume(v), veh/h	14	-14	-14	189	27	0	41	0	201	68	122	-117
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1738	1755	1900	1615
Q Serve(g_s), s	0.2	0.0	0.0	2.4	0.4	0.0	0.6	0.0	3.4	0.5	1.7	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	2.4	0.4	0.0	0.6	0.0	3.4	0.5	1.7	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	86	0	0	608	280	238	208	0	293	602	427	363
V/C Ratio(X)	0.16	0.00	0.00	0.31	0.10	0.00	0.20	0.00	0.69	0.11	0.29	-0.32
Avail Cap(c_a), veh/h	1162	0	0	1162	1525	1296	1162	0	1395	2254	1525	1296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	7.7	11.5	0.0	12.5	0.0	12.2	10.9	10.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.1	0.0	0.2	0.0	1.1	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.2	0.2	0.0	0.3	0.0	1.7	0.2	0.9	0.0
LnGrp Delay(d),s/veh	14.6	0.0	0.0	7.8	11.5	0.0	12.6	0.0	13.2	10.9	10.1	0.0
LnGrp LOS	B			A	B		B		B	B	B	
Approach Vol, veh/h		-14			216			242			73	
Approach Delay, s/veh		-14.6			8.2			13.1			27.1	
Approach LOS		A			A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	0.0	6.6	11.1	4.5	9.0	8.3	9.3				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	14.4	0.0	2.6	3.7	2.2	2.4	2.5	5.4				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.8								
HCM 2010 LOS				B								
<b>Notes</b>												

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User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	100	10	70	0	10	20	140	410	0	10	330	150
Future Volume (veh/h)	100	10	70	0	10	20	140	410	0	10	330	150
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	122	12	24	0	12	0	171	500	-6	12	402	49
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	153	108	216	5	29	0	218	739	628	17	528	438
Arrive On Green	0.09	0.20	0.20	0.00	0.02	0.00	0.12	0.40	0.00	0.01	0.29	0.29
Sat Flow, veh/h	1757	550	1100	1757	1845	0	1757	1845	1568	1757	1845	1530
Grp Volume(v), veh/h	122	0	36	0	12	0	171	500	-6	12	402	49
Grp Sat Flow(s),veh/h/ln	1757	0	1650	1757	1845	0	1757	1845	1568	1757	1845	1530
Q Serve(g_s), s	2.2	0.0	0.6	0.0	0.2	0.0	3.0	7.1	0.0	0.2	6.4	0.8
Cycle Q Clear(g_c), s	2.2	0.0	0.6	0.0	0.2	0.0	3.0	7.1	0.0	0.2	6.4	0.8
Prop In Lane	1.00		0.67	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	0	324	5	29	0	218	739	628	17	528	438
V/C Ratio(X)	0.80	0.00	0.11	0.00	0.41	0.00	0.79	0.68	-0.01	0.72	0.76	0.11
Avail Cap(c_a), veh/h	822	0	1288	822	1439	0	1097	1727	1468	1097	1727	1432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	0.0	10.6	0.0	15.6	0.0	13.6	7.9	0.0	15.8	10.4	8.4
Incr Delay (d2), s/veh	3.6	0.0	0.1	0.0	3.4	0.0	2.4	0.4	0.0	19.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.3	0.0	0.1	0.0	1.6	3.7	0.0	0.2	3.4	0.3
LnGrp Delay(d),s/veh	17.9	0.0	10.6	0.0	19.0	0.0	16.0	8.3	0.0	35.1	11.3	8.5
LnGrp LOS	B		B		B		B	A		D	B	A
Approach Vol, veh/h		158			12			665			463	
Approach Delay, s/veh		16.2			19.0			10.4			11.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	7.0	14.7	5.8	4.6	3.3	18.3					
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	25.0	20.0	30.0	15.0	25.0	20.0	30.0					
Max Q Clear Time (g_c+I), s	2.6	5.0	8.4	4.2	2.2	2.2	9.1					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.6									
HCM 2010 LOS			B									



Intersection			
Intersection Delay, s/veh	5.6		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	273	91	227
Demand Flow Rate, veh/h	281	93	234
Vehicles Circulating, veh/h	31	172	78
Vehicles Exiting, veh/h	281	140	187
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	5.8	4.8	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	281	93	234
Cap Entry Lane, veh/h	1095	951	1045
Entry HV Adj Factor	0.971	0.976	0.970
Flow Entry, veh/h	273	91	227
Cap Entry, veh/h	1063	928	1013
V/C Ratio	0.257	0.098	0.224
Control Delay, s/veh	5.8	4.8	5.7
LOS	A	A	A
95th %tile Queue, veh	1	0	1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
PM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	8	77.0%	4.6	2.0	A
	Through	10	8	80.0%	6.8	3.7	A
	Right Turn	10	11	108.0%	2.8	1.1	A
	Subtotal	30	27	88.3%	5.0	1.8	A
SB	Left Turn	220	221	100.3%	8.2	1.5	A
	Through	10	10	102.0%	9.8	2.1	A
	Right Turn	40	45	112.8%	5.4	1.1	A
	Subtotal	270	276	102.2%	7.8	1.3	A
EB	Left Turn	60	60	100.2%	7.8	1.2	A
	Through	180	179	99.5%	11.0	0.9	B
	Right Turn	10	10	96.0%	4.1	1.7	A
	Subtotal	250	249	99.5%	10.0	0.8	A
WB	Left Turn	10	7	67.0%	8.4	4.8	A
	Through	190	144	76.0%	13.2	1.1	B
	Right Turn	300	215	71.5%	7.9	1.1	A
	Subtotal	500	366	73.1%	10.0	0.9	A
Total		1,050	917	87.3%	9.2	0.9	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
PM Peak Hour

Intersection 21 SR 113 SB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	62	41.2%	671.4	54.3	F
	Through						
	Right Turn	40	14	34.8%	629.7	118.5	F
	Subtotal	190	76	39.8%	664.8	55.2	F
EB	Left Turn						
	Through	280	283	101.1%	4.2	0.3	A
	Right Turn	130	128	98.6%	2.7	0.4	A
	Subtotal	410	411	100.3%	3.8	0.3	A
WB	Left Turn	510	503	98.6%	13.8	3.4	B
	Through	460	351	76.2%	13.0	2.1	B
	Right Turn						
	Subtotal	970	853	88.0%	13.4	2.5	B
Total		1,570	1,340	85.4%	54.6	9.8	F

Intersection 22 SR 113 NB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	139	55.6%	324.8	63.8	F
	Through	10	5	52.0%	262.9	164.3	F
	Right Turn	610	345	56.6%	320.0	69.0	F
	Subtotal	870	489	56.2%	321.2	65.9	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	30	99.7%	37.8	25.1	E
	Through	400	313	78.4%	17.3	20.0	C
	Right Turn						
	Subtotal	430	343	79.8%	19.3	19.1	C
WB	Left Turn						
	Through	720	714	99.2%	7.2	0.8	A
	Right Turn	300	302	100.5%	3.9	0.5	A
	Subtotal	1,020	1,016	99.6%	6.2	0.7	A
Total		2,320	1,848	79.7%	82.5	2.9	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	43	106.3%	8.2	3.4	A
	Subtotal	40	43	106.3%	8.2	3.4	A
SB	Left Turn						
	Through						
	Right Turn	140	144	102.8%	22.9	9.0	C
	Subtotal	140	144	102.8%	22.9	9.0	C
EB	Left Turn						
	Through	880	571	64.9%	4.0	0.6	A
	Right Turn	130	90	69.2%	2.2	0.5	A
	Subtotal	1,010	661	65.4%	3.8	0.5	A
WB	Left Turn						
	Through	880	870	98.9%	2.9	0.2	A
	Right Turn	20	21	106.5%	1.8	0.7	A
	Subtotal	900	891	99.0%	2.9	0.2	A
Total		2,090	1,738	83.2%	5.2	0.8	A

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	87	217	33	33
Demand Flow Rate, veh/h	89	223	33	33
Vehicles Circulating, veh/h	89	33	89	223
Vehicles Exiting, veh/h	167	89	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.3	5.3	3.8	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	89	223	33	33
Cap Entry Lane, veh/h	1034	1093	1034	904
Entry HV Adj Factor	0.978	0.972	0.990	0.990
Flow Entry, veh/h	87	217	33	33
Cap Entry, veh/h	1010	1062	1023	895
V/C Ratio	0.086	0.204	0.032	0.037
Control Delay, s/veh	4.3	5.3	3.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Conditions  
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	219	99.5%	93.1	40.9	F
	Through	40	38	93.8%	48.3	26.0	D
	Right Turn	30	32	106.0%	33.6	23.4	C
	Subtotal	290	288	99.3%	79.7	36.1	E
SB	Left Turn	20	18	92.0%	68.6	20.5	E
	Through	50	48	95.0%	69.9	17.5	E
	Right Turn	450	447	99.3%	56.9	14.4	E
	Subtotal	520	513	98.6%	58.8	14.7	E
EB	Left Turn	630	414	65.7%	42.2	3.6	D
	Through	280	194	69.2%	29.5	8.5	C
	Right Turn	10	6	60.0%	18.2	22.6	B
	Subtotal	920	614	66.7%	38.2	4.3	D
WB	Left Turn	20	19	95.5%	55.0	13.9	D
	Through	230	224	97.3%	45.2	5.8	D
	Right Turn	10	10	104.0%	29.9	18.0	C
	Subtotal	260	253	97.4%	45.3	5.2	D
Total		1,990	1,668	83.8%	53.9	9.6	D

HCM 2010 Signalized Intersection Summary  
 26: Road B & Road C

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	40	30	10	100	20	70	120	380	190	60	360	60
Future Volume (veh/h)	40	30	10	100	20	70	120	380	190	60	360	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	6	109	22	55	130	413	156	65	391	54
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	99	18	171	35	86	285	618	231	213	641	88
Arrive On Green	0.14	0.14	0.14	0.17	0.17	0.17	0.16	0.25	0.25	0.12	0.21	0.21
Sat Flow, veh/h	930	714	130	997	201	503	1757	2492	930	1757	3092	424
Grp Volume(v), veh/h	82	0	0	186	0	0	130	289	280	65	220	225
Grp Sat Flow(s),veh/h/ln1774	0	0	0	1701	0	0	1757	1752	1669	1757	1752	1764
Q Serve(g_s), s	2.5	0.0	0.0	6.1	0.0	0.0	4.0	8.9	9.1	2.0	6.9	7.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	6.1	0.0	0.0	4.0	8.9	9.1	2.0	6.9	7.0
Prop In Lane	0.52		0.07	0.59		0.30	1.00		0.56	1.00		0.24
Lane Grp Cap(c), veh/h	245	0	0	292	0	0	285	435	414	213	363	366
V/C Ratio(X)	0.33	0.00	0.00	0.64	0.00	0.00	0.46	0.66	0.68	0.31	0.61	0.61
Avail Cap(c_a), veh/h	826	0	0	959	0	0	380	810	772	321	752	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	23.2	0.0	0.0	22.8	20.4	20.4	24.1	21.6	21.7
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.3	0.0	0.0	1.1	1.8	1.9	0.8	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.3	0.0	0.0	0.0	3.0	0.0	0.0	2.0	4.5	4.4	1.0	3.5	3.5
LnGrp Delay(d),s/veh	24.2	0.0	0.0	25.5	0.0	0.0	23.9	22.1	22.4	24.9	23.3	23.3
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		82			186			699			510	
Approach Delay, s/veh		24.2			25.5			22.6			23.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.3	20.0		13.4	13.7	17.6		15.4				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	27.8			28.0	13.0	25.8		33.9				
Max Q Clear Time (g_c+14), s	11.1			4.5	6.0	9.0		8.1				
Green Ext Time (p_c), s	0.1	3.3		0.4	0.2	2.4		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				23.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
28: Road B & Marston Dr

Existing + Project  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	80	20	130	40	10	10	80	380	70	20	360	40
Future Volume (veh/h)	80	20	130	40	10	10	80	380	70	20	360	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	87	22	99	43	11	3	87	413	64	22	391	35
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	33	146	160	41	11	256	888	137	100	660	59
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	695	176	791	1328	340	93	1757	3042	468	1757	3252	290
Grp Volume(v), veh/h	208	0	0	57	0	0	87	237	240	22	210	216
Grp Sat Flow(s),veh/h/ln1663	0	0	0	1761	0	0	1757	1752	1757	1757	1752	1789
Q Serve(g_s), s	6.5	0.0	0.0	1.6	0.0	0.0	2.5	6.2	6.3	0.7	6.0	6.1
Cycle Q Clear(g_c), s	6.5	0.0	0.0	1.6	0.0	0.0	2.5	6.2	6.3	0.7	6.0	6.1
Prop In Lane	0.42		0.48	0.75		0.05	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	307	0	0	212	0	0	256	512	513	100	356	363
V/C Ratio(X)	0.68	0.00	0.00	0.27	0.00	0.00	0.34	0.46	0.47	0.22	0.59	0.60
Avail Cap(c_a), veh/h	837	0	0	887	0	0	535	1052	1055	346	864	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	0.0	22.3	0.0	0.0	21.4	16.2	16.2	25.1	20.1	20.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.7	0.0	0.0	0.8	0.7	0.7	1.1	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	0.0	0.8	0.0	0.0	1.3	3.1	3.1	0.4	3.1	3.2
LnGrp Delay(d),s/veh	23.8	0.0	0.0	23.0	0.0	0.0	22.2	16.8	16.9	26.2	21.7	21.7
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		208			57			564			448	
Approach Delay, s/veh		23.8			23.0			17.7			21.9	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	21.4		15.4	12.1	16.4		11.8				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	33.5			28.1	17.0	27.5		28.1				
Max Q Clear Time (g_c+1), s	8.3			8.5	4.5	8.1		3.6				
Green Ext Time (p_c), s	0.0	3.0		1.2	0.1	2.4		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				20.4								
HCM 2010 LOS				C								



HCM 2010 Signalized Intersection Summary  
 29: Road B & Road E

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	100	10	80	30	10	70	100	350	60	120	240	110
Future Volume (veh/h)	100	10	80	30	10	70	100	350	60	120	240	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	11	62	33	11	12	109	380	52	130	261	70
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	18	101	120	40	44	276	635	86	293	588	154
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.16	0.21	0.21	0.17	0.21	0.21
Sat Flow, veh/h	1010	102	575	1016	339	370	1757	3096	420	1757	2740	720
Grp Volume(v), veh/h	182	0	0	56	0	0	109	214	218	130	165	166
Grp Sat Flow(s),veh/h/ln	1687	0	0	1725	0	0	1757	1752	1764	1757	1752	1708
Q Serve(g_s), s	5.8	0.0	0.0	1.7	0.0	0.0	3.2	6.4	6.5	3.9	4.7	4.9
Cycle Q Clear(g_c), s	5.8	0.0	0.0	1.7	0.0	0.0	3.2	6.4	6.5	3.9	4.7	4.9
Prop In Lane	0.60		0.34	0.59		0.21	1.00		0.24	1.00		0.42
Lane Grp Cap(c), veh/h	298	0	0	203	0	0	276	360	362	293	376	367
V/C Ratio(X)	0.61	0.00	0.00	0.28	0.00	0.00	0.39	0.59	0.60	0.44	0.44	0.45
Avail Cap(c_a), veh/h	849	0	0	862	0	0	334	961	967	334	961	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	23.3	0.0	0.0	21.9	20.8	20.8	21.7	19.7	19.8
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.7	0.0	0.0	0.9	1.6	1.6	1.1	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.8	0.0	0.0	1.6	3.2	3.3	1.9	2.4	2.4
LnGrp Delay(d),s/veh	24.0	0.0	0.0	24.0	0.0	0.0	22.8	22.4	22.5	22.7	20.5	20.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		182			56			541			461	
Approach Delay, s/veh		24.0			24.0			22.5			21.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	17.0		15.3	13.1	17.5		11.9				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	31.7			29.1	11.0	31.7		28.9				
Max Q Clear Time (g_c+1/3), s	8.5			7.8	5.2	6.9		3.7				
Green Ext Time (p_c), s	0.1	2.6		1.0	0.1	2.0		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.3								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
30: Road B & Parkland Ave

Existing + Project  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	410	10	130	10	100	410	80	50	10
Future Volume (veh/h)	10	10	10	410	10	130	10	100	410	80	50	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	446	11	51	11	109	45	87	54	9
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	262	0	509	704	626	264	277	233	153	95	16
Arrive On Green	0.03	0.14	0.00	0.29	0.40	0.40	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	1845	0	1757	1752	1558	1757	1845	1552	1028	638	106
Grp Volume(v), veh/h	11	11	0	446	11	51	11	109	45	150	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1558	1757	1845	1552	1772	0	0
Q Serve(g_s), s	0.4	0.4	0.0	16.9	0.3	1.4	0.4	3.7	1.8	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.4	0.0	16.9	0.3	1.4	0.4	3.7	1.8	5.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.58		0.06
Lane Grp Cap(c), veh/h	53	262	0	509	704	626	264	277	233	263	0	0
V/C Ratio(X)	0.21	0.04	0.00	0.88	0.02	0.08	0.04	0.39	0.19	0.57	0.00	0.00
Avail Cap(c_a), veh/h	277	741	0	937	1357	1206	705	741	623	712	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.0	25.8	0.0	23.6	12.6	12.9	25.3	26.8	25.9	27.6	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	5.0	0.0	0.1	0.1	0.9	0.4	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0	8.9	0.1	0.6	0.2	1.9	0.8	2.8	0.0	0.0
LnGrp Delay(d),s/veh	34.9	25.9	0.0	28.5	12.6	13.0	25.4	27.7	26.3	29.6	0.0	0.0
LnGrp LOS	C	C		C	B	B	C	C	C	C		
Approach Vol, veh/h		22			508			165			150	
Approach Delay, s/veh		30.4			26.6			27.2			29.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	24.2	15.0		14.9	6.1	33.1				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.0	37.2	28.0		28.0	11.0	54.0				
Max Q Clear Time (g_c+I1), s		5.7	18.9	2.4		7.5	2.4	3.4				
Green Ext Time (p_c), s		0.7	1.4	0.0		0.7	0.0	0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				27.4								
HCM 2010 LOS				C								

HCM 2010 Roundabout  
 31: Harry Lorenzo Ave & Corporate Limit/Farmers Central Rd

Existing + Project  
 Timing Plan: PM Peak Hour

Intersection				
Intersection Delay, s/veh	5.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	33	76	164	261
Demand Flow Rate, veh/h	33	77	167	266
Vehicles Circulating, veh/h	310	144	56	77
Vehicles Exiting, veh/h	33	79	287	144
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	4.5	4.9	6.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	33	77	167	266
Cap Entry Lane, veh/h	829	978	1068	1046
Entry HV Adj Factor	0.993	0.984	0.980	0.980
Flow Entry, veh/h	33	76	164	261
Cap Entry, veh/h	823	963	1047	1025
V/C Ratio	0.040	0.079	0.156	0.254
Control Delay, s/veh	4.8	4.5	4.9	6.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	1	1

Intersection			
Intersection Delay, s/veh	6.2		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	358	120	207
Demand Flow Rate, veh/h	369	124	214
Vehicles Circulating, veh/h	23	224	101
Vehicles Exiting, veh/h	292	168	247
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.7	5.5	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	369	124	214
Cap Entry Lane, veh/h	1104	903	1021
Entry HV Adj Factor	0.970	0.968	0.967
Flow Entry, veh/h	358	120	207
Cap Entry, veh/h	1070	874	987
V/C Ratio	0.334	0.137	0.210
Control Delay, s/veh	6.7	5.5	5.7
LOS	A	A	A
95th %tile Queue, veh	1	0	1

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	20	10	10	10	40	10	240	10	60	130	10
Future Vol, veh/h	20	20	10	10	10	40	10	240	10	60	130	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	22	11	11	11	43	11	261	11	65	141	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	603	581	157	592	581	277	157	0	0	277	0	0
Stage 1	282	282	-	294	294	-	-	-	-	-	-	-
Stage 2	321	299	-	298	287	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	409	424	886	416	424	759	1417	-	-	1280	-	-
Stage 1	723	676	-	712	668	-	-	-	-	-	-	-
Stage 2	689	664	-	709	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	355	393	878	371	393	752	1410	-	-	1274	-	-
Mov Cap-2 Maneuver	355	393	-	371	393	-	-	-	-	-	-	-
Stage 1	713	635	-	702	659	-	-	-	-	-	-	-
Stage 2	630	655	-	636	632	-	-	-	-	-	-	-

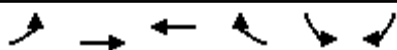
Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.8		12.2		0.3		2.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1410	-	-	422	568	1274	-	-
HCM Lane V/C Ratio	0.008	-	-	0.129	0.115	0.051	-	-
HCM Control Delay (s)	7.6	0	-	14.8	12.2	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0.2	-	-

Intersection				
Intersection Delay, s/veh	6.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	217	327	76
Demand Flow Rate, veh/h	113	223	337	78
Vehicles Circulating, veh/h	212	147	101	235
Vehicles Exiting, veh/h	101	291	224	135
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	5.3	6.1	7.1	4.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	113	223	337	78
Cap Entry Lane, veh/h	914	975	1021	893
Entry HV Adj Factor	0.965	0.973	0.970	0.979
Flow Entry, veh/h	109	217	327	76
Cap Entry, veh/h	882	949	991	874
V/C Ratio	0.124	0.229	0.330	0.087
Control Delay, s/veh	5.3	6.1	7.1	4.9
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	0

HCM 2010 Signalized Intersection Summary  
 35: Parkland Ave & Harry Lorenzo Ave

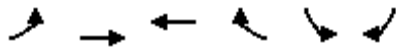
Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	150	350	410	10	60	140		
Future Volume (veh/h)	150	350	410	10	60	140		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	163	380	446	9	65	47		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	365	1954	790	16	185	134		
Arrive On Green	0.21	0.56	0.22	0.22	0.19	0.19		
Sat Flow, veh/h	1757	3597	3605	71	960	694		
Grp Volume(v), veh/h	163	380	222	233	113	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1831	1669	0		
Q Serve(g_s), s	3.8	2.5	5.2	5.2	2.7	0.0		
Cycle Q Clear(g_c), s	3.8	2.5	5.2	5.2	2.7	0.0		
Prop In Lane	1.00			0.04	0.58	0.42		
Lane Grp Cap(c), veh/h	365	1954	394	412	322	0		
V/C Ratio(X)	0.45	0.19	0.56	0.57	0.35	0.00		
Avail Cap(c_a), veh/h	839	4025	957	1000	897	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	16.1	5.1	16.0	16.0	16.2	0.0		
Incr Delay (d2), s/veh	0.9	0.0	1.3	1.2	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	1.2	2.7	2.8	1.3	0.0		
LnGrp Delay(d),s/veh	16.9	5.2	17.3	17.2	16.9	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		543	455		113			
Approach Delay, s/veh		8.7	17.2		16.9			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		31.7		14.8	15.5	16.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		53.4		25.0	22.2	25.4		
Max Q Clear Time (g_c+I1), s		4.5		4.7	5.8	7.2		
Green Ext Time (p_c), s		2.8		0.3	0.4	2.5		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary  
 36: Parkland Ave & Pioneer Ave

Existing + Project  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	310	100	30	50	20	390		
Future Volume (veh/h)	310	100	30	50	20	390		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	337	109	33	5	22	73		
Adj No. of Lanes	1	1	1	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	473	952	158	24	71	235		
Arrive On Green	0.27	0.52	0.10	0.10	0.19	0.19		
Sat Flow, veh/h	1757	1845	1563	237	367	1219		
Grp Volume(v), veh/h	337	109	0	38	96	0		
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1800	1603	0		
Q Serve(g_s), s	6.9	1.2	0.0	0.8	2.0	0.0		
Cycle Q Clear(g_c), s	6.9	1.2	0.0	0.8	2.0	0.0		
Prop In Lane	1.00			0.13	0.23	0.76		
Lane Grp Cap(c), veh/h	473	952	0	182	310	0		
V/C Ratio(X)	0.71	0.11	0.00	0.21	0.31	0.00		
Avail Cap(c_a), veh/h	846	2415	0	1228	1054	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.2	5.0	0.0	16.5	13.8	0.0		
Incr Delay (d2), s/veh	2.0	0.1	0.0	0.6	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.5	0.6	0.0	0.4	1.0	0.0		
LnGrp Delay(d),s/veh	15.2	5.0	0.0	17.0	14.4	0.0		
LnGrp LOS	B	A		B	B			
Approach Vol, veh/h		446	38		96			
Approach Delay, s/veh		12.7	17.0		14.4			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		26.4		13.5	16.5	9.8		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		52.2		26.2	19.2	27.2		
Max Q Clear Time (g_c+I1), s		3.2		4.0	8.9	2.8		
Green Ext Time (p_c), s		0.3		0.5	0.8	0.1		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
<b>Notes</b>								



User approved volume balancing among the lanes for turning movement.

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions (Mitigated)  
AM Peak Hour

Intersection 3                      SR 113 NB Ramps/Main Street                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	306	105.4%	26.4	3.4	C
	Through						
	Right Turn	500	501	100.2%	17.3	4.0	B
	Subtotal	790	807	102.1%	20.9	3.4	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	640	647	101.1%	28.2	14.9	C
	Right Turn	20	20	100.0%	30.0	27.5	C
	Subtotal	660	667	101.1%	28.3	15.2	C
WB	Left Turn	30	29	96.3%	34.3	9.1	C
	Through	1,450	1,449	99.9%	17.2	2.4	B
	Right Turn						
	Subtotal	1,480	1,478	99.8%	17.6	2.3	B
Total		2,930	2,951	100.7%	20.9	3.9	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions (Mitigated)  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,120	1,142	102.0%	61.9	23.2	E
	Through						
	Right Turn	10	11	107.0%	52.6	27.0	D
	Subtotal	1,130	1,153	102.0%	61.8	23.2	E
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	390	390	99.9%	17.1	2.2	B
	Right Turn						
	Subtotal	390	390	99.9%	17.1	2.2	B
WB	Left Turn						
	Through	290	283	97.6%	19.0	3.8	B
	Right Turn						
	Subtotal	290	283	97.6%	19.0	3.8	B
Total		1,810	1,826	100.9%	46.8	16.7	D

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions - MITIGATED  
AM Peak Hour

Intersection 12                      Bourn Dr-Harry Lorenzo Ave/E Gibson Rd                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	230	229	99.6%	72.2	12.5	E
	Through	30	28	94.7%	42.9	15.8	D
	Right Turn	50	49	97.6%	31.6	14.8	C
	Subtotal	310	306	98.8%	62.0	12.5	E
SB	Left Turn	50	52	103.2%	45.5	9.0	D
	Through	60	66	109.7%	46.0	9.9	D
	Right Turn	140	145	103.8%	32.7	5.5	C
	Subtotal	250	263	105.1%	38.7	5.8	D
EB	Left Turn	90	93	103.8%	73.3	16.4	E
	Through	1,030	1,010	98.1%	42.3	8.1	D
	Right Turn	140	140	99.9%	43.9	14.6	D
	Subtotal	1,260	1,244	98.7%	44.9	8.2	D
WB	Left Turn	20	20	100.5%	105.5	24.4	F
	Through	1,140	1,148	100.7%	72.3	10.7	E
	Right Turn	30	32	105.3%	73.5	21.1	E
	Subtotal	1,190	1,200	100.8%	72.9	10.9	E
Total		3,010	3,012	100.1%	56.8	7.4	E

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24




















Existing + Project (Improvements)  
 Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Future Volume (vph)	400	10	110	10	10	10	140	310	0	10	180	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	488	12	134	12	12	12	171	378	0	12	220	683
RTOR Reduction (vph)	0	0	107	0	11	0	0	0	0	0	0	516
Lane Group Flow (vph)	249	251	27	0	25	0	171	378	0	12	220	167
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	15.0	15.0	15.0		4.0		12.5	36.0		1.7	18.0	18.0
Effective Green, g (s)	15.0	15.0	15.0		4.0		12.5	36.0		1.7	18.0	18.0
Actuated g/C Ratio	0.20	0.20	0.20		0.05		0.17	0.49		0.02	0.24	0.24
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	335	336	315		93		294	1693		39	846	373
v/s Ratio Prot	0.15	c0.15			c0.01		c0.10	c0.11		0.01	0.06	
v/s Ratio Perm			0.02									c0.11
v/c Ratio	0.74	0.75	0.09		0.27		0.58	0.22		0.31	0.26	0.45
Uniform Delay, d1	27.6	27.6	23.8		33.5		28.2	10.9		35.5	22.5	23.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.6	7.7	0.0		0.6		1.9	0.0		1.6	0.1	0.3
Delay (s)	35.2	35.3	23.9		34.0		30.1	10.9		37.1	22.6	24.0
Level of Service	D	D	C		C		C	B		D	C	C
Approach Delay (s)		32.9			34.0			16.9			23.8	
Approach LOS		C			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.9			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			73.8			Sum of lost time (s)		19.1				
Intersection Capacity Utilization			74.3%			ICU Level of Service		D				
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Project (Improvements)  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	30	10	30	20	270	10	380	10	100	380	20
Future Volume (veh/h)	40	30	10	30	20	270	10	380	10	100	380	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	6	33	22	32	11	413	10	109	413	21
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	128	98	18	238	91	132	54	515	12	254	697	35
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.03	0.29	0.29	0.14	0.40	0.40
Sat Flow, veh/h	929	713	130	1757	673	979	1757	1792	43	1757	1736	88
Grp Volume(v), veh/h	82	0	0	33	0	54	11	0	423	109	0	434
Grp Sat Flow(s),veh/h/ln	1772	0	0	1757	0	1653	1757	0	1835	1757	0	1824
Q Serve(g_s), s	2.7	0.0	0.0	1.1	0.0	1.9	0.4	0.0	14.0	3.7	0.0	12.2
Cycle Q Clear(g_c), s	2.7	0.0	0.0	1.1	0.0	1.9	0.4	0.0	14.0	3.7	0.0	12.2
Prop In Lane	0.52		0.07	1.00		0.59	1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	244	0	0	238	0	223	54	0	527	254	0	733
V/C Ratio(X)	0.34	0.00	0.00	0.14	0.00	0.24	0.21	0.00	0.80	0.43	0.00	0.59
Avail Cap(c_a), veh/h	758	0	0	754	0	709	295	0	942	295	0	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	0.0	25.0	0.0	25.3	31.0	0.0	21.6	25.5	0.0	15.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.3	0.0	0.6	1.9	0.0	2.9	1.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.5	0.0	0.9	0.2	0.0	7.5	1.9	0.0	6.3
LnGrp Delay(d),s/veh	26.3	0.0	0.0	25.2	0.0	25.9	32.8	0.0	24.5	26.7	0.0	16.1
LnGrp LOS	C			C		C	C		C	C		B
Approach Vol, veh/h		82			87			434			543	
Approach Delay, s/veh		26.3			25.6			24.7			18.3	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	23.9		14.1	6.0	31.4		14.0				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	11.0	33.6		28.0	11.0	33.6		28.1				
Max Q Clear Time (g_c+I1), s	5.7	16.0		4.7	2.4	14.2		3.9				
Green Ext Time (p_c), s	0.1	2.2		0.4	0.0	2.4		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
AM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	189	99.4%	4.3	0.4	A
	Through	10	10	103.0%	6.2	3.4	A
	Right Turn	50	50	99.2%	3.9	0.5	A
	Subtotal	250	249	99.5%	4.3	0.4	A
EB	Left Turn						
	Through	250	252	100.7%	7.3	0.6	A
	Right Turn	330	323	98.0%	4.7	0.3	A
	Subtotal	580	575	99.2%	5.8	0.4	A
WB	Left Turn	650	646	99.3%	6.0	0.6	A
	Through	330	344	104.3%	8.3	0.8	A
	Right Turn						
	Subtotal	980	990	101.0%	6.8	0.6	A
Total		1,810	1,814	100.2%	6.1	0.4	A

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	123	102.2%	4.1	0.3	A
	Through						
	Right Turn	350	353	100.9%	4.3	0.1	A
	Subtotal	470	476	101.2%	4.3	0.1	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	92.3%	4.7	0.7	A
	Through	410	412	100.4%	7.3	0.5	A
	Right Turn						
	Subtotal	440	440	99.9%	7.1	0.5	A
WB	Left Turn						
	Through	860	865	100.6%	9.5	0.3	A
	Right Turn	250	257	102.6%	5.8	0.2	A
	Subtotal	1,110	1,122	101.1%	8.6	0.3	A
Total		2,020	2,037	100.8%	7.3	0.2	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	99.5%	4.5	1.4	A
	Subtotal	20	20	99.5%	4.5	1.4	A
SB	Left Turn						
	Through						
	Right Turn	160	162	101.3%	11.6	4.3	B
	Subtotal	160	162	101.3%	11.6	4.3	B
EB	Left Turn						
	Through	540	543	100.5%	1.3	0.2	A
	Right Turn	220	222	100.7%	1.1	0.3	A
	Subtotal	760	764	100.6%	1.3	0.2	A
WB	Left Turn						
	Through	950	959	100.9%	2.2	0.1	A
	Right Turn	10	11	110.0%	3.0	0.5	A
	Subtotal	960	970	101.0%	2.2	0.1	A
Total		1,900	1,916	100.8%	2.7	0.4	A



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
AM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	100	98	98.2%	41.6	5.5	D
	Through	20	17	87.0%	36.5	15.2	D
	Right Turn	10	9	91.0%	8.4	8.9	A
	Subtotal	130	125	95.9%	38.5	5.0	D
SB	Left Turn	10	9	86.0%	36.2	28.2	D
	Through	60	61	102.3%	27.5	6.3	C
	Right Turn	530	540	101.9%	16.0	2.6	B
	Subtotal	600	610	101.7%	17.7	2.1	B
EB	Left Turn	450	449	99.7%	27.2	3.2	C
	Through	100	103	102.8%	13.0	3.6	B
	Right Turn	10	10	99.0%	5.9	10.0	A
	Subtotal	560	561	100.2%	24.1	2.6	C
WB	Left Turn	30	30	100.0%	55.7	9.8	E
	Through	330	331	100.3%	36.2	3.6	D
	Right Turn	10	11	112.0%	15.4	11.9	B
	Subtotal	370	372	100.6%	36.9	3.1	D
Total		1,660	1,668	100.5%	25.5	2.1	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project (Mitigated)  
PM Peak Hour

Intersection 3                      SR 113 NB Ramps/Main Street                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	250	239	95.6%	48.4	3.5	D
	Through						
	Right Turn	690	595	86.2%	123.8	47.5	F
	Subtotal	940	834	88.7%	102.7	33.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	934	93.4%	96.0	9.6	F
	Right Turn	30	30	100.3%	117.4	21.5	F
	Subtotal	1,030	965	93.6%	96.7	9.7	F
WB	Left Turn	50	50	99.4%	31.3	14.3	C
	Through	1,250	1,154	92.3%	11.7	5.8	B
	Right Turn						
	Subtotal	1,300	1,204	92.6%	12.5	5.9	B
Total		3,270	3,002	91.8%	64.6	10.3	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project (Mitigated)  
PM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	800	692	86.4%	22.9	0.9	C
	Through						
	Right Turn	20	23	112.5%	17.8	2.1	B
	Subtotal	820	714	87.1%	22.8	0.9	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	580	555	95.7%	13.3	2.0	B
	Right Turn						
	Subtotal	580	555	95.7%	13.3	2.0	B
WB	Left Turn						
	Through	710	627	88.3%	8.9	0.5	A
	Right Turn						
	Subtotal	710	627	88.3%	8.9	0.5	A
Total		2,110	1,896	89.9%	15.4	0.8	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Project Conditions - MITIGATED  
PM Peak Hour

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	160	158	99.0%	66.6	13.3	E
	Through	60	65	107.5%	42.4	14.7	D
	Right Turn	10	10	98.0%	37.9	29.2	D
	Subtotal	230	233	101.2%	58.8	11.1	E
SB	Left Turn	30	28	92.7%	55.7	13.3	E
	Through	40	42	104.8%	48.5	11.5	D
	Right Turn	80	81	100.8%	17.2	5.2	B
	Subtotal	150	150	100.2%	33.6	4.0	C
EB	Left Turn	190	184	96.7%	97.2	17.1	F
	Through	1,540	1,511	98.1%	61.1	11.6	E
	Right Turn	170	167	98.4%	58.1	12.1	E
	Subtotal	1,900	1,862	98.0%	64.4	11.9	E
WB	Left Turn	100	96	96.2%	81.5	13.1	F
	Through	1,110	1,128	101.6%	40.9	7.4	D
	Right Turn	80	80	99.4%	39.5	11.4	D
	Subtotal	1,290	1,304	101.1%	43.9	7.7	D
Total		3,570	3,549	99.4%	55.2	8.5	E

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24




















Existing + Project (Improvements)  
 Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Future Volume (vph)	800	10	90	10	10	10	140	440	0	10	500	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	976	12	110	12	12	12	171	537	0	12	610	683
RTOR Reduction (vph)	0	0	73	0	11	0	0	0	0	0	0	513
Lane Group Flow (vph)	498	490	37	0	25	0	171	537	0	12	610	170
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	34.3	34.3	34.3		6.4		12.3	42.9		2.1	25.6	25.6
Effective Green, g (s)	34.3	34.3	34.3		6.4		12.3	42.9		2.1	25.6	25.6
Actuated g/C Ratio	0.33	0.33	0.33		0.06		0.12	0.42		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	550	552	518		106		207	1448		35	864	381
v/s Ratio Prot	c0.30	0.30			c0.01		c0.10	c0.15		0.01	c0.18	
v/s Ratio Perm			0.02									0.11
v/c Ratio	0.91	0.89	0.07		0.23		0.83	0.37		0.34	0.71	0.45
Uniform Delay, d1	32.7	32.4	23.4		45.9		44.2	20.6		49.7	35.2	32.6
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.0	15.5	0.0		0.4		21.8	0.1		2.1	2.2	0.3
Delay (s)	50.7	47.9	23.4		46.3		66.0	20.7		51.8	37.3	32.9
Level of Service	D	D	C		D		E	C		D	D	C
Approach Delay (s)		46.7			46.3			31.7			35.2	
Approach LOS		D			D			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			38.5				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			102.8				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			85.8%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Project (Improvements)  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	10	30	20	270	10	360	40	230	400	40
Future Volume (veh/h)	30	30	10	30	20	270	10	360	40	230	400	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	33	4	33	22	20	11	391	40	250	435	41
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	108	108	13	222	112	101	53	473	48	299	707	67
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.29	0.29	0.17	0.43	0.43
Sat Flow, veh/h	840	840	102	1757	884	803	1757	1641	168	1757	1653	156
Grp Volume(v), veh/h	70	0	0	33	0	42	11	0	431	250	0	476
Grp Sat Flow(s),veh/h/ln	1782	0	0	1757	0	1687	1757	0	1809	1757	0	1809
Q Serve(g_s), s	2.4	0.0	0.0	1.1	0.0	1.5	0.4	0.0	15.0	9.3	0.0	13.7
Cycle Q Clear(g_c), s	2.4	0.0	0.0	1.1	0.0	1.5	0.4	0.0	15.0	9.3	0.0	13.7
Prop In Lane	0.47		0.06	1.00		0.48	1.00		0.09	1.00		0.09
Lane Grp Cap(c), veh/h	229	0	0	222	0	213	53	0	521	299	0	774
V/C Ratio(X)	0.31	0.00	0.00	0.15	0.00	0.20	0.21	0.00	0.83	0.84	0.00	0.62
Avail Cap(c_a), veh/h	742	0	0	732	0	702	287	0	772	418	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	26.2	0.0	26.3	31.8	0.0	22.4	27.0	0.0	14.9
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.3	0.0	0.4	1.9	0.0	4.8	10.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.6	0.0	0.7	0.2	0.0	8.1	5.3	0.0	6.9
LnGrp Delay(d),s/veh	27.3	0.0	0.0	26.5	0.0	26.8	33.7	0.0	27.2	37.0	0.0	15.9
LnGrp LOS	C			C		C	C		C	D		B
Approach Vol, veh/h		70			75			442			726	
Approach Delay, s/veh		27.3			26.6			27.3			23.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	24.5		13.7	6.0	33.9		13.6				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	16.0	28.7		28.0	11.0	33.7		28.0				
Max Q Clear Time (g_c+I1), s	11.3	17.0		4.4	2.4	15.7		3.5				
Green Ext Time (p_c), s	0.3	1.9		0.3	0.0	2.6		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
PM Peak Hour

Intersection 21

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	151	100.7%	3.9	0.3	A
	Through						
	Right Turn	40	38	96.0%	3.9	0.4	A
	Subtotal	190	189	99.7%	3.9	0.3	A
EB	Left Turn						
	Through	280	281	100.4%	7.8	0.6	A
	Right Turn	130	132	101.5%	4.0	0.2	A
	Subtotal	410	413	100.8%	6.6	0.5	A
WB	Left Turn	510	506	99.2%	5.6	0.2	A
	Through	460	463	100.6%	8.0	0.3	A
	Right Turn						
	Subtotal	970	969	99.9%	6.8	0.2	A
Total		1,570	1,571	100.1%	6.4	0.2	A

Intersection 22

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	245	98.0%	4.8	0.3	A
	Through	10	10	103.0%	5.8	4.2	A
	Right Turn	610	613	100.5%	5.1	0.2	A
	Subtotal	870	869	99.8%	5.0	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	94.7%	4.9	0.6	A
	Through	400	406	101.5%	7.1	0.5	A
	Right Turn						
	Subtotal	430	434	101.0%	7.0	0.4	A
WB	Left Turn						
	Through	720	724	100.5%	8.9	0.3	A
	Right Turn	300	302	100.6%	5.5	0.3	A
	Subtotal	1,020	1,026	100.5%	7.9	0.3	A
Total		2,320	2,329	100.4%	6.6	0.2	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	39	96.8%	6.3	2.4	A
	Subtotal	40	39	96.8%	6.3	2.4	A
SB	Left Turn						
	Through						
	Right Turn	140	136	97.2%	8.4	1.5	A
	Subtotal	140	136	97.2%	8.4	1.5	A
EB	Left Turn						
	Through	880	887	100.8%	1.9	0.1	A
	Right Turn	130	131	100.7%	1.3	0.3	A
	Subtotal	1,010	1,018	100.8%	1.8	0.1	A
WB	Left Turn						
	Through	880	891	101.2%	1.8	0.2	A
	Right Turn	20	20	98.5%	2.3	0.5	A
	Subtotal	900	910	101.1%	1.9	0.2	A
Total		2,090	2,103	100.6%	2.4	0.2	A



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Project Mitigated  
PM Peak Hour

Intersection 25























Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	223	101.1%	55.5	15.6	E
	Through	40	41	101.5%	34.0	8.6	C
	Right Turn	30	33	111.3%	19.4	6.9	B
	Subtotal	290	297	102.2%	48.6	14.0	D
SB	Left Turn	20	20	97.5%	41.3	13.0	D
	Through	50	49	97.0%	30.5	7.4	C
	Right Turn	450	452	100.3%	12.4	2.4	B
	Subtotal	520	520	99.9%	15.8	2.4	B
EB	Left Turn	630	634	100.7%	33.5	4.7	C
	Through	280	283	101.1%	19.7	3.7	B
	Right Turn	10	10	103.0%	17.3	14.2	B
	Subtotal	920	928	100.8%	29.1	3.8	C
WB	Left Turn	20	20	98.5%	47.6	8.0	D
	Through	230	235	102.3%	39.6	5.1	D
	Right Turn	10	12	115.0%	13.5	9.2	B
	Subtotal	260	267	102.5%	39.1	4.7	D
Total		1,990	2,010	101.0%	30.0	3.9	C

HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	380	70	80	590	380	60	340	80	160	210	50
Future Volume (veh/h)	50	380	70	80	590	380	60	340	80	160	210	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	413	28	87	641	348	65	370	69	174	228	38
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	66	1186	522	110	792	430	80	542	100	222	796	131
Arrive On Green	0.04	0.34	0.34	0.06	0.36	0.36	0.05	0.18	0.18	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1542	1757	2177	1182	1757	2948	544	1757	3013	495
Grp Volume(v), veh/h	54	413	28	87	516	473	65	218	221	174	131	135
Grp Sat Flow(s),veh/h/ln	1757	1752	1542	1757	1752	1607	1757	1752	1739	1757	1752	1755
Q Serve(g_s), s	1.5	4.3	0.6	2.4	13.0	13.0	1.8	5.7	5.8	4.7	2.9	3.0
Cycle Q Clear(g_c), s	1.5	4.3	0.6	2.4	13.0	13.0	1.8	5.7	5.8	4.7	2.9	3.0
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.31	1.00		0.28
Lane Grp Cap(c), veh/h	66	1186	522	110	637	585	80	322	320	222	463	464
V/C Ratio(X)	0.82	0.35	0.05	0.79	0.81	0.81	0.81	0.68	0.69	0.78	0.28	0.29
Avail Cap(c_a), veh/h	715	2853	1255	715	1426	1308	858	1426	1416	858	1426	1428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	12.2	11.0	22.7	14.1	14.1	23.2	18.7	18.8	20.8	14.4	14.4
Incr Delay (d2), s/veh	9.2	0.1	0.0	4.7	0.9	1.0	7.0	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.3	1.3	6.3	5.8	1.0	2.8	2.8	2.4	1.4	1.5
LnGrp Delay(d),s/veh	32.7	12.3	11.0	27.4	15.0	15.1	30.3	19.6	19.7	23.1	14.5	14.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		495			1076			504			440	
Approach Delay, s/veh		14.4			16.1			21.1			17.9	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	22.0	5.2	17.1	6.1	20.7	9.2	13.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.5	15.0	3.8	5.0	4.4	6.3	6.7	7.8				
Green Ext Time (p_c), s	0.0	2.7	0.0	0.7	0.0	1.4	0.1	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved Conditions  
AM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	59	98.3%	29.1	10.0	C
	Through	20	22	112.0%	35.6	15.1	D
	Right Turn	50	51	101.0%	19.5	11.8	B
	Subtotal	130	132	101.5%	26.3	11.3	C
SB	Left Turn	80	82	102.1%	50.0	63.0	D
	Through	80	81	101.8%	52.1	69.6	D
	Right Turn	20	20	100.0%	41.4	61.3	D
	Subtotal	180	183	101.7%	50.0	65.4	D
EB	Left Turn	30	28	92.3%	37.4	12.1	D
	Through	560	569	101.5%	24.2	6.9	C
	Right Turn	170	171	100.6%	21.9	13.9	C
	Subtotal	760	767	101.0%	24.2	8.8	C
WB	Left Turn	550	434	79.0%	162.7	47.7	F
	Through	1,110	969	87.3%	15.4	2.9	B
	Right Turn	110	99	90.1%	15.2	4.8	B
	Subtotal	1,770	1,503	84.9%	58.6	13.2	E
Total		2,840	2,585	91.0%	46.6	12.7	D

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	280	277	99.0%	29.3	5.4	C
	Through						
	Right Turn	520	508	97.6%	41.2	26.4	D
	Subtotal	800	785	98.1%	37.3	19.0	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	670	668	99.6%	65.4	54.3	E
	Right Turn	30	29	95.3%	96.8	86.7	F
	Subtotal	700	696	99.4%	66.4	55.0	E
WB	Left Turn	30	26	87.0%	51.3	28.7	D
	Through	1,490	1,240	83.2%	30.9	24.0	C
	Right Turn						
	Subtotal	1,520	1,266	83.3%	31.3	24.0	C
Total		3,020	2,747	91.0%	41.8	26.5	D

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved Conditions  
AM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	280	96.5%	49.1	11.9	D
	Through	320	322	100.6%	29.1	2.2	C
	Right Turn	370	369	99.7%	46.9	15.0	D
	Subtotal	980	971	99.1%	41.9	5.5	D
SB	Left Turn	80	76	95.0%	54.5	6.1	D
	Through	140	142	101.6%	33.4	4.1	C
	Right Turn	60	62	102.7%	22.2	13.9	C
	Subtotal	280	280	99.9%	36.9	4.3	D
EB	Left Turn	140	141	100.4%	54.9	6.1	D
	Through	890	871	97.9%	47.2	7.6	D
	Right Turn	210	210	100.1%	50.4	9.7	D
	Subtotal	1,240	1,222	98.6%	48.7	7.5	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	130	99	76.2%	93.6	9.2	F
	Through	1,190	938	78.8%	92.1	11.2	F
	Right Turn	110	87	79.1%	61.6	7.5	E
	Subtotal	1,430	1,124	78.6%	89.7	10.2	F
Total		3,930	3,597	91.5%	80.1	7.2	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved Conditions  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,150	846	73.6%	625.1	60.4	F
	Through						
	Right Turn	10	9	90.0%	565.2	66.6	F
	Subtotal	1,160	855	73.7%	624.6	60.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	540	533	98.8%	16.8	2.4	B
	Right Turn						
	Subtotal	540	533	98.8%	16.8	2.4	B
WB	Left Turn						
	Through	290	287	98.8%	26.4	4.0	C
	Right Turn						
	Subtotal	290	287	98.8%	26.4	4.0	C
Total		1,990	1,675	84.2%	327.9	21.7	F

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing + Approved Conditions**  
**AM Peak Hour**

**Intersection 6**                      **CR 102/Hays Lane-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	40	100.8%	32.5	9.3	C
	Through	280	288	102.8%	14.2	2.2	B
	Right Turn	110	107	97.3%	2.9	0.8	A
	Subtotal	430	435	101.2%	13.2	2.8	B
SB	Left Turn						
	Through	480	485	101.1%	19.6	2.8	B
	Right Turn	10	10	104.0%	9.1	6.7	A
	Subtotal	490	496	101.2%	19.4	2.8	B
EB	Left Turn	20	20	98.0%	25.3	8.5	C
	Through						
	Right Turn	60	59	98.0%	23.2	6.3	C
	Subtotal	80	78	98.0%	24.1	6.8	C
WB	Left Turn	530	546	102.9%	19.8	2.1	B
	Through	40	44	110.3%	26.0	4.9	C
	Right Turn	190	182	95.7%	15.2	2.9	B
	Subtotal	760	772	101.5%	19.2	1.5	B
<b>Total</b>		<b>1,760</b>	<b>1,781</b>	<b>101.2%</b>	<b>18.0</b>	<b>2.0</b>	<b>B</b>

**Intersection 7**                      **CR 102/I-5 SB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	340	339	99.6%	3.5	0.9	A
	Right Turn	540	542	100.4%	4.8	0.5	A
	Subtotal	880	881	100.1%	4.3	0.4	A
SB	Left Turn						
	Through	850	864	101.6%	6.8	0.6	A
	Right Turn	150	151	100.9%	6.8	0.5	A
	Subtotal	1,000	1,015	101.5%	6.8	0.6	A
EB	Left Turn	90	95	105.9%	8.3	1.4	A
	Through						
	Right Turn	130	135	103.5%	4.8	0.6	A
	Subtotal	220	230	104.5%	6.1	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
<b>Total</b>		<b>2,100</b>	<b>2,126</b>	<b>101.2%</b>	<b>5.7</b>	<b>0.4</b>	<b>A</b>

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	740	140	60	760	140	80	120	60	110	140	130
Future Volume (veh/h)	160	740	140	60	760	140	80	120	60	110	140	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	193	892	159	72	916	93	96	145	14	133	169	0
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	279	1073	191	212	1136	499	239	466	44	263	554	0
Arrive On Green	0.16	0.36	0.36	0.12	0.32	0.32	0.14	0.14	0.14	0.15	0.16	0.00
Sat Flow, veh/h	1757	2963	528	1757	3505	1539	1757	3229	308	1757	3597	0
Grp Volume(v), veh/h	193	528	523	72	916	93	96	78	81	133	169	0
Grp Sat Flow(s),veh/h/ln	1757	1752	1738	1757	1752	1539	1757	1752	1784	1757	1752	0
Q Serve(g_s), s	7.0	18.5	18.5	2.5	16.1	2.9	3.4	2.7	2.7	4.7	2.9	0.0
Cycle Q Clear(g_c), s	7.0	18.5	18.5	2.5	16.1	2.9	3.4	2.7	2.7	4.7	2.9	0.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	279	635	630	212	1136	499	239	253	258	263	554	0
V/C Ratio(X)	0.69	0.83	0.83	0.34	0.81	0.19	0.40	0.31	0.31	0.51	0.31	0.00
Avail Cap(c_a), veh/h	731	1041	1033	522	2082	914	522	1041	1060	731	2082	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.8	19.6	19.6	27.1	20.8	16.4	26.6	25.8	25.8	26.3	25.1	0.0
Incr Delay (d2), s/veh	1.1	1.3	1.3	0.3	0.5	0.1	0.4	0.3	0.3	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	9.2	9.1	1.2	7.8	1.2	1.7	1.3	1.4	2.3	1.4	0.0
LnGrp Delay(d),s/veh	27.9	20.9	20.9	27.5	21.3	16.4	27.0	26.0	26.1	26.9	25.2	0.0
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1244			1081			255			302	
Approach Delay, s/veh		22.0			21.3			26.4			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	14.6	11.1	28.5	12.2	15.5	13.7	25.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1), s	10.7	4.7	4.5	20.5	5.4	4.9	9.0	18.1				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.3	0.0	0.7	0.2	3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.5								
HCM 2010 LOS				C								

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Approved Projects Conditions**  
**AM Peak Hour**

**Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.2%	23.3	2.5	C
	Through	40	41	101.5%	23.4	5.1	C
	Right Turn	210	209	99.7%	14.6	4.7	B
	Subtotal	310	310	100.0%	17.7	3.6	B
SB	Left Turn	280	266	94.9%	169.1	16.4	F
	Through	30	26	87.7%	148.2	29.2	F
	Right Turn	120	115	95.4%	142.9	15.5	F
	Subtotal	430	406	94.5%	160.7	15.6	F
EB	Left Turn	110	113	102.8%	36.0	7.1	D
	Through	900	904	100.4%	25.7	4.4	C
	Right Turn	30	28	92.3%	23.8	14.1	C
	Subtotal	1,040	1,045	100.4%	26.7	4.6	C
WB	Left Turn	70	65	92.3%	45.3	5.3	D
	Through	900	854	94.9%	29.0	2.6	C
	Right Turn	160	156	97.2%	7.3	1.5	A
	Subtotal	1,130	1,074	95.0%	26.6	2.1	C
Total		2,910	2,835	97.4%	48.7	3.0	D

**Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	170	171	100.6%	16.3	3.2	B
	Through						
	Right Turn	190	192	101.3%	0.9	0.3	A
	Subtotal	360	364	101.0%	7.7	1.8	A
EB	Left Turn						
	Through	1,070	1,064	99.4%	14.6	2.0	B
	Right Turn	320	314	98.2%	9.7	1.1	A
	Subtotal	1,390	1,378	99.1%	13.5	1.8	B
WB	Left Turn						
	Through	940	877	93.3%	11.0	2.3	B
	Right Turn	570	512	89.8%	6.6	0.6	A
	Subtotal	1,510	1,389	92.0%	9.3	1.6	A
Total		3,260	3,131	96.0%	11.0	1.1	B



**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Approved Projects Conditions**  
**AM Peak Hour**

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	119	98.8%	18.3	2.3	B
	Through						
	Right Turn	170	181	106.4%	1.6	0.3	A
	Subtotal	290	299	103.2%	8.2	1.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	900	900	100.0%	9.1	1.1	A
	Right Turn	340	335	98.4%	6.8	0.7	A
	Subtotal	1,240	1,234	99.5%	8.5	0.9	A
WB	Left Turn						
	Through	1,390	1,271	91.5%	15.1	1.4	B
	Right Turn	190	174	91.6%	11.6	1.0	B
	Subtotal	1,580	1,445	91.5%	14.6	1.4	B
<b>Total</b>		<b>3,110</b>	<b>2,979</b>	<b>95.8%</b>	<b>11.3</b>	<b>1.0</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	170	166	97.8%	24.9	10.9	C
	Subtotal	170	166	97.8%	24.9	10.9	C
SB	Left Turn						
	Through						
	Right Turn	160	166	103.4%	70.0	38.0	F
	Subtotal	160	166	103.4%	70.0	38.0	F
EB	Left Turn						
	Through	1,010	1,022	101.2%	6.4	0.6	A
	Right Turn	60	60	100.0%	7.6	2.5	A
	Subtotal	1,070	1,082	101.1%	6.5	0.6	A
WB	Left Turn						
	Through	1,420	1,279	90.1%	7.2	0.6	A
	Right Turn	40	37	92.5%	6.4	1.5	A
	Subtotal	1,460	1,316	90.2%	7.2	0.6	A
<b>Total</b>		<b>2,860</b>	<b>2,730</b>	<b>95.5%</b>	<b>11.9</b>	<b>2.8</b>	<b>B</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Projects Conditions  
AM Peak Hour

Intersection 13 Pioneer Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	680	539	79.3%	185.3	7.4	F
	Through	560	451	80.5%	43.4	1.8	D
	Right Turn	290	230	79.2%	18.3	3.0	B
	Subtotal	1,530	1,220	79.7%	101.9	3.8	F
SB	Left Turn	70	69	98.1%	52.6	8.2	D
	Through	350	353	100.7%	34.7	3.0	C
	Right Turn	290	296	101.9%	53.0	22.9	D
	Subtotal	710	717	101.0%	44.0	11.0	D
EB	Left Turn	260	262	100.8%	55.1	5.2	E
	Through	510	511	100.3%	44.0	4.4	D
	Right Turn	410	417	101.6%	43.1	13.0	D
	Subtotal	1,180	1,190	100.8%	46.3	5.9	D
WB	Left Turn	220	225	102.3%	53.6	4.9	D
	Through	490	479	97.8%	40.9	3.4	D
	Right Turn	20	21	105.0%	36.9	11.6	D
	Subtotal	730	725	99.3%	44.7	2.7	D
Total		4,150	3,852	92.8%	60.7	3.0	E

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	10	110	10	10	10	110	400	0	10	200	400
Future Volume (vph)	370	10	110	10	10	10	110	400	0	10	200	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	451	12	134	12	12	12	134	488	0	12	244	488
RTOR Reduction (vph)	0	0	105	0	11	0	0	0	0	0	0	365
Lane Group Flow (vph)	230	233	29	0	25	0	134	488	0	12	244	123
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.3	16.3	16.3		5.9		9.8	34.8		1.7	19.1	19.1
Effective Green, g (s)	16.3	16.3	16.3		5.9		9.8	34.8		1.7	19.1	19.1
Actuated g/C Ratio	0.22	0.22	0.22		0.08		0.13	0.46		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	354	356	333		133		224	1593		38	460	386
v/s Ratio Prot	0.14	c0.14			c0.01		c0.08	c0.14		0.01	c0.13	
v/s Ratio Perm			0.02									0.08
v/c Ratio	0.65	0.65	0.09		0.19		0.60	0.31		0.32	0.53	0.32
Uniform Delay, d1	27.1	27.2	23.8		32.7		31.1	12.9		36.5	24.5	23.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.1	3.3	0.0		0.2		2.9	0.0		1.7	0.6	0.2
Delay (s)	30.2	30.5	23.8		33.0		34.0	12.9		38.2	25.1	23.2
Level of Service	C	C	C		C		C	B		D	C	C
Approach Delay (s)		28.9			33.0			17.5			24.1	
Approach LOS		C			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.6				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			75.8				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			63.9%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	30	140	60	40	30	40	110	10	30	270	20
Future Volume (veh/h)	20	30	140	60	40	30	40	110	10	30	270	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	27	74	49	22	49	136	8	37	333	21
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	223	157	92	320	124	44	138	454	27	125	438	28
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.27	0.27	0.07	0.26	0.26
Sat Flow, veh/h	291	843	494	651	666	236	1740	1708	100	1740	1700	107
Grp Volume(v), veh/h	89	0	0	145	0	0	49	0	144	37	0	354
Grp Sat Flow(s),veh/h/ln	1629	0	0	1553	0	0	1740	0	1809	1740	0	1807
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.7	0.0	1.7	0.5	0.0	4.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.1	0.0	0.0	0.7	0.0	1.7	0.5	0.0	4.9
Prop In Lane	0.28		0.30	0.51		0.15	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	472	0	0	488	0	0	138	0	481	125	0	466
V/C Ratio(X)	0.19	0.00	0.00	0.30	0.00	0.00	0.35	0.00	0.30	0.30	0.00	0.76
Avail Cap(c_a), veh/h	1606	0	0	1571	0	0	1276	0	1990	1276	0	1988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	0.0	9.9	0.0	0.0	11.9	0.0	8.0	12.0	0.0	9.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.1	0.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.9	0.3	0.0	2.6
LnGrp Delay(d),s/veh	9.6	0.0	0.0	10.0	0.0	0.0	12.5	0.0	8.1	12.5	0.0	10.3
LnGrp LOS	A			A			B		A	B		B
Approach Vol, veh/h		89			145			193			391	
Approach Delay, s/veh		9.6			10.0			9.2			10.5	
Approach LOS		A			A			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.5	5.2	12.6		9.5	5.0	12.8				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+1), s		3.2	2.7	6.9		4.1	2.5	3.7				
Green Ext Time (p_c), s		0.2	0.0	0.6		0.3	0.0	0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.0								
HCM 2010 LOS				B								
<b>Notes</b>												

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Volume (veh/h)	40	30	10	10	20	270	10	590	10	100	250	30
Future Volume (veh/h)	40	30	10	10	20	270	10	590	10	100	250	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	43	33	2	11	22	156	11	641	10	109	272	29
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	259	154	7	550	43	305	113	920	14	277	610	57
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	425	697	30	1339	195	1380	9	1795	28	276	1191	112
Grp Volume(v), veh/h	78	0	0	11	0	178	662	0	0	410	0	0
Grp Sat Flow(s),veh/h/ln	152	0	0	1339	0	1575	1831	0	0	1578	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.2	0.0	3.4	9.3	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.55		0.03	1.00		0.88	0.02		0.02	0.27		0.07
Lane Grp Cap(c), veh/h	420	0	0	550	0	348	1047	0	0	944	0	0
V/C Ratio(X)	0.19	0.00	0.00	0.02	0.00	0.51	0.63	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	857	0	0	1444	0	1400	1891	0	0	1561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	0.0	10.3	0.0	11.6	6.3	0.0	0.0	5.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	1.2	0.6	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.1	0.0	1.5	4.8	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	11.0	0.0	0.0	10.3	0.0	12.7	6.9	0.0	0.0	5.5	0.0	0.0
LnGrp LOS	B			B		B	A			A		
Approach Vol, veh/h		78			189			662			410	
Approach Delay, s/veh		11.0			12.6			6.9			5.5	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.8		12.0		21.8		12.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		33.0		30.0				
Max Q Clear Time (g_c+I1), s		11.3		5.5		6.8		5.4				
Green Ext Time (p_c), s		4.3		0.2		3.0		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑		↔	↑	↔
Traffic Volume (veh/h)	200	50	100	50	30	70	60	120	60	40	210	60
Future Volume (veh/h)	200	50	100	50	30	70	60	120	60	40	210	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	270	68	49	68	41	0	81	162	58	54	284	0
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	488	173	125	295	119	101	302	303	109	454	362	307
Arrive On Green	0.27	0.17	0.17	0.16	0.06	0.00	0.17	0.23	0.23	0.13	0.19	0.00
Sat Flow, veh/h	1810	1025	739	1810	1900	1615	1810	1329	476	3510	1900	1615
Grp Volume(v), veh/h	270	0	117	68	41	0	81	0	220	54	284	0
Grp Sat Flow(s),veh/h/ln	1810	0	1763	1810	1900	1615	1810	0	1805	1755	1900	1615
Q Serve(g_s), s	6.0	0.0	2.8	1.5	1.0	0.0	1.8	0.0	5.0	0.6	6.6	0.0
Cycle Q Clear(g_c), s	6.0	0.0	2.8	1.5	1.0	0.0	1.8	0.0	5.0	0.6	6.6	0.0
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	488	0	298	295	119	101	302	0	412	454	362	307
V/C Ratio(X)	0.55	0.00	0.39	0.23	0.35	0.00	0.27	0.00	0.53	0.12	0.79	0.00
Avail Cap(c_a), veh/h	774	0	943	774	1016	864	774	0	966	1502	1016	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.6	0.0	17.3	17.0	21.0	0.0	17.0	0.0	15.9	18.0	18.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.1	0.6	0.0	0.2	0.0	0.4	0.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	1.4	0.8	0.5	0.0	0.9	0.0	2.5	0.3	3.6	0.0
LnGrp Delay(d),s/veh	15.0	0.0	17.6	17.1	21.6	0.0	17.1	0.0	16.3	18.0	19.4	0.0
LnGrp LOS	B		B	B	C		B		B	B	B	
Approach Vol, veh/h		387			109			301			338	
Approach Delay, s/veh		15.8			18.8			16.5			19.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	12.3	10.8	13.0	15.6	7.3	9.0	14.8				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	13.5	4.8	3.8	8.6	8.0	3.0	2.6	7.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				17.3								
HCM 2010 LOS				B								
<b>Notes</b>												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	10	220	0	0	10	50	180	10	20	360	100
Future Volume (veh/h)	180	10	220	0	0	10	50	180	10	20	360	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	220	12	48	0	0	0	61	220	3	24	439	24
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	279	37	147	7	8	0	73	638	531	32	595	494
Arrive On Green	0.16	0.11	0.11	0.00	0.00	0.00	0.04	0.35	0.35	0.02	0.32	0.32
Sat Flow, veh/h	1757	323	1293	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	220	0	60	0	0	0	61	220	3	24	439	24
Grp Sat Flow(s),veh/h/ln	1757	0	1616	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	2.9	0.0	0.8	0.0	0.0	0.0	0.8	2.1	0.0	0.3	5.1	0.3
Cycle Q Clear(g_c), s	2.9	0.0	0.8	0.0	0.0	0.0	0.8	2.1	0.0	0.3	5.1	0.3
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	0	183	7	8	0	73	638	531	32	595	494
V/C Ratio(X)	0.79	0.00	0.33	0.00	0.00	0.00	0.83	0.34	0.01	0.74	0.74	0.05
Avail Cap(c_a), veh/h	1092	0	1675	1092	1911	0	1456	2293	1908	1456	2293	1903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	0.0	9.9	0.0	0.0	0.0	11.5	5.9	5.2	11.8	7.3	5.6
Incr Delay (d2), s/veh	1.9	0.0	0.4	0.0	0.0	0.0	8.7	0.1	0.0	11.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.4	0.0	0.0	0.0	0.6	1.1	0.0	0.3	2.7	0.1
LnGrp Delay(d),s/veh	11.6	0.0	10.2	0.0	0.0	0.0	20.2	6.0	5.2	23.3	7.9	5.6
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h		280			0			284			487	
Approach Delay, s/veh		11.3			0.0			9.0			8.6	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0	6.8	4.0	13.3	6.8	0.0	3.4	13.9				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.8	2.8	7.1	4.9	0.0	2.3	4.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.0	0.1	0.0	0.0	0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

Intersection				
Intersection Delay, s/veh	10.4			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	106	232	207	558
Demand Flow Rate, veh/h	107	235	211	568
Vehicles Circulating, veh/h	557	262	122	231
Vehicles Exiting, veh/h	242	71	542	266
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	2
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.6	7.1	5.7	14.0
Approach LOS	A	A	A	B
Lane	Left	Left	Left	Left
Designated Moves	LT	LTR	LTR	L
Assumed Moves	LT	LTR	LTR	L
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	107	235	211	568
Cap Entry Lane, veh/h	647	870	1000	897
Entry HV Adj Factor	0.986	0.989	0.982	0.982
Flow Entry, veh/h	106	232	207	558
Cap Entry, veh/h	639	860	983	880
V/C Ratio	0.165	0.270	0.211	0.633
Control Delay, s/veh	7.6	7.1	5.7	14.0
LOS	A	A	A	B
95th %tile Queue, veh	1	1	1	5

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing + Approved Conditions**  
**AM Peak Hour**

**Intersection 20**

**East St/CR 25A**

**All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	102.0%	4.8	1.2	A
	Through	10	11	114.0%	9.7	1.6	A
	Right Turn	10	10	97.0%	3.9	1.8	A
	Subtotal	30	31	104.3%	6.7	1.5	A
SB	Left Turn	340	335	98.6%	15.6	3.9	C
	Through	10	10	99.0%	16.4	6.1	C
	Right Turn	50	50	99.6%	9.7	2.3	A
	Subtotal	400	395	98.7%	15.0	3.7	C
EB	Left Turn	30	30	98.7%	10.2	3.3	B
	Through	230	236	102.4%	13.4	1.2	B
	Right Turn	10	11	105.0%	6.3	3.4	A
	Subtotal	270	276	102.1%	12.9	1.2	B
WB	Left Turn	10	8	75.0%	10.7	4.8	B
	Through	200	166	83.2%	14.2	1.2	B
	Right Turn	130	109	84.1%	8.9	1.0	A
	Subtotal	340	283	83.3%	12.0	1.1	B
Total		1,040	985	94.7%	13.4	2.0	B

**Intersection 21**

**SR 113 SB Ramps/CR 25A**

**Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	4	38.0%	558.7	185.0	F
	Through						
	Right Turn	50	42	84.4%	104.6	175.0	F
	Subtotal	60	46	76.7%	115.3	184.8	F
EB	Left Turn						
	Through	110	111	100.5%	7.0	0.7	A
	Right Turn	470	470	99.9%	4.0	0.4	A
	Subtotal	580	580	100.1%	4.5	0.5	A
WB	Left Turn	410	382	93.1%	163.1	27.7	F
	Through	290	238	82.2%	156.1	29.4	F
	Right Turn						
	Subtotal	700	620	88.6%	161.1	27.7	F
Total		1,340	1,246	93.0%	89.4	7.5	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved Conditions  
AM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	107	71.3%	474.5	120.8	F
	Through						
	Right Turn	80	61	76.0%	456.0	134.0	F
	Subtotal	230	168	72.9%	395.4	162.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	93.7%	4.2	2.5	A
	Through	90	86	95.6%	2.2	0.9	A
	Right Turn						
	Subtotal	120	114	95.1%	2.6	1.3	A
WB	Left Turn						
	Through	550	537	97.5%	215.6	107.6	F
	Right Turn	20	19	94.5%	208.5	88.0	F
	Subtotal	570	555	97.4%	215.6	107.0	F
Total		920	837	91.0%	225.7	82.4	F

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	10	260	70	230	570	10
Future Vol, veh/h	10	260	70	230	570	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	283	76	250	620	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1022	620	631	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	261	488	951	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	240	488	951	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	951	-	240	488	-	-
HCM Lane V/C Ratio	0.08	-	0.045	0.579	-	-
HCM Control Delay (s)	9.1	-	20.7	22	-	-
HCM Lane LOS	A	-	C	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	3.6	-	-

HCM Signalized Intersection Capacity Analysis  
 36: Parkland Ave & Pioneer Ave

Existing Plus Approved Projects  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑	↘	↙↘	
Traffic Volume (vph)	0	0	0	380	300	0
Future Volume (vph)	0	0	0	380	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	
Lane Util. Factor				1.00	0.97	
Frt				0.85	1.00	
Flt Protected				1.00	0.95	
Satd. Flow (prot)				1583	3433	
Flt Permitted				1.00	0.95	
Satd. Flow (perm)				1583	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	413	326	0
RTOR Reduction (vph)	0	0	0	310	0	0
Lane Group Flow (vph)	0	0	0	103	326	0
Turn Type	Prot			Perm	Prot	
Protected Phases	5		6		4	
Permitted Phases		2		6		
Actuated Green, G (s)				8.2	9.6	
Effective Green, g (s)				8.2	9.6	
Actuated g/C Ratio				0.25	0.29	
Clearance Time (s)				4.5	4.5	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				394	1001	
v/s Ratio Prot					c0.09	
v/s Ratio Perm				c0.07		
v/c Ratio				0.26	0.33	
Uniform Delay, d1				9.9	9.1	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.4	0.2	
Delay (s)				10.3	9.3	
Level of Service				B	A	
Approach Delay (s)		0.0	10.3		9.3	
Approach LOS		A	B		A	

Intersection Summary























HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	32.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection			
Intersection Delay, s/veh	9.4		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	152	120	587
Demand Flow Rate, veh/h	155	122	598
Vehicles Circulating, veh/h	122	111	100
Vehicles Exiting, veh/h	576	166	133
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.1	4.7	11.4
Approach LOS	A	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	155	122	598
Cap Entry Lane, veh/h	1000	1011	1022
Entry HV Adj Factor	0.982	0.984	0.982
Flow Entry, veh/h	152	120	587
Cap Entry, veh/h	982	995	1004
V/C Ratio	0.155	0.121	0.585
Control Delay, s/veh	5.1	4.7	11.4
LOS	A	A	B
95th %tile Queue, veh	1	0	4

HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	580	110	110	510	360	110	320	110	290	390	70
Future Volume (veh/h)	60	580	110	110	510	360	110	320	110	290	390	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	65	630	36	120	554	296	120	348	91	315	424	66
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	81	949	417	153	683	365	153	491	127	370	918	142
Arrive On Green	0.05	0.27	0.27	0.09	0.31	0.31	0.09	0.18	0.18	0.21	0.30	0.30
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2751	709	1757	3042	470
Grp Volume(v), veh/h	65	630	36	120	443	407	120	220	219	315	243	247
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1707	1757	1752	1759
Q Serve(g_s), s	2.1	9.0	1.0	3.8	13.1	13.1	3.8	6.6	6.8	9.7	6.3	6.4
Cycle Q Clear(g_c), s	2.1	9.0	1.0	3.8	13.1	13.1	3.8	6.6	6.8	9.7	6.3	6.4
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.42	1.00		0.27
Lane Grp Cap(c), veh/h	81	949	417	153	547	501	153	313	305	370	529	531
V/C Ratio(X)	0.80	0.66	0.09	0.78	0.81	0.81	0.78	0.70	0.72	0.85	0.46	0.47
Avail Cap(c_a), veh/h	626	2496	1097	626	1248	1145	751	1248	1216	751	1248	1253
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	18.2	15.3	25.1	17.8	17.8	25.1	21.7	21.7	21.3	15.9	15.9
Incr Delay (d2), s/veh	6.6	0.3	0.0	3.3	1.1	1.2	3.3	1.1	1.2	2.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.3	0.4	1.9	6.4	5.9	1.9	3.3	3.3	4.9	3.1	3.1
LnGrp Delay(d),s/veh	33.1	18.5	15.3	28.4	18.9	19.0	28.4	22.8	22.9	23.5	16.1	16.2
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		731			970			559			805	
Approach Delay, s/veh		19.6			20.1			24.0			19.0	
Approach LOS		B			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	21.6	7.9	21.0	7.9	19.3	14.8	14.1				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+1), s	4.1	15.1	5.8	8.4	5.8	11.0	11.7	8.8				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.4	0.0	2.2	0.2	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved  
PM Peak Hour

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	20	98.0%	47.5	36.9	D
	Through	10	9	86.0%	19.1	16.5	B
	Right Turn	40	43	107.5%	45.2	43.7	D
	Subtotal	70	71	101.7%	42.6	35.2	D
SB	Left Turn	70	68	97.6%	65.7	35.1	E
	Through	70	67	95.3%	59.5	27.8	E
	Right Turn	30	33	110.3%	49.0	28.0	D
	Subtotal	170	168	98.9%	60.1	29.8	E
EB	Left Turn	30	23	75.7%	52.3	12.3	D
	Through	950	739	77.8%	128.1	13.6	F
	Right Turn	170	119	70.2%	146.8	14.0	F
	Subtotal	1,150	881	76.6%	128.9	13.0	F
WB	Left Turn	420	354	84.2%	242.5	25.6	F
	Through	930	899	96.7%	13.1	3.9	B
	Right Turn	80	81	100.8%	11.0	3.7	B
	Subtotal	1,430	1,333	93.2%	76.3	5.7	E
Total		2,820	2,454	87.0%	91.8	5.9	F

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	250	243	97.2%	128.2	107.2	F
	Through						
	Right Turn	530	444	83.8%	384.2	121.1	F
	Subtotal	780	687	88.1%	301.5	120.5	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,040	816	78.4%	119.7	11.4	F
	Right Turn	30	22	72.7%	164.2	27.3	F
	Subtotal	1,070	838	78.3%	120.8	10.7	F
WB	Left Turn	50	42	84.8%	113.1	31.2	F
	Through	1,180	1,110	94.1%	66.2	17.6	E
	Right Turn						
	Subtotal	1,230	1,153	93.7%	68.2	18.2	E
Total		3,080	2,678	86.9%	142.2	26.2	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved  
PM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	210	205	97.8%	48.8	7.6	D
	Through	170	172	101.2%	33.1	5.7	C
	Right Turn	210	215	102.4%	31.0	5.8	C
	Subtotal	590	592	100.4%	38.3	3.2	D
SB	Left Turn	130	133	101.9%	56.7	26.3	E
	Through	290	300	103.3%	48.5	29.5	D
	Right Turn	80	75	93.5%	34.7	26.1	C
	Subtotal	500	507	101.4%	48.5	28.1	D
EB	Left Turn	70	63	89.3%	62.0	7.1	E
	Through	1,240	1,003	80.9%	55.3	7.0	E
	Right Turn	240	180	75.0%	58.7	7.3	E
	Subtotal	1,550	1,246	80.4%	56.1	6.5	E
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	310	284	91.5%	84.4	22.2	F
	Through	960	919	95.7%	75.7	30.5	E
	Right Turn	110	108	98.1%	44.2	22.1	D
	Subtotal	1,380	1,310	94.9%	74.8	27.6	E
Total		4,020	3,655	90.9%	69.3	13.7	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved  
PM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	740	708	95.6%	136.4	146.3	F
	Through						
	Right Turn	20	22	111.5%	97.7	113.1	F
	Subtotal	760	730	96.1%	135.7	145.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	522	91.5%	14.7	2.7	B
	Right Turn						
	Subtotal	570	522	91.5%	14.7	2.7	B
WB	Left Turn						
	Through	650	621	95.6%	126.1	118.3	F
	Right Turn						
	Subtotal	650	621	95.6%	126.1	118.3	F
Total		1,980	1,873	94.6%	92.4	79.7	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved Conditions  
PM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	60	100.5%	42.4	8.2	D
	Through	470	474	100.8%	19.0	3.4	B
	Right Turn	180	174	96.6%	3.9	0.3	A
	Subtotal	710	708	99.7%	17.2	2.7	B
SB	Left Turn						
	Through	770	764	99.2%	28.7	3.2	C
	Right Turn	10	9	88.0%	19.2	10.2	B
	Subtotal	780	773	99.1%	28.6	3.1	C
EB	Left Turn	40	40	99.3%	30.7	8.8	C
	Through						
	Right Turn	110	113	102.6%	31.1	4.8	C
	Subtotal	150	153	101.7%	30.9	4.0	C
WB	Left Turn	660	672	101.7%	29.7	3.7	C
	Through	30	30	101.0%	42.0	7.2	D
	Right Turn	150	146	97.1%	23.0	2.6	C
	Subtotal	840	848	100.9%	29.0	3.4	C
Total		2,480	2,481	100.0%	25.7	2.7	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	650	654	100.6%	4.7	0.5	A
	Right Turn	700	710	101.4%	6.2	0.6	A
	Subtotal	1,350	1,364	101.0%	5.5	0.4	A
SB	Left Turn						
	Through	1,250	1,255	100.4%	9.6	1.2	A
	Right Turn	160	163	102.1%	8.8	1.5	A
	Subtotal	1,410	1,419	100.6%	9.5	1.2	A
EB	Left Turn	60	55	91.7%	8.9	2.4	A
	Through						
	Right Turn	210	210	100.2%	8.4	1.8	A
	Subtotal	270	265	98.3%	8.6	1.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,030	3,048	100.6%	7.6	0.7	A

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	790	120	70	710	140	170	230	70	210	190	160
Future Volume (veh/h)	80	790	120	70	710	140	170	230	70	210	190	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	952	135	84	855	89	205	277	44	253	229	73
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	228	1110	157	217	1244	547	262	427	67	295	420	131
Arrive On Green	0.13	0.36	0.36	0.12	0.35	0.35	0.15	0.14	0.14	0.17	0.16	0.16
Sat Flow, veh/h	1757	3074	436	1757	3505	1540	1757	3029	475	1757	2633	818
Grp Volume(v), veh/h	96	543	544	84	855	89	205	159	162	253	150	152
Grp Sat Flow(s),veh/h/ln	1757	1752	1757	1757	1752	1540	1757	1752	1751	1757	1752	1698
Q Serve(g_s), s	3.7	20.8	20.8	3.2	15.1	2.9	8.2	6.2	6.4	10.2	5.7	6.0
Cycle Q Clear(g_c), s	3.7	20.8	20.8	3.2	15.1	2.9	8.2	6.2	6.4	10.2	5.7	6.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.27	1.00		0.48
Lane Grp Cap(c), veh/h	228	633	634	217	1244	547	262	247	247	295	280	271
V/C Ratio(X)	0.42	0.86	0.86	0.39	0.69	0.16	0.78	0.64	0.66	0.86	0.54	0.56
Avail Cap(c_a), veh/h	678	966	968	484	1931	848	484	966	965	678	966	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	21.5	21.5	29.3	20.0	16.0	29.8	29.5	29.5	29.4	28.0	28.1
Incr Delay (d2), s/veh	0.5	3.2	3.2	0.4	0.3	0.1	1.9	1.0	1.1	2.8	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.5	10.5	1.6	7.3	1.2	4.1	3.1	3.1	5.2	2.8	2.8
LnGrp Delay(d),s/veh	29.5	24.6	24.7	29.7	20.2	16.1	31.7	30.5	30.6	32.2	28.6	28.8
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1183			1028			526			555	
Approach Delay, s/veh		25.1			20.6			31.0			30.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	15.1	12.0	30.3	13.8	16.5	12.4	29.9				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	40.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1/2), s	8.4	8.4	5.2	22.8	10.2	8.0	5.7	17.1				
Green Ext Time (p_c), s	0.1	1.1	0.0	3.3	0.1	1.1	0.1	3.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			25.5									
HCM 2010 LOS			C									

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Approved Project Conditions**  
**PM Peak Hour**

**Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	50	99.6%	33.0	7.6	C
	Through	60	60	99.3%	34.9	3.3	C
	Right Turn	130	127	97.7%	17.6	3.5	B
	Subtotal	240	236	98.5%	25.0	2.0	C
SB	Left Turn	140	140	100.2%	47.8	15.9	D
	Through	40	42	105.0%	30.9	10.1	C
	Right Turn	120	122	101.9%	18.1	6.6	B
	Subtotal	300	305	101.5%	33.4	11.1	C
EB	Left Turn	170	169	99.4%	44.8	5.6	D
	Through	910	916	100.7%	30.6	3.4	C
	Right Turn	80	80	99.6%	24.9	4.7	C
	Subtotal	1,160	1,165	100.4%	32.1	3.4	C
WB	Left Turn	220	228	103.8%	48.1	4.2	D
	Through	910	922	101.4%	25.2	3.7	C
	Right Turn	240	238	99.2%	9.1	0.9	A
	Subtotal	1,370	1,389	101.4%	26.3	3.2	C
Total		3,070	3,094	100.8%	29.1	2.9	C

**Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	110	106	96.1%	16.5	3.5	B
	Through						
	Right Turn	250	251	100.5%	0.6	0.1	A
	Subtotal	360	357	99.1%	5.7	1.5	A
EB	Left Turn						
	Through	1,050	1,047	99.7%	16.1	2.5	B
	Right Turn	130	135	103.6%	8.6	1.2	A
	Subtotal	1,180	1,182	100.2%	15.2	2.3	B
WB	Left Turn						
	Through	1,120	1,138	101.6%	12.2	2.5	B
	Right Turn	240	244	101.5%	5.9	0.7	A
	Subtotal	1,360	1,381	101.6%	11.1	2.1	B
Total		2,900	2,920	100.7%	12.1	1.4	B

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Approved Project Conditions**  
**PM Peak Hour**

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	221	100.4%	30.7	19.1	C
	Through						
	Right Turn	700	712	101.7%	30.6	29.8	C
	Subtotal	920	933	101.4%	30.7	27.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,060	1,059	99.9%	10.9	1.0	B
	Right Turn	100	101	100.6%	6.9	0.8	A
	Subtotal	1,160	1,160	100.0%	10.5	0.9	B
WB	Left Turn						
	Through	1,140	1,158	101.6%	13.8	0.8	B
	Right Turn	120	127	106.2%	10.3	0.6	B
	Subtotal	1,260	1,285	102.0%	13.5	0.7	B
<b>Total</b>		<b>3,340</b>	<b>3,377</b>	<b>101.1%</b>	<b>17.5</b>	<b>7.7</b>	<b>B</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	10	11	107.0%	8.4	6.2	A
	Subtotal	10	11	107.0%	8.4	6.2	A
SB	Left Turn						
	Through						
	Right Turn	80	84	104.4%	12.5	4.0	B
	Subtotal	80	84	104.4%	12.5	4.0	B
EB	Left Turn						
	Through	1,600	1,609	100.5%	19.1	2.6	C
	Right Turn	160	164	102.3%	19.1	5.6	C
	Subtotal	1,760	1,772	100.7%	19.1	2.6	C
WB	Left Turn						
	Through	1,180	1,198	101.5%	7.2	0.8	A
	Right Turn	100	99	98.7%	7.2	0.8	A
	Subtotal	1,280	1,297	101.3%	7.2	0.8	A
<b>Total</b>		<b>3,130</b>	<b>3,163</b>	<b>101.1%</b>	<b>14.1</b>	<b>1.6</b>	<b>B</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Project Conditions  
PM Peak Hour

Intersection 13 Pioneer Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	330	339	102.6%	44.3	6.1	D
	Through	220	217	98.4%	23.8	3.3	C
	Right Turn	210	202	96.0%	9.4	1.7	A
	Subtotal	760	757	99.6%	29.8	3.8	C
SB	Left Turn	60	56	93.5%	43.8	7.3	D
	Through	330	327	99.2%	33.9	2.1	C
	Right Turn	210	212	101.0%	16.0	2.5	B
	Subtotal	600	596	99.3%	28.7	1.1	C
EB	Left Turn	380	384	101.0%	67.8	15.8	E
	Through	850	854	100.5%	67.7	22.7	E
	Right Turn	380	386	101.4%	41.5	21.9	D
	Subtotal	1,610	1,623	100.8%	61.4	20.7	E
WB	Left Turn	370	362	97.9%	47.5	4.7	D
	Through	740	746	100.8%	42.4	8.1	D
	Right Turn	50	52	104.4%	36.5	8.2	D
	Subtotal	1,160	1,160	100.0%	43.7	6.6	D
Total		4,130	4,136	100.1%	46.3	9.8	D



HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	730	10	90	10	10	10	130	470	0	10	540	560
Future Volume (vph)	730	10	90	10	10	10	130	470	0	10	540	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	890	12	110	12	12	12	159	573	0	12	659	683
RTOR Reduction (vph)	0	0	79	0	11	0	0	0	0	0	0	304
Lane Group Flow (vph)	454	448	31	0	25	0	159	573	0	12	659	379
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Effective Green, g (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Actuated g/C Ratio	0.28	0.28	0.28		0.06		0.13	0.48		0.02	0.30	0.30
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	460	462	433		105		232	1669		35	553	464
v/s Ratio Prot	c0.28	0.27			c0.01		c0.09	c0.17		0.01	c0.36	
v/s Ratio Perm			0.02									0.25
v/c Ratio	0.99	0.97	0.07		0.24		0.69	0.34		0.34	1.19	0.82
Uniform Delay, d1	38.9	38.6	28.8		48.5		44.8	17.5		52.4	37.8	35.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.1	33.5	0.0		0.4		6.5	0.0		2.1	103.2	10.2
Delay (s)	77.0	72.1	28.8		48.9		51.4	17.5		54.6	141.0	45.2
Level of Service	E	E	C		D		D	B		D	F	D
Approach Delay (s)		69.6			48.9			24.9			91.9	
Approach LOS		E			D			C			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			68.5		HCM 2000 Level of Service						E	
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			108.5		Sum of lost time (s)						19.1	
Intersection Capacity Utilization			83.8%		ICU Level of Service						E	
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	30	50	50	20	30	40	90	280	60	40	200	50
Future Volume (veh/h)	30	50	50	20	30	40	90	280	60	40	200	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	54	24	22	33	18	98	304	60	43	217	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	96	43	46	69	38	216	389	77	138	314	71
Arrive On Green	0.11	0.11	0.11	0.09	0.09	0.09	0.12	0.26	0.26	0.08	0.21	0.21
Sat Flow, veh/h	526	861	382	530	795	434	1774	1512	298	1774	1472	332
Grp Volume(v), veh/h	111	0	0	73	0	0	98	0	364	43	0	266
Grp Sat Flow(s),veh/h/ln1769	0	0	1760	0	0	1774	0	1810	1774	0	1804	
Q Serve(g_s), s	2.1	0.0	0.0	1.4	0.0	0.0	1.8	0.0	6.7	0.8	0.0	4.9
Cycle Q Clear(g_c), s	2.1	0.0	0.0	1.4	0.0	0.0	1.8	0.0	6.7	0.8	0.0	4.9
Prop In Lane	0.30		0.22	0.30		0.25	1.00		0.16	1.00		0.18
Lane Grp Cap(c), veh/h	198	0	0	152	0	0	216	0	466	138	0	385
V/C Ratio(X)	0.56	0.00	0.00	0.48	0.00	0.00	0.45	0.00	0.78	0.31	0.00	0.69
Avail Cap(c_a), veh/h	1235	0	0	1229	0	0	991	0	1516	991	0	1511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	15.6	0.0	0.0	14.6	0.0	12.4	15.6	0.0	13.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.0	0.6	0.0	1.1	0.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.1	0.0	0.0	0.0	0.7	0.0	0.0	0.9	0.0	3.5	0.4	0.0	2.5
LnGrp Delay(d),s/veh	16.0	0.0	0.0	16.5	0.0	0.0	15.2	0.0	13.5	16.1	0.0	13.8
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		111			73			462			309	
Approach Delay, s/veh		16.0			16.5			13.8			14.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.4	7.4	13.2		6.8	5.8	14.8				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		3.7	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		25.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s		4.1	3.8	6.9		3.4	2.8	8.7				
Green Ext Time (p_c), s		0.2	0.0	0.5		0.1	0.0	0.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				14.4								
HCM 2010 LOS				B								
<b>Notes</b>												

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Volume (veh/h)	30	30	10	10	30	170	10	330	10	230	460	40
Future Volume (veh/h)	30	30	10	10	30	170	10	330	10	230	460	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98	1.00		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	33	33	2	11	33	15	11	359	10	250	500	42
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	211	151	7	386	172	78	102	1104	30	374	636	50
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	530	1041	48	1327	1192	542	15	1755	48	405	1011	79
Grp Volume(v), veh/h	68	0	0	11	0	48	380	0	0	792	0	0
Grp Sat Flow(s),veh/h/ln1619	0	0	1327	0	1733	1817	0	0	1495	0	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.2	0.0	1.0	3.9	0.0	0.0	15.9	0.0	0.0
Prop In Lane	0.49		0.03	1.00		0.31	0.03		0.03	0.32		0.05
Lane Grp Cap(c), veh/h	368	0	0	386	0	251	1237	0	0	1060	0	0
V/C Ratio(X)	0.18	0.00	0.00	0.03	0.00	0.19	0.31	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	1300	0	0	1192	0	1305	2390	0	0	1994	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	0.0	0.0	14.7	0.0	15.0	3.5	0.0	0.0	5.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.7	0.0	0.0	0.1	0.0	0.5	1.9	0.0	0.0	0.0	6.7	0.0	0.0
LnGrp Delay(d),s/veh	15.4	0.0	0.0	14.7	0.0	15.4	3.6	0.0	0.0	6.5	0.0	0.0
LnGrp LOS	B			B		B	A			A		
Approach Vol, veh/h		68			59		380				792	
Approach Delay, s/veh		15.4			15.2		3.6				6.5	
Approach LOS		B			B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.6		10.3		29.6		10.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		51.0		30.0		51.0		30.0				
Max Q Clear Time (g_c+I1), s		5.9		3.3		17.9		3.0				
Green Ext Time (p_c), s		2.4		0.3		7.2		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				6.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑		↔	↑	↔
Traffic Volume (veh/h)	120	30	50	60	30	40	90	170	50	50	150	120
Future Volume (veh/h)	120	30	50	60	30	40	90	170	50	50	150	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	41	0	81	41	0	122	230	53	68	203	31
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	458	250	0	335	120	102	381	302	70	539	278	231
Arrive On Green	0.25	0.13	0.00	0.19	0.06	0.00	0.21	0.20	0.20	0.15	0.15	0.15
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1488	343	3510	1900	1579
Grp Volume(v), veh/h	162	41	0	81	41	0	122	0	283	68	203	31
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1831	1755	1900	1579
Q Serve(g_s), s	3.3	0.8	0.0	1.7	0.9	0.0	2.5	0.0	6.5	0.7	4.5	0.8
Cycle Q Clear(g_c), s	3.3	0.8	0.0	1.7	0.9	0.0	2.5	0.0	6.5	0.7	4.5	0.8
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	458	250	0	335	120	102	381	0	372	539	278	231
V/C Ratio(X)	0.35	0.16	0.00	0.24	0.34	0.00	0.32	0.00	0.76	0.13	0.73	0.13
Avail Cap(c_a), veh/h	816	1071	0	816	1071	910	816	0	1032	1583	1071	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	17.1	0.0	15.4	19.9	0.0	14.8	0.0	16.7	16.2	18.1	16.5
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.1	0.6	0.0	0.2	0.0	1.2	0.0	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	0.0	0.8	0.5	0.0	1.3	0.0	3.3	0.4	2.5	0.3
LnGrp Delay(d),s/veh	13.8	17.2	0.0	15.6	20.5	0.0	15.0	0.0	17.9	16.2	19.5	16.6
LnGrp LOS	B	B		B	C		B		B	B	B	B
Approach Vol, veh/h		203			122			405			302	
Approach Delay, s/veh		14.5			17.2			17.0			18.5	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	10.2	12.3	10.6	14.2	7.2	9.8	13.1				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	13.7	2.8	4.5	6.5	5.3	2.9	2.7	8.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				17.0								
HCM 2010 LOS				B								
<b>Notes</b>												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	10	50	0	10	20	110	410	0	10	330	190
Future Volume (veh/h)	130	10	50	0	10	20	110	410	0	10	330	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	159	12	0	0	12	0	134	500	-6	12	402	98
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	202	413	0	5	29	0	169	692	589	17	532	442
Arrive On Green	0.12	0.22	0.00	0.00	0.02	0.00	0.10	0.38	0.00	0.01	0.29	0.29
Sat Flow, veh/h	1757	1845	0	1757	1845	0	1757	1845	1568	1757	1845	1530
Grp Volume(v), veh/h	159	12	0	0	12	0	134	500	-6	12	402	98
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1845	0	1757	1845	1568	1757	1845	1530
Q Serve(g_s), s	2.8	0.2	0.0	0.0	0.2	0.0	2.4	7.5	0.0	0.2	6.4	1.6
Cycle Q Clear(g_c), s	2.8	0.2	0.0	0.0	0.2	0.0	2.4	7.5	0.0	0.2	6.4	1.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	413	0	5	29	0	169	692	589	17	532	442
V/C Ratio(X)	0.79	0.03	0.00	0.00	0.41	0.00	0.79	0.72	-0.01	0.72	0.76	0.22
Avail Cap(c_a), veh/h	818	1432	0	818	1432	0	1091	1718	1460	1091	1718	1425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	9.8	0.0	0.0	15.7	0.0	14.2	8.6	0.0	15.9	10.4	8.7
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.0	3.4	0.0	3.1	0.5	0.0	19.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.0	0.0	0.1	0.0	1.3	3.9	0.0	0.2	3.4	0.7
LnGrp Delay(d),s/veh	16.4	9.8	0.0	0.0	19.1	0.0	17.4	9.2	0.0	35.2	11.3	8.8
LnGrp LOS	B	A			B		B	A		D	B	A
Approach Vol, veh/h		171			12			628			512	
Approach Delay, s/veh		16.0			19.1			11.0			11.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0	11.3	6.1	14.8	6.7	4.6	3.3	17.6				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.2	4.4	8.4	4.8	2.2	2.2	9.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								

Intersection				
Intersection Delay, s/veh	7.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	136	109	424	277
Demand Flow Rate, veh/h	137	111	432	281
Vehicles Circulating, veh/h	285	466	167	118
Vehicles Exiting, veh/h	114	133	255	459
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	2
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.9	6.9	9.2	6.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LT	LTR	LTR	L
Assumed Moves	LT	LTR	LTR	L
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	137	111	432	281
Cap Entry Lane, veh/h	850	709	956	1004
Entry HV Adj Factor	0.993	0.985	0.982	0.985
Flow Entry, veh/h	136	109	424	277
Cap Entry, veh/h	844	699	939	988
V/C Ratio	0.161	0.157	0.452	0.280
Control Delay, s/veh	5.9	6.9	9.2	6.5
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	1



**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing + Approved**  
**PM Peak Hour**

**Intersection 20**

**East St/CR 25A**

**All-way Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	8	80.0%	3.1	2.0	A
	Through	10	9	88.0%	6.4	3.6	A
	Right Turn	10	11	110.0%	2.1	0.9	A
	Subtotal	30	28	92.7%	4.2	1.6	A
SB	Left Turn	140	138	98.4%	6.5	0.7	A
	Through	10	9	92.0%	9.0	1.3	A
	Right Turn	40	40	101.0%	4.9	0.8	A
	Subtotal	190	187	98.6%	6.3	0.6	A
EB	Left Turn	60	54	90.7%	6.5	1.2	A
	Through	110	102	92.7%	9.5	0.7	A
	Right Turn	10	9	93.0%	3.5	1.5	A
	Subtotal	180	166	92.1%	8.2	0.8	A
WB	Left Turn	10	11	107.0%	15.8	4.8	C
	Through	180	178	98.9%	20.2	3.3	C
	Right Turn	330	331	100.2%	15.1	2.6	C
	Subtotal	520	520	99.9%	16.9	2.8	C
Total		920	900	97.9%	12.5	1.8	B

**Intersection 21**

**SR 113 SB Ramps/CR 25A**

**Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	10	9	92.0%	10.5	4.4	B
	Through						
	Right Turn	40	39	97.0%	4.4	1.4	A
	Subtotal	50	48	96.0%	6.0	1.8	A
EB	Left Turn						
	Through	110	102	93.1%	3.9	0.8	A
	Right Turn	150	148	98.9%	2.6	0.6	A
	Subtotal	260	251	96.5%	3.1	0.6	A
WB	Left Turn	110	103	93.5%	4.5	1.0	A
	Through	480	481	100.2%	3.5	0.8	A
	Right Turn						
	Subtotal	590	584	98.9%	3.7	0.8	A
Total		900	883	98.1%	3.7	0.6	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved  
PM Peak Hour

Intersection 22

SR 113 NB Ramps/CR 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	370	375	101.4%	30.2	13.7	D
	Through						
	Right Turn	290	294	101.2%	25.7	12.6	D
	Subtotal	660	669	101.3%	28.3	13.3	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	26	87.3%	2.8	1.0	A
	Through	90	85	94.9%	1.9	0.5	A
	Right Turn						
	Subtotal	120	112	93.0%	2.1	0.6	A
WB	Left Turn						
	Through	220	206	93.6%	1.7	0.3	A
	Right Turn	10	11	105.0%	0.8	1.0	A
	Subtotal	230	217	94.1%	1.7	0.3	A
Total		1,010	997	98.7%	19.4	8.5	C

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	10	70	210	520	370	10
Future Vol, veh/h	10	70	210	520	370	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	76	228	565	402	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1423	402	413	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	150	648	1146	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	648	1146	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	348	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1146	-	120	648	-	-
HCM Lane V/C Ratio	0.199	-	0.091	0.117	-	-
HCM Control Delay (s)	8.9	-	38	11.3	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.7	-	0.3	0.4	-	-

HCM Signalized Intersection Capacity Analysis  
 36: Parkland Ave & Pioneer Ave

Existing Plus Approved Projects  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕↕	↕	↗	↖↖↖	
Traffic Volume (vph)	0	0	0	310	300	0
Future Volume (vph)	0	0	0	310	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	
Lane Util. Factor				1.00	0.97	
Frt				0.85	1.00	
Flt Protected				1.00	0.95	
Satd. Flow (prot)				1583	3433	
Flt Permitted				1.00	0.95	
Satd. Flow (perm)				1583	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	337	326	0
RTOR Reduction (vph)	0	0	0	255	0	0
Lane Group Flow (vph)	0	0	0	82	326	0
Turn Type	Prot		Perm		Prot	
Protected Phases	5		6		4	
Permitted Phases	2		6			
Actuated Green, G (s)			7.9		9.6	
Effective Green, g (s)			7.9		9.6	
Actuated g/C Ratio			0.24		0.29	
Clearance Time (s)			4.5		4.5	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)			383		1010	
v/s Ratio Prot					c0.09	
v/s Ratio Perm			c0.05			
v/c Ratio			0.21		0.32	
Uniform Delay, d1			9.9		9.0	
Progression Factor			1.00		1.00	
Incremental Delay, d2			0.3		0.2	
Delay (s)			10.1		9.2	
Level of Service			B		A	
Approach Delay (s)	0.0		10.1		9.2	
Approach LOS	A		B		A	

Intersection Summary

HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	32.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection			
Intersection Delay, s/veh	6.9		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	424	163	196
Demand Flow Rate, veh/h	433	167	200
Vehicles Circulating, veh/h	34	355	78
Vehicles Exiting, veh/h	244	112	444
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.5	6.9	5.3
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	433	167	200
Cap Entry Lane, veh/h	1092	792	1045
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	424	163	196
Cap Entry, veh/h	1071	776	1024
V/C Ratio	0.396	0.211	0.191
Control Delay, s/veh	7.5	6.9	5.3
LOS	A	A	A
95th %tile Queue, veh	2	1	1

HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	370	80	80	570	370	70	350	80	160	220	50
Future Volume (veh/h)	50	370	80	80	570	370	70	350	80	160	220	50
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	54	402	30	87	620	334	76	380	70	174	239	39
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	65	1154	507	110	774	417	95	556	101	222	787	127
Arrive On Green	0.04	0.33	0.33	0.06	0.35	0.35	0.05	0.19	0.19	0.13	0.26	0.26
Sat Flow, veh/h	1757	3505	1541	1757	2184	1176	1757	2954	539	1757	3022	486
Grp Volume(v), veh/h	54	402	30	87	498	456	76	224	226	174	137	141
Grp Sat Flow(s),veh/h/ln	1757	1752	1541	1757	1752	1608	1757	1752	1740	1757	1752	1756
Q Serve(g_s), s	1.5	4.2	0.6	2.4	12.4	12.4	2.1	5.7	5.9	4.6	3.0	3.1
Cycle Q Clear(g_c), s	1.5	4.2	0.6	2.4	12.4	12.4	2.1	5.7	5.9	4.6	3.0	3.1
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.31	1.00		0.28
Lane Grp Cap(c), veh/h	65	1154	507	110	621	570	95	330	327	222	456	457
V/C Ratio(X)	0.83	0.35	0.06	0.79	0.80	0.80	0.80	0.68	0.69	0.78	0.30	0.31
Avail Cap(c_a), veh/h	727	2900	1276	727	1450	1330	872	1450	1440	872	1450	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	12.3	11.1	22.3	14.1	14.1	22.6	18.3	18.3	20.5	14.3	14.4
Incr Delay (d2), s/veh	9.3	0.1	0.0	4.8	0.9	1.0	5.7	0.9	1.0	2.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	0.3	1.3	6.1	5.6	1.1	2.8	2.9	2.4	1.5	1.5
LnGrp Delay(d),s/veh	32.4	12.4	11.1	27.1	15.0	15.1	28.3	19.2	19.3	22.8	14.5	14.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		486			1041			526			452	
Approach Delay, s/veh		14.5			16.0			20.5			17.7	
Approach LOS		B			B			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	21.2	5.6	16.7	6.0	20.0	9.1	13.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	3.5	14.4	4.1	5.1	4.4	6.2	6.6	7.9				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.7	0.0	1.4	0.1	1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
AM Peak Hour

Intersection 2 Industrial Way-SR 113 SB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	62	103.7%	28.1	5.7	C
	Through	20	19	92.5%	28.2	10.9	C
	Right Turn	50	51	102.0%	13.8	6.0	B
	Subtotal	130	132	101.3%	22.7	5.9	C
SB	Left Turn	70	71	100.7%	26.2	5.9	C
	Through	90	82	90.6%	27.5	6.6	C
	Right Turn	20	20	100.0%	17.2	11.3	B
	Subtotal	180	172	95.6%	26.0	5.4	C
EB	Left Turn	30	28	92.3%	34.5	7.2	C
	Through	530	533	100.5%	21.5	2.4	C
	Right Turn	190	199	104.7%	13.5	1.8	B
	Subtotal	750	760	101.3%	19.8	2.2	B
WB	Left Turn	660	452	68.5%	177.3	10.3	F
	Through	1,080	854	79.1%	12.1	3.1	B
	Right Turn	120	103	85.8%	10.3	3.3	B
	Subtotal	1,860	1,409	75.8%	66.8	3.6	E
Total		2,920	2,472	84.7%	47.2	1.9	D

Intersection 3 SR 113 NB Ramps/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	284	98.0%	36.2	15.4	D
	Through						
	Right Turn	750	716	95.5%	132.2	82.7	F
	Subtotal	1,040	1,001	96.2%	106.2	64.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	630	630	100.0%	38.4	17.4	D
	Right Turn	30	31	103.7%	46.3	32.5	D
	Subtotal	660	661	100.1%	38.7	17.8	D
WB	Left Turn	40	27	66.5%	52.9	27.7	D
	Through	1,570	1,141	72.7%	34.9	20.3	C
	Right Turn						
	Subtotal	1,610	1,168	72.5%	35.3	20.4	D
Total		3,310	2,829	85.5%	60.3	20.8	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
AM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	270	214	79.2%	50.9	21.3	D
	Through	320	259	80.9%	43.5	4.5	D
	Right Turn	560	434	77.5%	211.8	13.8	F
	Subtotal	1,150	906	78.8%	128.4	7.3	F
SB	Left Turn	80	82	102.8%	52.0	5.5	D
	Through	160	158	98.6%	34.3	4.9	C
	Right Turn	60	59	98.2%	18.7	8.8	B
	Subtotal	300	299	99.6%	36.4	3.9	D
EB	Left Turn	140	137	97.9%	58.2	8.4	E
	Through	1,080	1,053	97.5%	42.1	6.3	D
	Right Turn	210	201	95.7%	47.3	7.6	D
	Subtotal	1,430	1,391	97.3%	44.4	5.8	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	160	111	69.4%	92.3	10.9	F
	Through	1,300	919	70.7%	86.5	9.2	F
	Right Turn	110	75	68.4%	57.9	6.6	E
	Subtotal	1,570	1,105	70.4%	85.2	9.2	F
Total		4,450	3,701	83.2%	101.5	7.8	F



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,290	822	63.7%	611.9	72.3	F
	Through						
	Right Turn	10	6	61.0%	554.1	61.0	F
	Subtotal	1,300	828	63.7%	611.9	72.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	880	799	90.8%	18.5	2.2	B
	Right Turn						
	Subtotal	880	799	90.8%	18.5	2.2	B
WB	Left Turn						
	Through	290	290	99.9%	27.4	5.7	C
	Right Turn						
	Subtotal	290	290	99.9%	27.4	5.7	C
Total		2,470	1,917	77.6%	267.5	12.4	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
AM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	50	50	99.4%	35.4	6.5	D
	Through	280	276	98.6%	16.3	2.2	B
	Right Turn	100	97	97.3%	2.9	0.4	A
	Subtotal	430	423	98.4%	15.3	2.4	B
SB	Left Turn						
	Through	640	637	99.5%	25.3	3.1	C
	Right Turn	10	11	114.0%	14.2	10.9	B
	Subtotal	650	648	99.8%	25.1	3.1	C
EB	Left Turn	20	19	93.5%	35.2	9.7	D
	Through						
	Right Turn	60	60	99.8%	28.4	4.4	C
	Subtotal	80	79	98.3%	30.5	4.4	C
WB	Left Turn	710	716	100.8%	24.7	2.7	C
	Through	40	38	96.0%	30.2	6.0	C
	Right Turn	220	219	99.5%	19.8	3.6	B
	Subtotal	970	973	100.4%	23.9	2.5	C
Total		2,130	2,123	99.7%	22.8	2.0	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	360	358	99.4%	3.2	0.6	A
	Right Turn	560	560	100.1%	4.9	0.6	A
	Subtotal	920	918	99.8%	4.2	0.5	A
SB	Left Turn						
	Through	1,070	1,082	101.1%	7.9	1.0	A
	Right Turn	280	268	95.9%	8.5	0.8	A
	Subtotal	1,350	1,350	100.0%	8.0	0.9	A
EB	Left Turn	70	64	90.9%	8.3	1.4	A
	Through						
	Right Turn	130	138	106.1%	5.4	1.0	A
	Subtotal	200	202	100.8%	6.3	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2,470	2,470	100.0%	6.5	0.5	A

HCM 2010 Signalized Intersection Summary  
 8: East St & Gibson Rd/E Gibson Rd

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	760	110	70	750	140	110	180	80	120	170	120
Future Volume (veh/h)	150	760	110	70	750	140	110	180	80	120	170	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	181	916	126	84	904	92	133	217	50	145	205	21
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	274	1086	149	226	1136	499	260	422	95	265	487	49
Arrive On Green	0.16	0.35	0.35	0.13	0.32	0.32	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	3087	425	1757	3505	1539	1757	2833	638	1757	3213	326
Grp Volume(v), veh/h	181	520	522	84	904	92	133	132	135	145	111	115
Grp Sat Flow(s),veh/h/ln	1757	1752	1759	1757	1752	1539	1757	1752	1719	1757	1752	1786
Q Serve(g_s), s	6.6	18.7	18.7	3.0	16.0	2.9	4.8	4.7	4.9	5.2	3.9	4.0
Cycle Q Clear(g_c), s	6.6	18.7	18.7	3.0	16.0	2.9	4.8	4.7	4.9	5.2	3.9	4.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	274	617	619	226	1136	499	260	261	256	265	266	271
V/C Ratio(X)	0.66	0.84	0.84	0.37	0.80	0.18	0.51	0.51	0.53	0.55	0.42	0.43
Avail Cap(c_a), veh/h	721	1027	1031	515	2055	902	515	1027	1008	721	1027	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	20.4	20.4	27.2	21.0	16.6	26.8	26.7	26.8	26.8	26.2	26.2
Incr Delay (d2), s/veh	1.0	1.4	1.4	0.4	0.5	0.1	0.6	0.6	0.6	0.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	9.2	9.2	1.5	7.7	1.2	2.3	2.3	2.4	2.6	1.9	2.0
LnGrp Delay(d),s/veh	28.1	21.8	21.8	27.6	21.5	16.6	27.4	27.3	27.4	27.5	26.6	26.6
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		1223			1080			400			371	
Approach Delay, s/veh		22.7			21.5			27.4			26.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	15.1	11.8	28.1	13.1	15.2	13.6	26.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	40.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1), s	6.9	6.9	5.0	20.7	6.8	6.0	8.6	18.0				
Green Ext Time (p_c), s	0.1	0.9	0.0	3.2	0.0	0.8	0.2	3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

**Intersection 9**                      **Matmor Rd/E Gibson Rd-I-5 NB Ramps**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	60	55	91.3%	25.1	6.2	C
	Through	40	38	95.8%	28.9	8.0	C
	Right Turn	240	247	102.8%	20.4	5.2	C
	Subtotal	340	340	100.0%	22.0	5.1	C
SB	Left Turn	330	236	71.4%	401.1	29.9	F
	Through	30	23	76.0%	354.4	64.2	F
	Right Turn	120	89	73.8%	376.3	32.7	F
	Subtotal	480	347	72.3%	393.0	28.4	F
EB	Left Turn	110	106	96.2%	61.1	23.0	E
	Through	1,050	1,059	100.9%	54.7	28.6	D
	Right Turn	30	29	95.0%	47.0	26.4	D
	Subtotal	1,190	1,194	100.3%	55.1	27.9	E
WB	Left Turn	70	67	95.7%	45.8	8.9	D
	Through	920	869	94.5%	26.2	4.1	C
	Right Turn	160	152	95.2%	6.1	1.0	A
	Subtotal	1,150	1,088	94.6%	24.5	3.2	C
Total		3,160	2,969	94.0%	83.2	11.9	F

**Intersection 10**                      **SR 113 SB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	190	193	101.5%	15.7	1.8	B
	Through						
	Right Turn	240	251	104.5%	0.9	0.1	A
	Subtotal	430	444	103.2%	7.4	1.0	A
EB	Left Turn						
	Through	1,240	1,182	95.3%	17.8	2.0	B
	Right Turn	380	359	94.4%	12.8	1.5	B
	Subtotal	1,620	1,540	95.1%	16.6	1.9	B
WB	Left Turn						
	Through	910	833	91.5%	10.1	2.1	B
	Right Turn	560	495	88.3%	6.2	0.4	A
	Subtotal	1,470	1,328	90.3%	8.8	1.5	A
Total		3,520	3,312	94.1%	12.1	1.2	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Plus Project (2030) Conditions  
AM Peak Hour

Intersection 11 SR 113 NB Ramps/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	130	135	103.5%	16.8	1.6	B
	Through						
	Right Turn	180	180	100.0%	1.5	0.1	A
	Subtotal	310	315	101.5%	8.1	0.6	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	950	910	95.8%	10.1	1.1	B
	Right Turn	480	467	97.4%	7.9	0.9	A
	Subtotal	1,430	1,377	96.3%	9.4	1.0	A
WB	Left Turn						
	Through	1,340	1,192	89.0%	16.0	1.8	B
	Right Turn	240	210	87.5%	12.2	1.2	B
	Subtotal	1,580	1,402	88.7%	15.5	1.8	B
Total		3,320	3,094	93.2%	12.0	1.0	B

Intersection 12 Bourn Dr-Harry Lorenzo Ave/E Gibson Rd Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through						
	Right Turn	170	171	100.8%	24.2	14.7	C
	Subtotal	170	171	100.8%	24.2	14.7	C
SB	Left Turn						
	Through						
	Right Turn	170	171	100.7%	65.3	38.5	F
	Subtotal	170	171	100.7%	65.3	38.5	F
EB	Left Turn						
	Through	1,030	988	95.9%	6.6	0.4	A
	Right Turn	100	101	101.4%	5.9	1.1	A
	Subtotal	1,130	1,089	96.4%	6.6	0.4	A
WB	Left Turn						
	Through	1,410	1,231	87.3%	7.9	0.7	A
	Right Turn	60	55	91.7%	6.6	1.3	A
	Subtotal	1,470	1,286	87.5%	7.8	0.7	A
Total		2,940	2,718	92.4%	12.5	2.7	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement






















Woodland Tech Park TIS  
Existing Plus Approved Plus Project (2030) Conditions  
AM Peak Hour

Intersection 13 Pioneer Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	700	526	75.2%	235.9	3.3	F
	Through	630	518	82.3%	31.2	4.3	C
	Right Turn	520	411	79.1%	20.7	2.9	C
	Subtotal	1,850	1,456	78.7%	107.3	4.2	F
SB	Left Turn	70	69	98.7%	52.0	9.9	D
	Through	420	422	100.6%	36.1	4.7	D
	Right Turn	280	276	98.5%	51.3	42.3	D
	Subtotal	770	767	99.6%	44.5	20.1	D
EB	Left Turn	270	258	95.7%	56.7	3.3	E
	Through	530	510	96.3%	47.2	3.8	D
	Right Turn	400	389	97.2%	34.0	10.0	C
	Subtotal	1,200	1,158	96.5%	44.9	3.3	D
WB	Left Turn	450	450	99.9%	108.9	49.2	F
	Through	490	481	98.2%	37.3	8.2	D
	Right Turn	20	20	97.5%	21.0	15.3	C
	Subtotal	960	950	99.0%	73.2	29.6	E
Total		4,780	4,331	90.6%	71.3	8.5	E

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Future Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	476	12	134	12	12	12	134	598	0	12	305	671
RTOR Reduction (vph)	0	0	107	0	11	0	0	0	0	0	0	493
Lane Group Flow (vph)	243	245	27	0	25	0	134	598	0	12	305	178
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	16.9	16.9	16.9		6.1		13.9	41.7		1.7	22.1	22.1
Effective Green, g (s)	16.9	16.9	16.9		6.1		13.9	41.7		1.7	22.1	22.1
Actuated g/C Ratio	0.20	0.20	0.20		0.07		0.17	0.50		0.02	0.26	0.26
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	333	335	314		125		288	1733		35	483	405
v/s Ratio Prot	0.15	c0.15			c0.01		c0.08	c0.17		0.01	c0.17	
v/s Ratio Perm			0.02									0.12
v/c Ratio	0.73	0.73	0.09		0.20		0.47	0.35		0.34	0.63	0.44
Uniform Delay, d1	31.2	31.2	27.0		36.4		31.4	12.6		40.3	27.1	25.5
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	6.9	0.0		0.3		0.4	0.0		2.1	2.0	0.3
Delay (s)	37.8	38.1	27.1		36.7		31.9	12.7		42.5	29.1	25.8
Level of Service	D	D	C		D		C	B		D	C	C
Approach Delay (s)		35.6			36.7			16.2			27.0	
Approach LOS		D			D			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.1			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			83.5			Sum of lost time (s)		19.1				
Intersection Capacity Utilization			73.8%			ICU Level of Service		D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	30	150	70	40	30	40	220	20	20	280	20
Future Volume (veh/h)	20	30	150	70	40	30	40	220	20	20	280	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1827	1900	1827	1827	1900	1827	1827	1900
Adj Flow Rate, veh/h	25	37	29	86	49	23	49	272	20	25	346	21
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	218	156	98	334	113	42	138	495	36	88	453	27
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.29	0.29	0.05	0.27	0.27
Sat Flow, veh/h	284	831	521	712	604	224	1740	1681	124	1740	1704	103
Grp Volume(v), veh/h	91	0	0	158	0	0	49	0	292	25	0	367
Grp Sat Flow(s),veh/h/ln	1636	0	0	1541	0	0	1740	0	1805	1740	0	1808
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	0.0	0.7	0.0	3.8	0.4	0.0	5.2
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.4	0.0	0.0	0.7	0.0	3.8	0.4	0.0	5.2
Prop In Lane	0.27		0.32	0.54		0.15	1.00		0.07	1.00		0.06
Lane Grp Cap(c), veh/h	472	0	0	489	0	0	138	0	531	88	0	480
V/C Ratio(X)	0.19	0.00	0.00	0.32	0.00	0.00	0.36	0.00	0.55	0.28	0.00	0.76
Avail Cap(c_a), veh/h	1576	0	0	1532	0	0	1252	0	1948	1252	0	1951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	10.1	0.0	0.0	12.1	0.0	8.3	12.7	0.0	9.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.3	0.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.1	0.0	0.0	0.4	0.0	1.9	0.2	0.0	2.7
LnGrp Delay(d),s/veh	9.8	0.0	0.0	10.3	0.0	0.0	12.7	0.0	8.6	13.4	0.0	10.4
LnGrp LOS	A			B			B		A	B		B
Approach Vol, veh/h		91			158			341			392	
Approach Delay, s/veh		9.8			10.3			9.2			10.6	
Approach LOS		A			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.6	5.2	13.0		9.6	4.4	13.8				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		* 4.4	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		* 25	20.0	30.0				
Max Q Clear Time (g_c+I1), s		3.3	2.7	7.2		4.4	2.4	5.8				
Green Ext Time (p_c), s		0.2	0.0	0.6		0.3	0.0	0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				10.0								
HCM 2010 LOS				A								
<b>Notes</b>												



\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	30	10	10	20	270	10	950	10	100	610	30
Future Volume (veh/h)	40	30	10	10	20	270	10	950	10	100	610	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	43	33	4	11	22	191	11	1033	11	109	663	32
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	119	75	7	306	31	271	50	1210	13	139	749	35
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	253	391	34	1338	163	1411	6	1808	19	130	1119	52
Grp Volume(v), veh/h	80	0	0	11	0	213	1055	0	0	804	0	0
Grp Sat Flow(s),veh/h/ln	679	0	0	1338	0	1574	1833	0	0	1300	0	0
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	0.7	0.0	10.0	35.0	0.0	0.0	43.6	0.0	0.0
Prop In Lane	0.54		0.05	1.00		0.90	0.01		0.01	0.14		0.04
Lane Grp Cap(c), veh/h	201	0	0	306	0	302	1273	0	0	922	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.04	0.00	0.70	0.83	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	477	0	0	574	0	618	1630	0	0	1193	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.3	0.0	0.0	26.0	0.0	29.7	10.1	0.0	0.0	10.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	3.0	2.9	0.0	0.0	5.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.2	0.0	4.6	18.3	0.0	0.0	16.7	0.0	0.0
LnGrp Delay(d),s/veh	31.6	0.0	0.0	26.0	0.0	32.7	13.0	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C			C		C	B			B		
Approach Vol, veh/h		80			224			1055			804	
Approach Delay, s/veh		31.6			32.4			13.0			16.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.5		20.2		58.5		20.2				
Change Period (Y+Rc), s		5.8		5.1		5.8		5.1				
Max Green Setting (Gmax), s		68.2		30.9		68.2		30.9				
Max Q Clear Time (g_c+I1), s		37.0		14.1		45.6		12.0				
Green Ext Time (p_c), s		10.3		0.3		7.1		1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑		↔	↑	↔
Traffic Volume (veh/h)	190	60	100	90	30	40	70	220	70	40	240	60
Future Volume (veh/h)	190	60	100	90	30	40	70	220	70	40	240	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	257	81	57	122	41	0	95	297	83	54	324	3
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	456	117	83	383	139	118	318	370	103	444	400	333
Arrive On Green	0.25	0.11	0.11	0.21	0.07	0.00	0.18	0.26	0.26	0.13	0.21	0.21
Sat Flow, veh/h	1810	1035	728	1810	1900	1615	1810	1423	398	3510	1900	1580
Grp Volume(v), veh/h	257	0	138	122	41	0	95	0	380	54	324	3
Grp Sat Flow(s),veh/h/ln	1810	0	1763	1810	1900	1615	1810	0	1821	1755	1900	1580
Q Serve(g_s), s	6.2	0.0	3.8	2.9	1.0	0.0	2.3	0.0	9.8	0.7	8.1	0.1
Cycle Q Clear(g_c), s	6.2	0.0	3.8	2.9	1.0	0.0	2.3	0.0	9.8	0.7	8.1	0.1
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	456	0	200	383	139	118	318	0	473	444	400	333
V/C Ratio(X)	0.56	0.00	0.69	0.32	0.29	0.00	0.30	0.00	0.80	0.12	0.81	0.01
Avail Cap(c_a), veh/h	721	0	878	721	946	804	721	0	907	1398	946	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	21.4	16.7	22.0	0.0	18.0	0.0	17.4	19.5	18.9	15.7
Incr Delay (d2), s/veh	0.4	0.0	1.6	0.2	0.4	0.0	0.2	0.0	1.2	0.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	1.9	1.4	0.6	0.0	1.2	0.0	5.0	0.3	4.4	0.0
LnGrp Delay(d),s/veh	16.8	0.0	23.0	16.9	22.5	0.0	18.2	0.0	18.6	19.5	20.4	15.7
LnGrp LOS	B		C	B	C		B		B	B	C	B
Approach Vol, veh/h		395			163			475			381	
Approach Delay, s/veh		19.0			18.3			18.5			20.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	10.1	11.8	14.7	15.6	8.1	9.3	17.1				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+14.5), s	14.5	5.8	4.3	10.1	8.2	3.0	2.7	11.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									
<b>Notes</b>												

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	190	10	220	0	0	10	50	250	10	20	380	110
Future Volume (veh/h)	190	10	220	0	0	10	50	250	10	20	380	110
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	232	12	48	0	0	0	61	305	3	24	463	32
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	295	40	161	7	7	0	73	661	550	32	619	514
Arrive On Green	0.17	0.12	0.12	0.00	0.00	0.00	0.04	0.36	0.36	0.02	0.34	0.34
Sat Flow, veh/h	1757	323	1293	1757	1845	0	1757	1845	1535	1757	1845	1531
Grp Volume(v), veh/h	232	0	60	0	0	0	61	305	3	24	463	32
Grp Sat Flow(s),veh/h/ln	1757	0	1616	1757	1845	0	1757	1845	1535	1757	1845	1531
Q Serve(g_s), s	3.2	0.0	0.9	0.0	0.0	0.0	0.9	3.2	0.0	0.3	5.6	0.4
Cycle Q Clear(g_c), s	3.2	0.0	0.9	0.0	0.0	0.0	0.9	3.2	0.0	0.3	5.6	0.4
Prop In Lane	1.00		0.80	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	0	201	7	7	0	73	661	550	32	619	514
V/C Ratio(X)	0.79	0.00	0.30	0.00	0.00	0.00	0.84	0.46	0.01	0.74	0.75	0.06
Avail Cap(c_a), veh/h	1044	0	1600	1044	1826	0	1391	2192	1824	1391	2192	1819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.1	0.0	0.0	0.0	12.0	6.2	5.2	12.3	7.4	5.7
Incr Delay (d2), s/veh	1.8	0.0	0.3	0.0	0.0	0.0	9.2	0.2	0.0	11.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.4	0.0	0.0	0.0	0.6	1.6	0.0	0.3	2.9	0.2
LnGrp Delay(d),s/veh	11.9	0.0	10.4	0.0	0.0	0.0	21.2	6.4	5.2	24.0	8.1	5.7
LnGrp LOS	B		B				C	A	A	C	A	A
Approach Vol, veh/h		292			0			369			519	
Approach Delay, s/veh		11.5			0.0			8.9			8.7	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0	7.2	4.0	14.0	7.2	0.0	3.5	14.6				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+I), s	10.0	2.9	2.9	7.6	5.2	0.0	2.3	5.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.1	0.1	0.0	0.0	0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

Intersection				
Intersection Delay, s/veh	11.3			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	208	232	261	537
Demand Flow Rate, veh/h	214	239	268	552
Vehicles Circulating, veh/h	541	414	218	268
Vehicles Exiting, veh/h	279	72	537	385
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	0	5
Ped Cap Adj	0.999	0.999	1.000	0.999
Approach Delay, s/veh	10.0	8.9	7.2	14.8
Approach LOS	A	A	A	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	214	239	268	552
Cap Entry Lane, veh/h	658	747	909	864
Entry HV Adj Factor	0.970	0.972	0.973	0.972
Flow Entry, veh/h	208	232	261	537
Cap Entry, veh/h	638	726	884	840
V/C Ratio	0.326	0.320	0.295	0.639
Control Delay, s/veh	10.0	8.9	7.2	14.8
LOS	A	A	A	B
95th %tile Queue, veh	1	1	1	5

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
AM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	102.0%	4.0	2.7	A
	Through	10	10	98.0%	9.5	1.7	A
	Right Turn	10	11	112.0%	4.2	2.3	A
	Subtotal	30	31	104.0%	6.6	1.3	A
SB	Left Turn	450	439	97.6%	18.7	2.5	C
	Through	10	11	112.0%	18.2	9.8	C
	Right Turn	50	54	107.6%	13.9	1.8	B
	Subtotal	510	504	98.8%	18.2	2.5	C
EB	Left Turn	30	27	90.3%	11.2	1.8	B
	Through	270	275	101.7%	14.5	1.5	B
	Right Turn	10	11	110.0%	8.5	3.7	A
	Subtotal	310	313	100.8%	13.9	1.4	B
WB	Left Turn	10	4	36.0%	6.3	6.1	A
	Through	240	85	35.6%	14.3	2.9	B
	Right Turn	240	86	36.0%	8.3	2.6	A
	Subtotal	490	175	35.8%	11.2	2.7	B
Total		1,340	1,023	76.4%	15.6	1.5	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
AM Peak Hour

Intersection 21 SR 113 SB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	0	0.3%	896.7	7.8	F
	Through	10	0	0.0%	899.9	0.2	F
	Right Turn	50	0	0.4%	891.7	17.5	F
	Subtotal	220	1	0.3%	175.6	370.2	F
EB	Left Turn						
	Through	400	408	102.0%	7.6	0.3	A
	Right Turn	330	318	96.3%	4.7	0.3	A
	Subtotal	730	726	99.4%	6.3	0.2	A
WB	Left Turn	910	379	41.7%	228.7	40.5	F
	Through	440	175	39.8%	220.8	20.7	F
	Right Turn						
	Subtotal	1,350	554	41.1%	227.0	34.3	F
Total		2,300	1,281	55.7%	77.6	8.2	F

Intersection 22 SR 113 NB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	36	29.6%	506.3	83.3	F
	Through						
	Right Turn	340	94	27.6%	479.5	100.6	F
	Subtotal	460	129	28.1%	487.6	95.1	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	88.3%	3.8	2.1	A
	Through	530	382	72.0%	2.6	0.6	A
	Right Turn						
	Subtotal	560	408	72.9%	2.7	0.7	A
WB	Left Turn						
	Through	1,230	519	42.2%	121.0	19.4	F
	Right Turn	210	82	39.0%	115.5	20.8	F
	Subtotal	1,440	601	41.7%	120.4	18.9	F
Total		2,460	1,138	46.3%	126.3	17.2	F



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	18	91.0%	11.9	12.6	B
	Subtotal	20	18	91.0%	7.8	7.6	A
SB	Left Turn						
	Through						
	Right Turn	160	83	51.8%	452.2	311.8	F
	Subtotal	160	83	51.8%	272.2	249.2	F
EB	Left Turn						
	Through	680	373	54.8%	6.5	8.3	A
	Right Turn	190	102	53.9%	4.3	7.2	A
	Subtotal	870	475	54.6%	6.0	8.2	A
WB	Left Turn						
	Through	1,280	518	40.4%	126.0	44.1	F
	Right Turn	30	12	40.7%	90.8	48.6	F
	Subtotal	1,310	530	40.5%	126.1	44.1	F
Total		2,360	1,106	46.9%	74.3	24.6	F

Intersection				
Intersection Delay, s/veh	4.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	76	185	33	33
Demand Flow Rate, veh/h	78	190	33	33
Vehicles Circulating, veh/h	89	33	78	190
Vehicles Exiting, veh/h	134	78	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.2	5.0	3.8	4.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	78	190	33	33
Cap Entry Lane, veh/h	1034	1093	1045	934
Entry HV Adj Factor	0.979	0.972	0.990	0.990
Flow Entry, veh/h	76	185	33	33
Cap Entry, veh/h	1011	1062	1034	925
V/C Ratio	0.076	0.174	0.032	0.035
Control Delay, s/veh	4.2	5.0	3.8	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement  
Intersection 25

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
AM Peak Hour  
Signal

Road B/County Road 25A

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	90	50	55.7%	486.8	171.8	F
	Through	20	15	72.5%	262.8	196.4	F
	Right Turn	10	7	72.0%	182.4	257.1	F
	Subtotal	120	72	59.8%	422.6	177.2	F
SB	Left Turn	30	12	40.0%	215.6	114.0	F
	Through	60	23	38.3%	260.1	122.0	F
	Right Turn	610	250	40.9%	230.7	60.1	F
	Subtotal	700	285	40.7%	232.0	57.3	F
EB	Left Turn	500	279	55.9%	73.4	22.0	E
	Through	190	104	54.8%	38.1	23.9	D
	Right Turn	10	6	60.0%	14.9	14.5	B
	Subtotal	700	390	55.7%	63.7	21.5	E
WB	Left Turn	70	24	34.9%	514.3	118.0	F
	Through	610	233	38.1%	532.9	85.8	F
	Right Turn	30	12	38.3%	494.6	171.4	F
	Subtotal	710	269	37.8%	528.1	85.1	F
Total		2,230	1,015	45.5%	222.2	22.6	F

HCM 2010 Signalized Intersection Summary  
26: Road B & Road C

Existing+Approved+Project Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	40	10	20	240	20	30	80	290	130	20	450	70
Future Volume (veh/h)	40	10	20	240	20	30	80	290	130	20	450	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	11	7	261	22	29	87	315	101	22	489	65
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	143	37	23	340	29	38	232	803	253	97	714	94
Arrive On Green	0.12	0.12	0.12	0.23	0.23	0.23	0.13	0.31	0.31	0.06	0.23	0.23
Sat Flow, veh/h	1230	315	200	1457	123	162	1757	2619	824	1757	3108	411
Grp Volume(v), veh/h	61	0	0	312	0	0	87	209	207	22	275	279
Grp Sat Flow(s),veh/h/ln	1745	0	0	1742	0	0	1757	1752	1691	1757	1752	1767
Q Serve(g_s), s	2.1	0.0	0.0	11.2	0.0	0.0	3.0	6.3	6.5	0.8	9.6	9.7
Cycle Q Clear(g_c), s	2.1	0.0	0.0	11.2	0.0	0.0	3.0	6.3	6.5	0.8	9.6	9.7
Prop In Lane	0.70		0.11	0.84		0.09	1.00		0.49	1.00		0.23
Lane Grp Cap(c), veh/h	203	0	0	406	0	0	232	537	518	97	403	406
V/C Ratio(X)	0.30	0.00	0.00	0.77	0.00	0.00	0.38	0.39	0.40	0.23	0.68	0.69
Avail Cap(c_a), veh/h	735	0	0	864	0	0	289	748	722	289	748	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	23.9	0.0	0.0	26.5	18.2	18.3	30.2	23.5	23.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.1	0.0	0.0	1.0	0.5	0.5	1.2	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	5.7	0.0	0.0	1.5	3.1	3.1	0.4	4.8	4.9
LnGrp Delay(d),s/veh	27.8	0.0	0.0	27.0	0.0	0.0	27.5	18.7	18.8	31.3	25.5	25.6
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		61			312			503			576	
Approach Delay, s/veh		27.8			27.0			20.3			25.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	25.6		12.9	12.8	20.4		20.7				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	1.0	28.5		28.1	11.0	28.5		33.1				
Max Q Clear Time (g_c+I), s	1.0	8.5		4.1	5.0	11.7		13.2				
Green Ext Time (p_c), s	0.0	2.4		0.3	0.1	3.1		1.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				24.2								
HCM 2010 LOS				C								

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	280	100	230	570	40
Future Vol, veh/h	70	280	100	230	570	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	304	109	250	620	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1088	620	663	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	239	488	926	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	488	926	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.3	2.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	926	-	211	488	-	-
HCM Lane V/C Ratio	0.117	-	0.361	0.624	-	-
HCM Control Delay (s)	9.4	-	31.4	23.8	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.6	4.2	-	-

HCM 2010 Signalized Intersection Summary  
 28: Road B & Marston Dr

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↔		↕	↕↔	
Traffic Volume (veh/h)	30	10	60	70	40	20	130	220	20	10	450	80
Future Volume (veh/h)	30	10	60	70	40	20	130	220	20	10	450	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	33	11	10	76	43	15	141	239	18	11	489	75
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	40	36	160	91	32	289	1244	93	54	739	113
Arrive On Green	0.11	0.11	0.11	0.16	0.16	0.16	0.16	0.38	0.38	0.03	0.24	0.24
Sat Flow, veh/h	1058	353	321	997	564	197	1757	3304	247	1757	3045	465
Grp Volume(v), veh/h	54	0	0	134	0	0	141	126	131	11	280	284
Grp Sat Flow(s),veh/h/ln	1732	0	0	1758	0	0	1757	1752	1799	1757	1752	1757
Q Serve(g_s), s	1.7	0.0	0.0	4.2	0.0	0.0	4.4	2.9	3.0	0.4	8.8	8.8
Cycle Q Clear(g_c), s	1.7	0.0	0.0	4.2	0.0	0.0	4.4	2.9	3.0	0.4	8.8	8.8
Prop In Lane	0.61		0.19	0.57		0.11	1.00		0.14	1.00		0.26
Lane Grp Cap(c), veh/h	197	0	0	283	0	0	289	660	677	54	425	426
V/C Ratio(X)	0.27	0.00	0.00	0.47	0.00	0.00	0.49	0.19	0.19	0.20	0.66	0.66
Avail Cap(c_a), veh/h	802	0	0	814	0	0	434	968	994	319	852	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	23.1	0.0	0.0	23.0	12.7	12.7	28.7	20.7	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.2	0.0	0.0	1.3	0.1	0.1	1.8	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.1	0.0	0.0	2.3	1.4	1.5	0.2	4.4	4.5
LnGrp Delay(d),s/veh	25.3	0.0	0.0	24.4	0.0	0.0	24.3	12.8	12.9	30.5	22.5	22.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		54			134			398			575	
Approach Delay, s/veh		25.3			24.4			16.9			22.6	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	27.9		12.0	14.0	19.8		14.9				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	33.5			28.1	15.0	29.5		28.1				
Max Q Clear Time (g_c+1), s	12.4	5.0		3.7	6.4	10.8		6.2				
Green Ext Time (p_c), s	0.0	1.5		0.2	0.2	3.3		0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				21.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
 29: Road B & Road E

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	110	10	130	80	10	130	60	100	20	70	400	120
Future Volume (veh/h)	110	10	130	80	10	130	60	100	20	70	400	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	120	11	105	87	11	92	65	109	7	76	435	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	163	15	143	123	16	130	205	743	47	222	650	154
Arrive On Green	0.19	0.19	0.19	0.16	0.16	0.16	0.12	0.22	0.22	0.13	0.23	0.23
Sat Flow, veh/h	847	78	741	758	96	802	1757	3344	213	1757	2806	665
Grp Volume(v), veh/h	236	0	0	190	0	0	65	57	59	76	270	269
Grp Sat Flow(s),veh/h/ln	1665	0	0	1656	0	0	1757	1752	1804	1757	1752	1719
Q Serve(g_s), s	8.7	0.0	0.0	7.1	0.0	0.0	2.2	1.7	1.7	2.6	9.1	9.3
Cycle Q Clear(g_c), s	8.7	0.0	0.0	7.1	0.0	0.0	2.2	1.7	1.7	2.6	9.1	9.3
Prop In Lane	0.51		0.44	0.46		0.48	1.00		0.12	1.00		0.39
Lane Grp Cap(c), veh/h	321	0	0	269	0	0	205	389	401	222	406	398
V/C Ratio(X)	0.73	0.00	0.00	0.71	0.00	0.00	0.32	0.15	0.15	0.34	0.67	0.67
Avail Cap(c_a), veh/h	763	0	0	724	0	0	296	841	866	296	841	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	0.0	25.8	0.0	0.0	26.4	20.4	20.4	26.0	22.8	22.8
Incr Delay (d2), s/veh	3.3	0.0	0.0	3.4	0.0	0.0	0.9	0.2	0.2	0.9	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	3.5	0.0	0.0	1.1	0.8	0.9	1.3	4.6	4.6
LnGrp Delay(d),s/veh	28.0	0.0	0.0	29.2	0.0	0.0	27.3	20.6	20.6	26.9	24.6	24.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		236			190			181			615	
Approach Delay, s/veh		28.0			29.2			23.0			25.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.2	19.6		17.7	11.6	20.2		15.7				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	31.3	31.3		29.9	11.0	31.3		28.5				
Max Q Clear Time (g_c+14), s	14.6	3.7		10.7	4.2	11.3		9.1				
Green Ext Time (p_c), s	0.1	0.6		1.3	0.1	3.2		1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				25.9								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
30: Road B & Parkland Ave

Existing+Approved+Project Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	470	10	70	10	30	300	140	110	10
Future Volume (veh/h)	10	10	10	470	10	70	10	30	300	140	110	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	511	11	31	11	33	17	152	120	10
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	229	0	567	730	650	191	200	168	194	153	13
Arrive On Green	0.03	0.12	0.00	0.32	0.42	0.42	0.11	0.11	0.11	0.20	0.20	0.20
Sat Flow, veh/h	1757	1845	0	1757	1752	1559	1757	1845	1550	962	759	63
Grp Volume(v), veh/h	11	11	0	511	11	31	11	33	17	282	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1559	1757	1845	1550	1784	0	0
Q Serve(g_s), s	0.5	0.4	0.0	21.5	0.3	0.9	0.4	1.3	0.8	11.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.4	0.0	21.5	0.3	0.9	0.4	1.3	0.8	11.6	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.54		0.04
Lane Grp Cap(c), veh/h	53	229	0	567	730	650	191	200	168	361	0	0
V/C Ratio(X)	0.21	0.05	0.00	0.90	0.02	0.05	0.06	0.16	0.10	0.78	0.00	0.00
Avail Cap(c_a), veh/h	272	667	0	839	1199	1066	639	671	564	645	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.7	29.9	0.0	25.1	13.3	13.4	31.0	31.3	31.1	29.3	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	9.3	0.0	0.0	0.1	0.4	0.3	3.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.0	11.8	0.1	0.4	0.2	0.7	0.3	6.1	0.0	0.0
LnGrp Delay(d),s/veh	38.6	30.0	0.0	34.4	13.3	13.5	31.1	31.7	31.4	33.0	0.0	0.0
LnGrp LOS	D	C		C	B	B	C	C	C	C		
Approach Vol, veh/h		22			553			61			282	
Approach Delay, s/veh		34.3			32.8			31.5			33.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.5	29.0	14.7		20.3	6.3	37.4				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.2	37.0	28.0		28.0	12.0	53.0				
Max Q Clear Time (g_c+1), s		3.3	23.5	2.4		13.6	2.5	2.9				
Green Ext Time (p_c), s		0.2	1.5	0.0		1.4	0.0	0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				32.8								
HCM 2010 LOS				C								



Intersection				
Intersection Delay, s/veh	4.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	0	33	76	120
Demand Flow Rate, veh/h	0	33	77	122
Vehicles Circulating, veh/h	144	55	11	22
Vehicles Exiting, veh/h	0	33	133	66
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.6	3.9	4.3
Approach LOS	-	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	0	33	77	122
Cap Entry Lane, veh/h	978	1069	1118	1105
Entry HV Adj Factor	1.000	1.000	0.986	0.982
Flow Entry, veh/h	0	33	76	120
Cap Entry, veh/h	978	1069	1102	1086
V/C Ratio	0.000	0.031	0.069	0.110
Control Delay, s/veh	3.7	3.6	3.9	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection			
Intersection Delay, s/veh	12.6		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	250	674	337
Demand Flow Rate, veh/h	258	695	348
Vehicles Circulating, veh/h	157	56	605
Vehicles Exiting, veh/h	796	359	146
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	6.6	13.0	16.4
Approach LOS	A	B	C
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	258	695	348
Cap Entry Lane, veh/h	966	1068	617
Entry HV Adj Factor	0.969	0.970	0.968
Flow Entry, veh/h	250	674	337
Cap Entry, veh/h	936	1036	597
V/C Ratio	0.267	0.651	0.564
Control Delay, s/veh	6.6	13.0	16.4
LOS	A	B	C
95th %tile Queue, veh	1	5	4

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	10	10	10	50	10	30	10	40	110	20
Future Vol, veh/h	10	10	10	10	10	50	10	30	10	40	110	20
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	11	11	11	11	54	11	33	11	43	120	22

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	320	293	141	299	299	49	147	0	0	49	0	0
Stage 1	222	222	-	66	66	-	-	-	-	-	-	-
Stage 2	98	71	-	233	233	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	631	616	904	651	611	1017	1429	-	-	1551	-	-
Stage 1	778	718	-	942	838	-	-	-	-	-	-	-
Stage 2	906	834	-	768	710	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	567	587	896	611	582	1008	1422	-	-	1544	-	-
Mov Cap-2 Maneuver	567	587	-	611	582	-	-	-	-	-	-	-
Stage 1	768	693	-	930	827	-	-	-	-	-	-	-
Stage 2	836	823	-	722	685	-	-	-	-	-	-	-

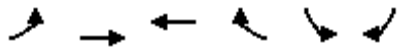
Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	9.7	1.5	1.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	655	842	1544	-	-
HCM Lane V/C Ratio	0.008	-	-	0.05	0.09	0.028	-	-
HCM Control Delay (s)	7.6	0	-	10.8	9.7	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection				
Intersection Delay, s/veh	4.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	98	142	98	152
Demand Flow Rate, veh/h	101	147	101	156
Vehicles Circulating, veh/h	179	78	89	147
Vehicles Exiting, veh/h	124	112	191	78
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	4.8	4.5	5.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	101	147	101	156
Cap Entry Lane, veh/h	945	1045	1034	975
Entry HV Adj Factor	0.971	0.969	0.968	0.975
Flow Entry, veh/h	98	142	98	152
Cap Entry, veh/h	917	1012	999	950
V/C Ratio	0.107	0.141	0.098	0.160
Control Delay, s/veh	4.9	4.8	4.5	5.3
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

HCM 2010 Signalized Intersection Summary  
35: Parkland Ave & Harry Lorenzo Ave

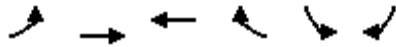
Existing+Approved+Project Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	420	420	10	30	130		
Future Volume (veh/h)	30	420	420	10	30	130		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	33	457	457	9	33	23		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	151	1864	1002	20	142	99		
Arrive On Green	0.09	0.53	0.29	0.29	0.15	0.15		
Sat Flow, veh/h	1757	3597	3607	69	969	675		
Grp Volume(v), veh/h	33	457	228	238	57	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1832	1673	0		
Q Serve(g_s), s	0.6	2.5	3.9	3.9	1.1	0.0		
Cycle Q Clear(g_c), s	0.6	2.5	3.9	3.9	1.1	0.0		
Prop In Lane	1.00			0.04	0.58	0.40		
Lane Grp Cap(c), veh/h	151	1864	500	522	246	0		
V/C Ratio(X)	0.22	0.25	0.46	0.46	0.23	0.00		
Avail Cap(c_a), veh/h	643	4876	1515	1584	1308	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	15.4	4.5	10.6	10.6	13.6	0.0		
Incr Delay (d2), s/veh	0.7	0.1	0.6	0.6	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.9	2.0	0.5	0.0		
LnGrp Delay(d),s/veh	16.1	4.6	11.2	11.2	14.1	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		490	466		57			
Approach Delay, s/veh		5.4	11.2		14.1			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.0		11.1	8.9	16.1		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		50.2		28.2	13.2	31.2		
Max Q Clear Time (g_c+I1), s		4.5		3.1	2.6	5.9		
Green Ext Time (p_c), s		3.4		0.1	0.0	2.9		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			8.6					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary  
 36: Parkland Ave & Pioneer Ave

Existing+Approved+Project Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	400	50	50	370	270	380		
Future Volume (veh/h)	400	50	50	370	270	380		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900		
Adj Flow Rate, veh/h	435	54	54	75	224	229		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	0		
Cap, veh/h	515	1053	313	263	376	346		
Arrive On Green	0.29	0.57	0.17	0.17	0.21	0.21		
Sat Flow, veh/h	1757	1845	1845	1547	1757	1615		
Grp Volume(v), veh/h	435	54	54	75	224	229		
Grp Sat Flow(s),veh/h/ln	1757	1845	1845	1547	1757	1615		
Q Serve(g_s), s	12.5	0.7	1.4	2.3	6.2	7.0		
Cycle Q Clear(g_c), s	12.5	0.7	1.4	2.3	6.2	7.0		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	515	1053	313	263	376	346		
V/C Ratio(X)	0.84	0.05	0.17	0.29	0.60	0.66		
Avail Cap(c_a), veh/h	1048	2167	868	728	814	748		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.9	5.1	19.1	19.5	19.1	19.4		
Incr Delay (d2), s/veh	3.9	0.0	0.3	0.6	1.5	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	0.4	0.7	1.0	3.1	6.3		
LnGrp Delay(d),s/veh	21.8	5.1	19.4	20.1	20.6	21.6		
LnGrp LOS	C	A	B	C	C	C		
Approach Vol, veh/h		489	129		453			
Approach Delay, s/veh		19.9	19.8		21.1			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		36.6		17.4	21.6	15.0		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		63.4		25.0	32.2	25.4		
Max Q Clear Time (g_c+I1), s		2.7		9.0	14.5	4.3		
Green Ext Time (p_c), s		0.1		2.6	1.3	0.5		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			20.4					
HCM 2010 LOS			C					
<b>Notes</b>								

User approved volume balancing among the lanes for turning movement.

Intersection			
Intersection Delay, s/veh	10.3		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	348	206	598
Demand Flow Rate, veh/h	355	210	610
Vehicles Circulating, veh/h	111	155	166
Vehicles Exiting, veh/h	665	311	199
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.3	5.9	13.5
Approach LOS	A	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	355	210	610
Cap Entry Lane, veh/h	1011	968	957
Entry HV Adj Factor	0.981	0.980	0.980
Flow Entry, veh/h	348	206	598
Cap Entry, veh/h	992	948	938
V/C Ratio	0.351	0.217	0.637
Control Delay, s/veh	7.3	5.9	13.5
LOS	A	A	B
95th %tile Queue, veh	2	1	5



HCM 2010 Signalized Intersection Summary  
 1: East St & Main St/E Main St

Existing Plus Approved Plus Project Conditions

Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	580	120	130	510	360	120	330	100	290	430	80
Future Volume (veh/h)	70	580	120	130	510	360	120	330	100	290	430	80
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	630	47	141	554	296	130	359	83	315	467	75
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	922	405	179	680	363	166	502	115	369	887	142
Arrive On Green	0.05	0.26	0.26	0.10	0.31	0.31	0.09	0.18	0.18	0.21	0.29	0.29
Sat Flow, veh/h	1757	3505	1540	1757	2191	1169	1757	2827	645	1757	3026	483
Grp Volume(v), veh/h	76	630	47	141	443	407	130	221	221	315	269	273
Grp Sat Flow(s),veh/h/ln	1757	1752	1540	1757	1752	1608	1757	1752	1720	1757	1752	1757
Q Serve(g_s), s	2.5	9.3	1.3	4.5	13.4	13.4	4.2	6.8	7.0	9.9	7.4	7.5
Cycle Q Clear(g_c), s	2.5	9.3	1.3	4.5	13.4	13.4	4.2	6.8	7.0	9.9	7.4	7.5
Prop In Lane	1.00		1.00	1.00		0.73	1.00		0.38	1.00		0.28
Lane Grp Cap(c), veh/h	96	922	405	179	544	499	166	311	306	369	514	515
V/C Ratio(X)	0.79	0.68	0.12	0.79	0.81	0.82	0.78	0.71	0.72	0.85	0.52	0.53
Avail Cap(c_a), veh/h	612	2441	1072	612	1221	1120	734	1221	1198	734	1221	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	19.0	16.1	25.2	18.3	18.3	25.4	22.2	22.3	21.8	16.9	17.0
Incr Delay (d2), s/veh	5.3	0.3	0.0	2.9	1.1	1.3	3.1	1.1	1.2	2.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.5	0.6	2.3	6.6	6.1	2.2	3.3	3.4	5.0	3.6	3.6
LnGrp Delay(d),s/veh	32.2	19.3	16.1	28.1	19.4	19.6	28.5	23.3	23.5	24.0	17.3	17.3
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	B	B
Approach Vol, veh/h		753			991			572			857	
Approach Delay, s/veh		20.4			20.7			24.6			19.8	
Approach LOS		C			C			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	21.9	8.4	20.9	8.9	19.2	15.1	14.3				
Change Period (Y+Rc), s	3.0	4.1	3.0	4.1	3.0	4.1	3.0	4.1				
Max Green Setting (Gmax), s	20.0	40.0	24.0	40.0	20.0	40.0	24.0	40.0				
Max Q Clear Time (g_c+I1), s	4.5	15.4	6.2	9.5	6.5	11.3	11.9	9.0				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.5	0.0	2.2	0.2	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

**Intersection 2**                      **Industrial Way-SR 113 SB Off-Ramp/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	39	96.3%	58.7	26.3	E
	Through	10	9	86.0%	67.9	54.9	E
	Right Turn	50	47	93.6%	50.2	32.1	D
	Subtotal	100	94	93.9%	55.0	30.0	E
SB	Left Turn	70	71	101.4%	85.6	51.1	F
	Through	80	78	97.6%	90.7	53.3	F
	Right Turn	30	28	94.0%	76.7	57.9	E
	Subtotal	180	177	98.5%	86.4	53.0	F
EB	Left Turn	30	24	79.3%	58.9	16.5	E
	Through	880	683	77.6%	119.0	10.5	F
	Right Turn	190	137	71.9%	136.7	16.8	F
	Subtotal	1,100	843	76.7%	120.2	10.3	F
WB	Left Turn	510	358	70.3%	242.2	15.6	F
	Through	930	747	80.3%	14.0	3.6	B
	Right Turn	80	66	81.9%	9.4	4.4	A
	Subtotal	1,520	1,171	77.0%	86.0	6.3	F
<b>Total</b>		<b>2,900</b>	<b>2,285</b>	<b>78.8%</b>	<b>97.8</b>	<b>7.0</b>	<b>F</b>

**Intersection 3**                      **SR 113 NB Ramps/Main Street**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	260	148	56.8%	784.7	61.2	F
	Through						
	Right Turn	760	365	48.0%	1046.2	78.7	F
	Subtotal	1,020	512	50.2%	979.4	77.7	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	980	771	78.7%	116.7	13.3	F
	Right Turn	30	25	84.3%	147.3	20.3	F
	Subtotal	1,010	797	78.9%	117.9	13.3	F
WB	Left Turn	50	39	77.0%	116.3	9.1	F
	Through	1,260	1,041	82.6%	76.8	3.5	E
	Right Turn						
	Subtotal	1,310	1,079	82.4%	78.3	3.3	E
<b>Total</b>		<b>3,340</b>	<b>2,388</b>	<b>71.5%</b>	<b>283.9</b>	<b>14.2</b>	<b>F</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
PM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	223	101.3%	50.7	8.9	D
	Through	180	180	100.1%	31.9	5.6	C
	Right Turn	210	209	99.5%	31.1	5.8	C
	Subtotal	610	612	100.3%	38.8	5.0	D
SB	Left Turn	130	132	101.5%	47.2	8.3	D
	Through	310	307	99.1%	41.2	7.6	D
	Right Turn	80	80	99.5%	41.7	21.8	D
	Subtotal	520	519	99.8%	43.3	7.9	D
EB	Left Turn	80	55	68.8%	65.1	7.2	E
	Through	1,410	921	65.3%	60.9	7.6	E
	Right Turn	230	139	60.6%	68.3	7.5	E
	Subtotal	1,720	1,115	64.8%	62.0	7.1	E
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	410	302	73.6%	101.5	9.9	F
	Through	1,030	812	78.8%	92.0	12.9	F
	Right Turn	110	97	88.1%	54.5	7.8	D
	Subtotal	1,550	1,211	78.1%	91.4	12.1	F
Total		4,400	3,456	78.5%	78.4	9.2	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
PM Peak Hour

Intersection 5                      Interstate-5 NB Off-Ramp/Main Street                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	830	642	77.3%	577.8	81.6	F
	Through						
	Right Turn	20	20	99.0%	469.8	92.2	F
	Subtotal	850	661	77.8%	575.0	82.4	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	443	77.7%	15.4	1.7	B
	Right Turn						
	Subtotal	570	443	77.7%	15.4	1.7	B
WB	Left Turn						
	Through	730	593	81.3%	330.4	42.8	F
	Right Turn						
	Subtotal	730	593	81.3%	330.4	42.8	F
Total		2,150	1,698	79.0%	335.3	34.3	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions  
PM Peak Hour

Intersection 6 CR 102/Hays Lane-I-5 NB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	70	66	94.4%	46.4	8.3	D
	Through	500	492	98.3%	18.8	2.1	B
	Right Turn	180	179	99.4%	3.8	0.5	A
	Subtotal	750	737	98.2%	17.8	1.8	B
SB	Left Turn						
	Through	800	813	101.6%	30.4	3.5	C
	Right Turn	10	12	117.0%	16.2	8.1	B
	Subtotal	810	824	101.8%	30.2	3.4	C
EB	Left Turn	40	42	105.5%	37.0	5.7	D
	Through						
	Right Turn	110	117	106.0%	34.2	8.3	C
	Subtotal	150	159	105.9%	34.8	6.7	C
WB	Left Turn	730	738	101.1%	35.9	6.1	D
	Through	30	28	92.7%	44.8	11.0	D
	Right Turn	160	159	99.3%	25.7	6.6	C
	Subtotal	920	925	100.5%	34.5	6.2	C
Total		2,630	2,645	100.6%	28.5	3.9	C

Intersection 7 CR 102/I-5 SB Ramps Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn						
	Through	690	679	98.3%	4.8	0.8	A
	Right Turn	840	843	100.4%	7.7	0.9	A
	Subtotal	1,530	1,522	99.5%	6.4	0.6	A
SB	Left Turn						
	Through	1,340	1,363	101.7%	10.9	1.1	B
	Right Turn	160	159	99.6%	9.0	1.1	A
	Subtotal	1,500	1,522	101.5%	10.7	1.1	B
EB	Left Turn	60	60	99.5%	10.6	3.5	B
	Through						
	Right Turn	210	206	98.0%	8.7	1.1	A
	Subtotal	270	266	98.4%	9.1	1.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3,300	3,309	100.3%	8.6	0.6	A

HCM 2010 Signalized Intersection Summary  
8: East St & Gibson Rd/E Gibson Rd

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	770	140	90	710	190	150	240	90	200	260	200
Future Volume (veh/h)	80	770	140	90	710	190	150	240	90	200	260	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	96	928	158	108	855	143	181	289	73	241	313	111
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	1078	183	207	1280	562	228	441	109	261	454	158
Arrive On Green	0.11	0.36	0.36	0.12	0.37	0.37	0.13	0.16	0.15	0.15	0.18	0.17
Sat Flow, veh/h	1757	2987	508	1757	3505	1540	1757	2774	688	1757	2551	888
Grp Volume(v), veh/h	96	544	542	108	855	143	181	181	181	241	213	211
Grp Sat Flow(s),veh/h/ln	1757	1752	1742	1757	1752	1540	1757	1752	1709	1757	1752	1686
Q Serve(g_s), s	3.8	21.6	21.6	4.3	15.4	4.9	7.5	7.2	7.5	10.1	8.5	8.8
Cycle Q Clear(g_c), s	3.8	21.6	21.6	4.3	15.4	4.9	7.5	7.2	7.5	10.1	8.5	8.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.40	1.00		0.53
Lane Grp Cap(c), veh/h	199	632	629	207	1280	562	228	279	272	261	312	300
V/C Ratio(X)	0.48	0.86	0.86	0.52	0.67	0.25	0.79	0.65	0.67	0.92	0.68	0.70
Avail Cap(c_a), veh/h	633	937	932	445	1875	824	445	956	932	633	956	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	22.2	22.2	31.1	20.0	16.7	31.6	29.6	29.8	31.5	28.8	29.2
Incr Delay (d2), s/veh	0.7	3.8	3.9	0.8	0.2	0.1	2.3	0.9	1.1	5.6	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	11.1	11.1	2.1	7.4	2.1	3.8	3.6	3.6	5.3	4.2	4.2
LnGrp Delay(d),s/veh	31.8	26.0	26.1	31.8	20.2	16.7	34.0	30.5	30.9	37.1	29.8	30.3
LnGrp LOS	C	C	C	C	C	B	C	C	C	D	C	C
Approach Vol, veh/h		1182			1106			543			665	
Approach Delay, s/veh		26.5			20.9			31.8			32.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	15.9	12.8	31.0	13.7	17.3	12.5	31.4				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	40.0	40.0	20.0	40.0	20.0	40.0	28.0	40.0				
Max Q Clear Time (g_c+1/2), s	9.5	9.5	6.3	23.6	9.5	10.8	5.8	17.4				
Green Ext Time (p_c), s	0.1	1.3	0.0	3.3	0.1	1.6	0.1	3.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				26.7								
HCM 2010 LOS				C								

**SimTraffic Post-Processor**  
**Average Results from 10 Runs**  
**Volume and Delay by Movement**

**Woodland Tech Park TIS**  
**Existing Plus Approved Plus Project (2030) Conditions**  
**PM Peak Hour**

**Intersection 9 Matmor Rd/E Gibson Rd-I-5 NB Ramps Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	51	101.2%	32.8	3.4	C
	Through	60	59	98.2%	34.5	5.9	C
	Right Turn	140	139	99.6%	19.6	4.3	B
	Subtotal	250	249	99.6%	25.6	3.1	C
SB	Left Turn	160	159	99.3%	49.6	4.8	D
	Through	40	39	96.3%	40.9	8.5	D
	Right Turn	120	117	97.8%	34.8	4.7	C
	Subtotal	320	315	98.4%	42.9	2.9	D
EB	Left Turn	170	172	101.3%	43.3	3.2	D
	Through	940	933	99.2%	31.4	3.9	C
	Right Turn	80	77	96.6%	27.8	4.2	C
	Subtotal	1,190	1,182	99.3%	32.8	3.4	C
WB	Left Turn	250	252	100.7%	51.9	6.2	D
	Through	1,020	1,015	99.5%	30.3	4.1	C
	Right Turn	290	294	101.3%	11.6	0.9	B
	Subtotal	1,560	1,560	100.0%	30.3	3.5	C
Total		3,320	3,306	99.6%	31.9	2.8	C

**Intersection 10 SR 113 SB Ramps/E Gibson Rd Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	210	212	100.7%	18.5	1.6	B
	Through						
	Right Turn	280	280	99.9%	1.0	0.2	A
	Subtotal	490	491	100.2%	8.5	1.0	A
EB	Left Turn						
	Through	1,100	1,089	99.0%	17.2	2.6	B
	Right Turn	140	143	101.9%	9.3	1.9	A
	Subtotal	1,240	1,232	99.3%	16.2	2.5	B
WB	Left Turn						
	Through	1,280	1,285	100.4%	11.4	2.3	B
	Right Turn	270	279	103.4%	6.8	0.6	A
	Subtotal	1,550	1,564	100.9%	10.6	2.0	B
Total		3,280	3,287	100.2%	12.4	1.1	B

**Intersection 11**                      **SR 113 NB Ramps/E Gibson Rd**                      **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	370	371	100.2%	40.2	28.3	D
	Through						
	Right Turn	690	697	101.0%	39.2	44.5	D
	Subtotal	1,060	1,068	100.7%	39.7	38.7	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,140	1,129	99.0%	12.4	1.2	B
	Right Turn	170	173	101.9%	7.0	0.8	A
	Subtotal	1,310	1,302	99.4%	11.7	1.1	B
WB	Left Turn						
	Through	1,180	1,194	101.2%	16.0	1.7	B
	Right Turn	120	120	99.6%	11.2	1.0	B
	Subtotal	1,300	1,313	101.0%	15.6	1.6	B
<b>Total</b>		<b>3,670</b>	<b>3,683</b>	<b>100.4%</b>	<b>21.4</b>	<b>11.4</b>	<b>C</b>

**Intersection 12**                      **Bourn Dr-Harry Lorenzo Ave/E Gibson Rd**                      **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	10	10	100.0%	8.3	5.2	A
	Subtotal	10	10	100.0%	8.3	5.2	A
SB	Left Turn						
	Through						
	Right Turn	90	93	103.3%	14.6	3.9	B
	Subtotal	90	93	103.3%	14.6	3.9	B
EB	Left Turn						
	Through	1,590	1,592	100.1%	19.5	3.1	C
	Right Turn	240	237	98.8%	19.4	4.3	C
	Subtotal	1,830	1,829	99.9%	19.5	3.0	C
WB	Left Turn						
	Through	1,210	1,220	100.8%	8.2	0.9	A
	Right Turn	90	88	97.2%	8.2	1.2	A
	Subtotal	1,300	1,307	100.6%	8.2	0.9	A
<b>Total</b>		<b>3,230</b>	<b>3,239</b>	<b>100.3%</b>	<b>14.7</b>	<b>1.4</b>	<b>B</b>



SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Plus Project (2030) Conditions  
PM Peak Hour

Intersection 13 Pioneer Ave/E Gibson Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	350	348	99.5%	48.8	3.0	D
	Through	290	288	99.4%	32.7	3.8	C
	Right Turn	430	423	98.5%	28.6	2.4	C
	Subtotal	1,070	1,060	99.1%	36.5	1.4	D
SB	Left Turn	60	59	97.8%	51.1	12.5	D
	Through	450	452	100.4%	36.4	3.1	D
	Right Turn	210	218	103.6%	16.0	3.7	B
	Subtotal	720	728	101.1%	31.6	2.3	C
EB	Left Turn	370	373	100.9%	65.5	6.8	E
	Through	850	849	99.9%	76.2	17.5	E
	Right Turn	380	380	100.0%	49.0	14.9	D
	Subtotal	1,600	1,602	100.1%	67.2	14.1	E
WB	Left Turn	560	546	97.4%	83.2	39.3	F
	Through	740	749	101.1%	39.7	4.8	D
	Right Turn	50	51	102.6%	33.3	8.4	C
	Subtotal	1,350	1,345	99.7%	57.7	18.8	E
Total		4,740	4,735	99.9%	52.5	5.8	D

HCM Signalized Intersection Capacity Analysis  
 14: CR 102 & E. Gibson Rd/CR 24

Existing + Approved + Project Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔		↔		↔	↔		↔	↔	↔
Traffic Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Future Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	1827	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	1037	12	110	12	12	12	159	622	0	12	756	695
RTOR Reduction (vph)	0	0	78	0	11	0	0	0	0	0	0	269
Lane Group Flow (vph)	529	520	32	0	25	0	159	622	0	12	756	426
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	30.3	30.3	30.3		6.7		14.5	52.2		2.2	32.9	32.9
Effective Green, g (s)	31.5	31.5	31.5		6.4		13.5	53.4		1.2	34.1	34.1
Actuated g/C Ratio	0.29	0.29	0.29		0.06		0.12	0.49		0.01	0.31	0.31
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	478	480	450		101		216	1708		19	574	481
v/s Ratio Prot	c0.32	0.31			c0.01		c0.09	c0.18		0.01	c0.41	
v/s Ratio Perm			0.02									0.28
v/c Ratio	1.11	1.08	0.07		0.24		0.74	0.36		0.63	1.32	0.89
Uniform Delay, d1	38.5	38.5	27.9		48.7		45.8	17.0		53.4	37.2	35.4
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	73.5	65.4	0.0		0.5		10.7	0.0		40.9	154.7	17.1
Delay (s)	112.0	103.9	27.9		49.2		56.4	17.1		94.3	191.9	52.5
Level of Service	F	F	C		D		E	B		F	F	D
Approach Delay (s)		100.4			49.2			25.1			124.9	
Approach LOS		F			D			C			F	

Intersection Summary		
HCM 2000 Control Delay	93.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.04	F
Actuated Cycle Length (s)	108.5	Sum of lost time (s)
Intersection Capacity Utilization	85.8%	18.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM 2010 Signalized Intersection Summary  
 15: East St & CR 24A/Sports Park Dr

Existing + Approved + Project Conditions  
 Timing Plan: PM Peak Hour




















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	50	60	20	30	40	100	300	60	30	310	50
Future Volume (veh/h)	20	50	60	20	30	40	100	300	60	30	310	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	54	35	22	33	13	109	326	60	33	337	49
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	100	65	42	62	25	175	556	102	64	462	67
Arrive On Green	0.12	0.12	0.11	0.07	0.07	0.08	0.10	0.36	0.32	0.04	0.29	0.26
Sat Flow, veh/h	346	850	551	574	861	339	1774	1531	282	1774	1591	231
Grp Volume(v), veh/h	111	0	0	68	0	0	109	0	386	33	0	386
Grp Sat Flow(s),veh/h/ln1748	0	0	1774	0	0	1774	0	1813	1774	0	1822	
Q Serve(g_s), s	2.3	0.0	0.0	1.4	0.0	0.0	2.3	0.0	6.8	0.7	0.0	7.5
Cycle Q Clear(g_c), s	2.3	0.0	0.0	1.4	0.0	0.0	2.3	0.0	6.8	0.7	0.0	7.5
Prop In Lane	0.20		0.32	0.32		0.19	1.00		0.16	1.00		0.13
Lane Grp Cap(c), veh/h	206	0	0	129	0	0	175	0	659	64	0	529
V/C Ratio(X)	0.54	0.00	0.00	0.53	0.00	0.00	0.62	0.00	0.59	0.52	0.00	0.73
Avail Cap(c_a), veh/h	1139	0	0	1124	0	0	864	0	1469	864	0	1458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	0.0	17.4	0.0	0.0	16.9	0.0	10.2	18.5	0.0	12.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.2	0.0	0.0	1.3	0.0	0.3	2.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.2	0.0	0.0	0.0	0.7	0.0	0.0	1.2	0.0	3.4	0.4	0.0	3.8
LnGrp Delay(d),s/veh	17.1	0.0	0.0	18.7	0.0	0.0	18.2	0.0	10.5	20.8	0.0	13.3
LnGrp LOS	B			B			B		B	C		B
Approach Vol, veh/h		111			68			495			419	
Approach Delay, s/veh		17.1			18.7			12.2			13.9	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.6	7.9	15.7		6.8	5.4	18.2				
Change Period (Y+Rc), s		4.4	3.0	* 5.6		3.7	3.0	5.6				
Max Green Setting (Gmax), s		25.0	20.0	* 30		25.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s		4.3	4.3	9.5		3.4	2.7	8.8				
Green Ext Time (p_c), s		0.2	0.0	0.8		0.1	0.0	0.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.7								
HCM 2010 LOS				B								
<b>Notes</b>												

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 16: Parkland Ave/Pioneer Ave & Farmers Central Rd

Existing + Approved + Project Conditions  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	30	10	10	30	170	10	720	10	230	840	40
Future Volume (veh/h)	30	30	10	10	30	170	10	720	10	230	840	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1845	1845	1900	1900	1845	1900	1900	1845	1900
Adj Flow Rate, veh/h	33	33	7	11	33	28	11	783	11	250	913	42
Adj No. of Lanes	0	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	98	87	15	201	105	89	37	1417	20	245	788	36
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.80	0.80	0.80	0.80	0.80	0.80
Sat Flow, veh/h	490	762	133	1319	913	775	10	1775	25	263	987	45
Grp Volume(v), veh/h	73	0	0	11	0	61	805	0	0	1205	0	0
Grp Sat Flow(s),veh/h/ln	1384	0	0	1319	0	1688	1809	0	0	1296	0	0
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	80.4	0.0	0.0
Cycle Q Clear(g_c), s	7.0	0.0	0.0	1.0	0.0	4.2	19.7	0.0	0.0	100.1	0.0	0.0
Prop In Lane	0.45		0.10	1.00		0.46	0.01		0.01	0.21		0.03
Lane Grp Cap(c), veh/h	201	0	0	201	0	194	1473	0	0	1069	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.05	0.00	0.31	0.55	0.00	0.00	1.13	0.00	0.00
Avail Cap(c_a), veh/h	378	0	0	355	0	390	1473	0	0	1069	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.1	0.0	0.0	49.6	0.0	51.0	4.5	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.1	0.0	0.9	0.4	0.0	0.0	69.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	0.3	0.0	2.0	10.0	0.0	0.0	57.5	0.0	0.0
LnGrp Delay(d),s/veh	53.2	0.0	0.0	49.7	0.0	51.9	5.0	0.0	0.0	85.4	0.0	0.0
LnGrp LOS	D			D		D	A			F		
Approach Vol, veh/h		73			72			805			1205	
Approach Delay, s/veh		53.2			51.6			5.0			85.4	
Approach LOS		D			D			A			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		105.9		19.5		105.9		19.5				
Change Period (Y+Rc), s		5.8		5.1		5.8		5.1				
Max Green Setting (Gmax), s		100.1		29.0		100.1		29.0				
Max Q Clear Time (g_c+I1), s		21.7		9.0		102.1		6.2				
Green Ext Time (p_c), s		7.0		0.3		0.0		0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				53.1								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary  
 17: Parkland Ave & E. Heritage Pkwy

Existing + Approved + Project Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑		↔	↑	↔	↔	↑		↔	↑	↔
Traffic Volume (veh/h)	110	30	50	90	30	30	90	210	90	30	260	110
Future Volume (veh/h)	110	30	50	90	30	30	90	210	90	30	260	110
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	149	41	0	122	41	0	122	284	107	41	351	19
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	2	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	375	134	0	348	132	112	318	418	158	296	433	360
Arrive On Green	0.21	0.07	0.00	0.19	0.07	0.00	0.18	0.32	0.32	0.08	0.23	0.23
Sat Flow, veh/h	1810	1900	0	1810	1900	1615	1810	1309	493	3510	1900	1580
Grp Volume(v), veh/h	149	41	0	122	41	0	122	0	391	41	351	19
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1810	1900	1615	1810	0	1803	1755	1900	1580
Q Serve(g_s), s	3.6	1.0	0.0	2.9	1.0	0.0	3.0	0.0	9.4	0.5	8.8	0.5
Cycle Q Clear(g_c), s	3.6	1.0	0.0	2.9	1.0	0.0	3.0	0.0	9.4	0.5	8.8	0.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	375	134	0	348	132	112	318	0	576	296	433	360
V/C Ratio(X)	0.40	0.31	0.00	0.35	0.31	0.00	0.38	0.00	0.68	0.14	0.81	0.05
Avail Cap(c_a), veh/h	687	938	0	687	965	820	687	0	905	1333	953	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	22.1	0.0	17.5	22.1	0.0	18.2	0.0	14.8	21.2	18.3	15.1
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.2	0.5	0.0	0.3	0.0	0.5	0.1	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.6	0.0	1.5	0.6	0.0	1.5	0.0	4.8	0.3	4.8	0.2
LnGrp Delay(d),s/veh	17.4	22.6	0.0	17.7	22.6	0.0	18.5	0.0	15.3	21.3	19.7	15.1
LnGrp LOS	B	C		B	C		B		B	C	B	B
Approach Vol, veh/h		190			163			513			411	
Approach Delay, s/veh		18.5			19.0			16.1			19.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	8.2	12.8	15.4	14.4	7.5	8.2	20.0				
Change Period (Y+Rc), s	3.0	* 4.4	3.0	4.1	3.0	4.4	3.0	4.1				
Max Green Setting (Gmax), s	20.0	* 25	20.0	25.0	20.0	25.0	20.0	25.0				
Max Q Clear Time (g_c+14.5), s	14.5	3.0	5.0	10.8	5.6	3.0	2.5	11.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				18.0								
HCM 2010 LOS				B								
<b>Notes</b>												























User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 18: CR 102 & E. Heritage Pkwy/CR 25

Existing Plus Approved Plus Project Conditions  
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	50	0	10	20	110	430	0	10	380	190
Future Volume (veh/h)	120	10	50	0	10	20	110	430	0	10	380	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	146	12	2	0	12	0	134	524	0	12	463	77
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	324	54	5	29	0	170	750	637	17	589	489
Arrive On Green	0.11	0.21	0.21	0.00	0.02	0.00	0.10	0.41	0.00	0.01	0.32	0.32
Sat Flow, veh/h	1757	1542	257	1757	1845	0	1757	1845	1568	1757	1845	1531
Grp Volume(v), veh/h	146	0	14	0	12	0	134	524	0	12	463	77
Grp Sat Flow(s),veh/h/ln	1757	0	1799	1757	1845	0	1757	1845	1568	1757	1845	1531
Q Serve(g_s), s	2.7	0.0	0.2	0.0	0.2	0.0	2.5	7.9	0.0	0.2	7.7	1.2
Cycle Q Clear(g_c), s	2.7	0.0	0.2	0.0	0.2	0.0	2.5	7.9	0.0	0.2	7.7	1.2
Prop In Lane	1.00		0.14	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	0	378	5	29	0	170	750	637	17	589	489
V/C Ratio(X)	0.79	0.00	0.04	0.00	0.41	0.00	0.79	0.70	0.00	0.72	0.79	0.16
Avail Cap(c_a), veh/h	782	0	1334	782	1368	0	1042	1642	1395	1042	1642	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	10.6	0.0	16.4	0.0	14.9	8.3	0.0	16.7	10.4	8.2
Incr Delay (d2), s/veh	2.8	0.0	0.0	0.0	3.4	0.0	3.1	0.4	0.0	19.5	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.1	0.0	0.1	0.0	1.3	4.0	0.0	0.2	4.0	0.5
LnGrp Delay(d),s/veh	17.5	0.0	10.6	0.0	19.9	0.0	18.0	8.7	0.0	36.1	11.3	8.3
LnGrp LOS	B		B		B		B	A		D	B	A
Approach Vol, veh/h		160			12			658			552	
Approach Delay, s/veh		16.9			19.9			10.6			11.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	11.2	6.3	16.3	6.6	4.6	3.3	19.2				
Change Period (Y+Rc), s	3.0	4.1	3.0	5.5	3.0	4.1	3.0	5.5				
Max Green Setting (Gmax), s	15.0	25.0	20.0	30.0	15.0	25.0	20.0	30.0				
Max Q Clear Time (g_c+1), s	0.0	2.2	4.5	9.7	4.7	2.2	2.2	9.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			11.8									
HCM 2010 LOS			B									



Intersection				
Intersection Delay, s/veh	9.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	178	109	467	416
Demand Flow Rate, veh/h	183	112	481	429
Vehicles Circulating, veh/h	323	548	203	153
Vehicles Exiting, veh/h	259	136	303	507
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	0	5
Ped Cap Adj	0.999	0.999	1.000	0.999
Approach Delay, s/veh	6.9	7.7	10.9	9.0
Approach LOS	A	A	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	183	112	481	429
Cap Entry Lane, veh/h	818	653	922	970
Entry HV Adj Factor	0.974	0.975	0.971	0.971
Flow Entry, veh/h	178	109	467	416
Cap Entry, veh/h	796	636	895	941
V/C Ratio	0.224	0.172	0.521	0.443
Control Delay, s/veh	6.9	7.7	10.9	9.0
LOS	A	A	B	A
95th %tile Queue, veh	1	1	3	2

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
PM Peak Hour

Intersection 20

East St/County Road 25A

All-way Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	10	10	99.0%	3.4	1.6	A
	Through	10	11	110.0%	8.7	1.2	A
	Right Turn	10	10	96.0%	3.9	2.7	A
	Subtotal	30	31	101.7%	5.1	1.1	A
SB	Left Turn	290	290	100.0%	9.8	2.3	A
	Through	10	13	128.0%	11.0	2.5	B
	Right Turn	40	44	110.8%	6.5	1.9	A
	Subtotal	340	347	102.1%	9.4	2.0	A
EB	Left Turn	60	56	92.5%	8.0	1.1	A
	Through	160	156	97.4%	10.9	0.9	B
	Right Turn	10	11	109.0%	4.7	1.5	A
	Subtotal	230	222	96.7%	9.8	0.7	A
WB	Left Turn	10	7	71.0%	9.2	9.0	A
	Through	230	172	74.7%	18.5	2.0	C
	Right Turn	480	372	77.5%	13.7	1.9	B
	Subtotal	720	551	76.5%	15.3	1.9	C
Total		1,320	1,150	87.2%	12.0	1.1	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
PM Peak Hour

Intersection 21 SR 113 SB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	47	31.3%	738.1	72.9	F
	Through						
	Right Turn	40	12	29.3%	743.9	104.8	F
	Subtotal	190	59	30.9%	734.4	73.8	F
EB	Left Turn						
	Through	330	330	100.1%	4.1	0.4	A
	Right Turn	130	126	96.9%	2.6	0.4	A
	Subtotal	460	456	99.2%	3.7	0.3	A
WB	Left Turn	430	407	94.7%	20.1	8.1	C
	Through	680	537	79.0%	19.7	7.0	C
	Right Turn						
	Subtotal	1,110	944	85.1%	19.9	7.5	C
Total		1,760	1,459	82.9%	41.5	9.4	E

Intersection 22 SR 113 NB Ramps/County Road 25A Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	128	51.0%	294.4	40.0	F
	Through	10	6	59.0%	321.8	73.2	F
	Right Turn	760	369	48.6%	286.4	32.4	F
	Subtotal	1,020	503	49.3%	289.7	32.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	91.7%	14.5	8.1	B
	Through	450	351	77.9%	5.3	3.1	A
	Right Turn						
	Subtotal	480	378	78.8%	6.1	3.5	A
WB	Left Turn						
	Through	860	821	95.5%	5.6	0.7	A
	Right Turn	210	201	95.8%	3.0	0.5	A
	Subtotal	1,070	1,022	95.6%	5.1	0.6	A
Total		2,570	1,903	74.1%	79.0	2.5	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	50	47	93.4%	9.9	4.0	A
	Subtotal	50	47	93.4%	9.9	4.0	A
SB	Left Turn						
	Through						
	Right Turn	120	122	101.3%	20.8	9.6	C
	Subtotal	120	122	101.3%	20.8	9.6	C
EB	Left Turn						
	Through	1,080	638	59.1%	3.8	0.8	A
	Right Turn	130	81	61.9%	1.9	0.6	A
	Subtotal	1,210	719	59.4%	3.5	0.8	A
WB	Left Turn						
	Through	950	902	95.0%	3.1	0.3	A
	Right Turn	30	30	98.3%	1.9	0.8	A
	Subtotal	980	932	95.1%	3.0	0.3	A
Total		2,360	1,819	77.1%	4.7	0.9	A

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	98	206	33	33
Demand Flow Rate, veh/h	100	212	33	33
Vehicles Circulating, veh/h	89	33	100	212
Vehicles Exiting, veh/h	156	100	89	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.4	5.2	3.8	4.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	100	212	33	33
Cap Entry Lane, veh/h	1034	1093	1022	914
Entry HV Adj Factor	0.977	0.972	0.990	0.990
Flow Entry, veh/h	98	206	33	33
Cap Entry, veh/h	1010	1062	1012	905
V/C Ratio	0.097	0.194	0.032	0.036
Control Delay, s/veh	4.4	5.2	3.8	4.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Conditions  
PM Peak Hour

Intersection 25

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	187	98.3%	78.2	29.1	E
	Through	40	39	98.0%	46.7	15.9	D
	Right Turn	50	52	104.8%	22.5	11.4	C
	Subtotal	280	278	99.4%	63.3	22.5	E
SB	Left Turn	50	42	83.2%	105.3	31.6	F
	Through	50	52	103.8%	100.1	24.0	F
	Right Turn	510	459	90.1%	83.3	17.7	F
	Subtotal	610	553	90.6%	87.1	18.5	F
EB	Left Turn	670	410	61.1%	46.1	3.7	D
	Through	450	267	59.4%	26.7	3.1	C
	Right Turn	10	6	62.0%	17.2	16.1	B
	Subtotal	1,130	683	60.5%	38.3	3.2	D
WB	Left Turn	30	29	97.3%	61.0	25.2	E
	Through	280	285	101.8%	61.4	24.7	E
	Right Turn	30	30	101.3%	56.6	20.5	E
	Subtotal	340	345	101.4%	61.2	23.9	E
Total		2,360	1,859	78.8%	61.2	9.2	E

HCM 2010 Signalized Intersection Summary  
26: Road B & Road C

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕		↕	↕↕	
Traffic Volume (veh/h)	40	30	20	190	20	30	110	400	240	30	350	60
Future Volume (veh/h)	40	30	20	190	20	30	110	400	240	30	350	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	43	33	11	207	22	28	120	435	186	33	380	53
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	92	31	282	30	38	270	659	279	135	612	85
Arrive On Green	0.14	0.14	0.14	0.20	0.20	0.20	0.15	0.28	0.28	0.08	0.20	0.20
Sat Flow, veh/h	870	667	222	1401	149	190	1757	2394	1013	1757	3088	427
Grp Volume(v), veh/h	87	0	0	257	0	0	120	317	304	33	214	219
Grp Sat Flow(s),veh/h/ln1759	0	0	0	1739	0	0	1757	1752	1655	1757	1752	1763
Q Serve(g_s), s	2.8	0.0	0.0	8.7	0.0	0.0	3.9	10.0	10.2	1.1	7.0	7.1
Cycle Q Clear(g_c), s	2.8	0.0	0.0	8.7	0.0	0.0	3.9	10.0	10.2	1.1	7.0	7.1
Prop In Lane	0.49		0.13	0.81		0.11	1.00		0.61	1.00		0.24
Lane Grp Cap(c), veh/h	244	0	0	350	0	0	270	482	456	135	347	349
V/C Ratio(X)	0.36	0.00	0.00	0.73	0.00	0.00	0.44	0.66	0.67	0.24	0.62	0.63
Avail Cap(c_a), veh/h	789	0	0	786	0	0	421	932	880	308	820	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh 24.5	0.0	0.0	0.0	23.4	0.0	0.0	24.1	20.1	20.1	27.2	22.9	23.0
Incr Delay (d2), s/veh 0.9	0.0	0.0	0.0	3.0	0.0	0.0	1.1	1.5	1.7	0.9	1.8	1.8
Initial Q Delay(d3),s/veh 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.4	0.0	0.0	0.0	4.4	0.0	0.0	2.0	5.1	4.9	0.6	3.6	3.6
LnGrp Delay(d),s/veh 25.3	0.0	0.0	0.0	26.4	0.0	0.0	25.2	21.6	21.8	28.1	24.7	24.8
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		87			257			741			466	
Approach Delay, s/veh		25.3			26.4			22.3			25.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s8.8	22.3			13.8	13.6	17.5		17.7				
Change Period (Y+Rc), s 4.0	5.1			5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s 33.3				28.1	15.0	29.3		28.3				
Max Q Clear Time (g_c+1), s 12.2				4.8	5.9	9.1		10.7				
Green Ext Time (p_c), s 0.0	4.0			0.4	0.2	2.5		1.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				24.0								
HCM 2010 LOS				C								

**Intersection**

Int Delay, s/veh 4.6

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	40	120	240	520	370	80
Future Vol, veh/h	40	120	240	520	370	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	130	261	565	402	87

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	1489	402	489	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	1087	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	136	648	1074	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	648	1074	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	323	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s 24.9 3 0  
HCM LOS C

**Minor Lane/Major Mvmt** NBL NBT EBLn1 EBLn2 SBT SBR

Capacity (veh/h)	1074	-	103	648	-	-
HCM Lane V/C Ratio	0.243	-	0.422	0.201	-	-
HCM Control Delay (s)	9.4	-	63.4	12	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	1	-	1.8	0.7	-	-



HCM 2010 Signalized Intersection Summary  
28: Road B & Marston Dr

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	70	30	130	40	10	10	80	390	70	20	330	40
Future Volume (veh/h)	70	30	130	40	10	10	80	390	70	20	330	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	76	33	98	43	11	3	87	424	64	22	359	35
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	114	50	147	161	41	11	258	873	131	100	633	61
Arrive On Green	0.19	0.19	0.19	0.12	0.12	0.12	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	612	266	789	1328	340	93	1757	3054	458	1757	3225	312
Grp Volume(v), veh/h	207	0	0	57	0	0	87	242	246	22	194	200
Grp Sat Flow(s),veh/h/ln1667	0	0	1761	0	0	1757	1752	1759	1757	1752	1785	
Q Serve(g_s), s	6.4	0.0	0.0	1.6	0.0	0.0	2.5	6.3	6.4	0.7	5.5	5.6
Cycle Q Clear(g_c), s	6.4	0.0	0.0	1.6	0.0	0.0	2.5	6.3	6.4	0.7	5.5	5.6
Prop In Lane	0.37		0.47	0.75		0.05	1.00		0.26	1.00		0.18
Lane Grp Cap(c), veh/h	311	0	0	213	0	0	258	501	503	100	344	350
V/C Ratio(X)	0.67	0.00	0.00	0.27	0.00	0.00	0.34	0.48	0.49	0.22	0.56	0.57
Avail Cap(c_a), veh/h	903	0	0	897	0	0	382	1006	1010	350	975	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	0.0	22.0	0.0	0.0	21.1	16.3	16.4	24.8	20.1	20.1
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.7	0.0	0.0	0.8	0.7	0.7	1.1	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	0.8	0.0	0.0	1.2	3.1	3.2	0.3	2.8	2.9
LnGrp Delay(d),s/veh	23.3	0.0	0.0	22.7	0.0	0.0	21.9	17.1	17.1	25.9	21.5	21.5
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		207			57			575			416	
Approach Delay, s/veh		23.3			22.7			17.8			21.8	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	20.9		15.4	12.1	15.9		11.8				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	31.7			29.9	12.0	30.7		28.1				
Max Q Clear Time (g_c+1), s	8.4			8.4	4.5	7.6		3.6				
Green Ext Time (p_c), s	0.0	3.0		1.2	0.1	2.3		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				20.2								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
29: Road B & Road E

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↔		↕	↕↔	
Traffic Volume (veh/h)	100	10	80	30	10	70	100	360	60	120	210	120
Future Volume (veh/h)	100	10	80	30	10	70	100	360	60	120	210	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1845	1900	1900	1845	1900	1845	1845	1900	1845	1845	1900
Adj Flow Rate, veh/h	109	11	62	33	11	14	109	391	53	130	228	60
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	178	18	101	117	39	50	275	640	86	292	595	153
Arrive On Green	0.18	0.18	0.18	0.12	0.12	0.12	0.16	0.21	0.21	0.17	0.22	0.22
Sat Flow, veh/h	1010	102	575	978	326	415	1757	3100	417	1757	2754	708
Grp Volume(v), veh/h	182	0	0	58	0	0	109	220	224	130	143	145
Grp Sat Flow(s),veh/h/ln	1687	0	0	1718	0	0	1757	1752	1765	1757	1752	1710
Q Serve(g_s), s	5.8	0.0	0.0	1.8	0.0	0.0	3.2	6.6	6.7	3.9	4.1	4.2
Cycle Q Clear(g_c), s	5.8	0.0	0.0	1.8	0.0	0.0	3.2	6.6	6.7	3.9	4.1	4.2
Prop In Lane	0.60		0.34	0.57		0.24	1.00		0.24	1.00		0.41
Lane Grp Cap(c), veh/h	296	0	0	206	0	0	275	362	365	292	378	369
V/C Ratio(X)	0.61	0.00	0.00	0.28	0.00	0.00	0.40	0.61	0.61	0.45	0.38	0.39
Avail Cap(c_a), veh/h	838	0	0	830	0	0	483	835	841	483	835	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.3	0.0	0.0	22.0	20.9	21.0	21.8	19.5	19.5
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.7	0.0	0.0	0.9	1.6	1.7	1.1	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.9	0.0	0.0	1.6	3.3	3.4	2.0	2.0	2.0
LnGrp Delay(d),s/veh	24.2	0.0	0.0	24.1	0.0	0.0	23.0	22.6	22.7	22.9	20.1	20.2
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		182			58			553			418	
Approach Delay, s/veh		24.2			24.1			22.7			21.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	17.1		15.3	13.1	17.7		12.1				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	10.0	27.7		28.9	16.0	27.7		28.1				
Max Q Clear Time (g_c+1/3), s	11.9	8.7		7.8	5.2	6.2		3.8				
Green Ext Time (p_c), s	0.2	2.5		1.0	0.2	1.6		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.4								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
30: Road B & Parkland Ave

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	390	10	130	10	90	430	90	50	10
Future Volume (veh/h)	10	10	10	390	10	130	10	90	430	90	50	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1845	1845	1845	1900	1845	1900
Adj Flow Rate, veh/h	11	11	0	424	11	50	11	98	45	98	54	9
Adj No. of Lanes	1	1	0	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	53	265	0	482	680	604	267	280	236	165	91	15
Arrive On Green	0.03	0.14	0.00	0.27	0.39	0.39	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1757	1845	0	1757	1752	1558	1757	1845	1552	1078	594	99
Grp Volume(v), veh/h	11	11	0	424	11	50	11	98	45	161	0	0
Grp Sat Flow(s),veh/h/ln	1757	1845	0	1757	1752	1558	1757	1845	1552	1771	0	0
Q Serve(g_s), s	0.4	0.3	0.0	15.7	0.3	1.4	0.4	3.2	1.7	5.8	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.3	0.0	15.7	0.3	1.4	0.4	3.2	1.7	5.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.61		0.06
Lane Grp Cap(c), veh/h	53	265	0	482	680	604	267	280	236	271	0	0
V/C Ratio(X)	0.21	0.04	0.00	0.88	0.02	0.08	0.04	0.35	0.19	0.59	0.00	0.00
Avail Cap(c_a), veh/h	285	761	0	698	1135	1009	729	766	645	730	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.1	25.1	0.0	23.6	12.8	13.1	24.6	25.8	25.1	26.8	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.1	0.0	8.9	0.0	0.1	0.1	0.7	0.4	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.0	8.7	0.1	0.6	0.2	1.7	0.8	3.0	0.0	0.0
LnGrp Delay(d),s/veh	34.0	25.1	0.0	32.5	12.8	13.2	24.6	26.5	25.5	28.9	0.0	0.0
LnGrp LOS	C	C		C	B	B	C	C	C	C		
Approach Vol, veh/h		22			485			154			161	
Approach Delay, s/veh		29.6			30.1			26.1			28.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.4	22.7	14.9		15.0	6.1	31.4				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.2	27.0	28.0		28.0	11.0	44.0				
Max Q Clear Time (g_c+I1), s		5.2	17.7	2.3		7.8	2.4	3.4				
Green Ext Time (p_c), s		0.6	1.0	0.0		0.8	0.0	0.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				29.1								
HCM 2010 LOS				C								

Intersection				
Intersection Delay, s/veh	4.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	0	22	65	142
Demand Flow Rate, veh/h	0	22	66	144
Vehicles Circulating, veh/h	155	44	22	11
Vehicles Exiting, veh/h	0	44	133	55
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	0.0	3.5	3.8	4.4
Approach LOS	-	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	0	22	66	144
Cap Entry Lane, veh/h	968	1081	1105	1118
Entry HV Adj Factor	1.000	1.000	0.987	0.983
Flow Entry, veh/h	0	22	65	142
Cap Entry, veh/h	968	1081	1091	1099
V/C Ratio	0.000	0.020	0.060	0.129
Control Delay, s/veh	3.7	3.5	3.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection			
Intersection Delay, s/veh	10.4		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	598	424	196
Demand Flow Rate, veh/h	616	436	202
Vehicles Circulating, veh/h	112	157	291
Vehicles Exiting, veh/h	381	571	302
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	12.3	9.2	7.0
Approach LOS	B	A	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	616	436	202
Cap Entry Lane, veh/h	1010	966	845
Entry HV Adj Factor	0.970	0.971	0.970
Flow Entry, veh/h	598	424	196
Cap Entry, veh/h	979	937	819
V/C Ratio	0.610	0.452	0.239
Control Delay, s/veh	12.3	9.2	7.0
LOS	B	A	A
95th %tile Queue, veh	4	2	1

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	10	10	10	10	40	10	100	10	60	50	10
Future Vol, veh/h	20	10	10	10	10	40	10	100	10	60	50	10
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	11	11	11	11	43	11	109	11	65	54	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	364	342	70	348	342	125	70	0	0	125	0	0
Stage 1	195	195	-	142	142	-	-	-	-	-	-	-
Stage 2	169	147	-	206	200	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	590	579	990	605	579	923	1524	-	-	1455	-	-
Stage 1	804	737	-	859	777	-	-	-	-	-	-	-
Stage 2	831	774	-	794	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	526	542	981	560	542	915	1517	-	-	1448	-	-
Mov Cap-2 Maneuver	526	542	-	560	542	-	-	-	-	-	-	-
Stage 1	794	699	-	848	767	-	-	-	-	-	-	-
Stage 2	771	764	-	734	696	-	-	-	-	-	-	-

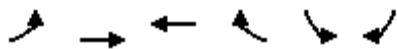
Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		10.3		0.6		3.8	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	600	750	1448	-	-
HCM Lane V/C Ratio	0.007	-	-	0.072	0.087	0.045	-	-
HCM Control Delay (s)	7.4	0	-	11.5	10.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection				
Intersection Delay, s/veh	5.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	120	141	174	76
Demand Flow Rate, veh/h	124	145	179	78
Vehicles Circulating, veh/h	123	158	112	157
Vehicles Exiting, veh/h	112	133	135	146
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	5.3	5.4	4.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	124	145	179	78
Cap Entry Lane, veh/h	999	965	1010	966
Entry HV Adj Factor	0.966	0.971	0.971	0.979
Flow Entry, veh/h	120	141	174	76
Cap Entry, veh/h	964	936	980	945
V/C Ratio	0.124	0.150	0.177	0.081
Control Delay, s/veh	4.9	5.3	5.4	4.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	0

HCM 2010 Signalized Intersection Summary  
35: Parkland Ave & Harry Lorenzo Ave

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour

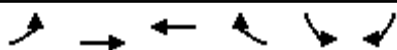


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	470	420	20	10	110		
Future Volume (veh/h)	60	470	420	20	10	110		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1900	1845	1900		
Adj Flow Rate, veh/h	65	511	457	18	11	16		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	0	0		
Cap, veh/h	256	2067	976	38	58	85		
Arrive On Green	0.15	0.59	0.28	0.28	0.09	0.09		
Sat Flow, veh/h	1757	3597	3529	135	645	938		
Grp Volume(v), veh/h	65	511	233	242	28	0		
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1819	1641	0		
Q Serve(g_s), s	1.2	2.5	4.0	4.0	0.6	0.0		
Cycle Q Clear(g_c), s	1.2	2.5	4.0	4.0	0.6	0.0		
Prop In Lane	1.00			0.07	0.39	0.57		
Lane Grp Cap(c), veh/h	256	2067	498	517	148	0		
V/C Ratio(X)	0.25	0.25	0.47	0.47	0.19	0.00		
Avail Cap(c_a), veh/h	640	4854	1508	1566	1277	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	13.7	3.6	10.7	10.7	15.3	0.0		
Incr Delay (d2), s/veh	0.5	0.1	0.7	0.7	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	1.2	2.0	2.0	0.3	0.0		
LnGrp Delay(d),s/veh	14.3	3.6	11.4	11.4	15.9	0.0		
LnGrp LOS	B	A	B	B	B			
Approach Vol, veh/h		576	475		28			
Approach Delay, s/veh		4.8	11.4		15.9			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.2		9.1	11.1	16.1		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		50.2		28.2	13.2	31.2		
Max Q Clear Time (g_c+I1), s		4.5		2.6	3.2	6.0		
Green Ext Time (p_c), s		3.9		0.0	0.1	2.9		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			8.0					
HCM 2010 LOS			A					



HCM 2010 Signalized Intersection Summary  
36: Parkland Ave & Pioneer Ave

Existing + Approved + Project Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	430	50	40	290	330	400		
Future Volume (veh/h)	430	50	40	290	330	400		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1900		
Adj Flow Rate, veh/h	467	54	43	30	280	285		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	3	3	3	3	3	0		
Cap, veh/h	544	1005	246	206	440	405		
Arrive On Green	0.31	0.54	0.13	0.13	0.25	0.25		
Sat Flow, veh/h	1757	1845	1845	1546	1757	1615		
Grp Volume(v), veh/h	467	54	43	30	280	285		
Grp Sat Flow(s),veh/h/ln	1757	1845	1845	1546	1757	1615		
Q Serve(g_s), s	14.2	0.8	1.2	1.0	8.1	9.1		
Cycle Q Clear(g_c), s	14.2	0.8	1.2	1.0	8.1	9.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	544	1005	246	206	440	405		
V/C Ratio(X)	0.86	0.05	0.18	0.15	0.64	0.70		
Avail Cap(c_a), veh/h	997	2062	826	692	774	712		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	6.1	21.8	21.7	18.9	19.3		
Incr Delay (d2), s/veh	4.1	0.0	0.3	0.3	1.5	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.5	0.4	0.6	0.4	4.1	8.1		
LnGrp Delay(d),s/veh	22.5	6.1	22.2	22.1	20.5	21.6		
LnGrp LOS	C	A	C	C	C	C		
Approach Vol, veh/h		521	73		565			
Approach Delay, s/veh		20.8	22.1		21.0			
Approach LOS		C	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		36.7		20.0	23.4	13.3		
Change Period (Y+Rc), s		5.8		5.8	5.8	5.8		
Max Green Setting (Gmax), s		63.4		25.0	32.2	25.4		
Max Q Clear Time (g_c+I1), s		2.8		11.1	16.2	3.2		
Green Ext Time (p_c), s		0.1		3.1	1.4	0.2		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			21.0					
HCM 2010 LOS			C					
<b>Notes</b>								

User approved volume balancing among the lanes for turning movement.

Intersection			
Intersection Delay, s/veh	9.7		
Intersection LOS	A		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	587	304	271
Demand Flow Rate, veh/h	598	310	277
Vehicles Circulating, veh/h	44	421	221
Vehicles Exiting, veh/h	454	221	510
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.3	10.6	7.4
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	598	310	277
Cap Entry Lane, veh/h	1081	742	906
Entry HV Adj Factor	0.981	0.980	0.978
Flow Entry, veh/h	587	304	271
Cap Entry, veh/h	1061	727	886
V/C Ratio	0.553	0.418	0.306
Control Delay, s/veh	10.3	10.6	7.4
LOS	B	B	A
95th %tile Queue, veh	4	2	1

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions (Mitigated)  
AM Peak Hour

Intersection 2 Industrial Way-SR 113 SB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	60	62	103.2%	50.9	12.2	D
	Through	20	18	89.0%	48.4	12.5	D
	Right Turn	50	52	103.2%	30.9	10.0	C
	Subtotal	130	131	101.0%	42.5	9.8	D
SB	Left Turn	70	66	94.9%	37.9	8.0	D
	Through	90	94	103.9%	40.8	6.6	D
	Right Turn	20	24	117.5%	31.7	11.1	C
	Subtotal	180	183	101.9%	38.7	6.2	D
EB	Left Turn	30	30	100.3%	61.7	17.0	E
	Through	530	534	100.8%	66.2	23.1	E
	Right Turn	190	192	101.2%	67.9	30.7	E
	Subtotal	750	757	100.9%	66.6	24.1	E
WB	Left Turn	660	580	87.9%	59.4	19.1	E
	Through	1,080	1,001	92.7%	15.2	3.0	B
	Right Turn	120	113	94.3%	14.4	3.9	B
	Subtotal	1,860	1,695	91.1%	29.9	6.5	C
Total		2,920	2,766	94.7%	41.5	7.2	D

Intersection 3 SR 113 NB Ramps/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	290	291	100.4%	37.7	6.7	D
	Through						
	Right Turn	750	742	99.0%	58.1	30.7	E
	Subtotal	1,040	1,034	99.4%	52.5	22.9	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	630	634	100.6%	44.6	10.1	D
	Right Turn	30	28	92.3%	47.9	21.8	D
	Subtotal	660	662	100.3%	44.7	10.4	D
WB	Left Turn	40	39	97.3%	26.5	5.4	C
	Through	1,570	1,412	89.9%	13.7	2.0	B
	Right Turn						
	Subtotal	1,610	1,451	90.1%	14.0	2.1	B
Total		3,310	3,146	95.0%	33.4	8.0	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions (Mitigated)  
AM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	270	272	100.7%	134.7	47.8	F
	Through	320	316	98.6%	72.7	35.3	E
	Right Turn	560	571	101.9%	89.3	39.6	F
	Subtotal	1,150	1,158	100.7%	96.6	26.4	F
SB	Left Turn	80	81	100.8%	62.0	12.4	E
	Through	160	165	103.3%	48.3	6.6	D
	Right Turn	60	62	103.8%	34.5	8.7	C
	Subtotal	300	308	102.7%	49.1	5.7	D
EB	Left Turn	140	141	100.8%	122.8	48.0	F
	Through	1,080	1,073	99.3%	32.0	4.8	C
	Right Turn	210	207	98.5%	32.0	6.2	C
	Subtotal	1,430	1,420	99.3%	41.7	8.7	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	160	141	87.9%	84.5	7.2	F
	Through	1,300	1,131	87.0%	58.5	5.0	E
	Right Turn	110	99	89.8%	43.5	5.7	D
	Subtotal	1,570	1,370	87.3%	60.0	4.7	E
Total		4,450	4,257	95.7%	85.0	11.9	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project Conditions (Mitigated)  
AM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	1,290	1,096	84.9%	425.9	35.3	F
	Through						
	Right Turn	10	9	86.0%	353.7	37.0	F
	Subtotal	1,300	1,104	85.0%	425.6	35.3	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	880	877	99.6%	32.5	3.3	C
	Right Turn						
	Subtotal	880	877	99.6%	32.5	3.3	C
WB	Left Turn						
	Through	290	288	99.4%	30.4	3.1	C
	Right Turn						
	Subtotal	290	288	99.4%	30.4	3.1	C
Total		2,470	2,269	91.9%	223.9	15.0	F

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	289	99.6%	87.5	27.1	F
	Through	30	31	104.0%	59.4	25.4	E
	Right Turn	80	78	97.4%	44.2	22.2	D
	Subtotal	400	398	99.5%	76.6	25.7	E
SB	Left Turn	30	28	91.7%	57.2	14.4	E
	Through	30	27	88.7%	63.1	23.2	E
	Right Turn	160	164	102.2%	40.2	9.7	D
	Subtotal	220	218	98.9%	44.6	10.7	D
EB	Left Turn	80	79	99.3%	75.0	11.1	E
	Through	1,030	1,026	99.6%	32.2	5.4	C
	Right Turn	100	98	98.3%	32.4	8.6	C
	Subtotal	1,210	1,203	99.5%	35.0	5.3	C
WB	Left Turn	20	18	88.5%	166.8	51.6	F
	Through	1,210	1,187	98.1%	149.8	27.4	F
	Right Turn	40	43	107.0%	150.7	38.6	F
	Subtotal	1,270	1,248	98.2%	150.3	27.6	F
Total		3,100	3,066	98.9%	89.2	13.6	F

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	500	496	99.3%	139.9	68.3	F
	Through	620	636	102.6%	60.1	17.3	E
	Right Turn	560	578	103.3%	62.1	18.6	E
	Subtotal	1,680	1,711	101.8%	82.9	24.6	F
SB	Left Turn	70	69	99.0%	56.8	11.6	E
	Through	380	377	99.1%	42.5	5.8	D
	Right Turn	280	275	98.3%	71.6	57.1	E
	Subtotal	730	721	98.8%	54.4	21.3	D
EB	Left Turn	190	185	97.6%	60.6	12.4	E
	Through	530	527	99.5%	45.2	12.7	D
	Right Turn	420	414	98.5%	37.5	11.4	D
	Subtotal	1,140	1,126	98.8%	44.4	9.7	D
WB	Left Turn	440	444	100.9%	88.5	27.8	F
	Through	490	494	100.8%	40.8	10.6	D
	Right Turn	20	22	107.5%	27.2	11.2	C
	Subtotal	950	959	101.0%	64.6	16.6	E
Total		4,500	4,517	100.4%	65.6	15.3	E



HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Future Volume (vph)	390	10	110	10	10	10	110	490	0	10	250	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1657	1553		1716		1736	3471		1736	3471	1531
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	476	12	134	12	12	12	134	598	0	12	305	671
RTOR Reduction (vph)	0	0	106	0	11	0	0	0	0	0	0	505
Lane Group Flow (vph)	243	245	28	0	25	0	134	598	0	12	305	166
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	14.3	14.3	14.3		3.8		9.1	31.7		1.7	17.0	17.0
Effective Green, g (s)	14.3	14.3	14.3		3.8		9.1	31.7		1.7	17.0	17.0
Actuated g/C Ratio	0.21	0.21	0.21		0.06		0.13	0.46		0.02	0.25	0.25
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	343	345	323		95		230	1603		43	860	379
v/s Ratio Prot	0.15	c0.15			c0.01		c0.08	c0.17		0.01	0.09	
v/s Ratio Perm			0.02									c0.11
v/c Ratio	0.71	0.71	0.09		0.26		0.58	0.37		0.28	0.35	0.44
Uniform Delay, d1	25.2	25.2	21.9		31.1		28.0	12.0		32.8	21.3	21.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	5.6	0.0		0.5		2.4	0.1		1.3	0.1	0.3
Delay (s)	30.6	30.9	21.9		31.6		30.4	12.0		34.1	21.4	22.1
Level of Service	C	C	C		C		C	B		C	C	C
Approach Delay (s)		28.8			31.6			15.4			22.0	
Approach LOS		C			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			68.6				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			73.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

**Intersection 21**                      **SR 113 SB Ramps/County Road 25A**                      **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	159	99.5%	5.4	1.3	A
	Through	10	9	92.0%	6.5	3.9	A
	Right Turn	50	48	96.2%	4.7	0.4	A
	Subtotal	220	217	98.4%	5.3	0.9	A
EB	Left Turn						
	Through	400	384	95.9%	12.4	3.3	B
	Right Turn	330	343	104.0%	5.1	0.5	A
	Subtotal	730	727	99.6%	9.1	2.1	A
WB	Left Turn	910	887	97.5%	38.4	22.0	E
	Through	440	436	99.0%	41.2	22.2	E
	Right Turn						
	Subtotal	1,350	1,323	98.0%	39.3	22.1	E
<b>Total</b>		<b>2,300</b>	<b>2,267</b>	<b>98.5%</b>	<b>26.8</b>	<b>13.5</b>	<b>D</b>

**Intersection 22**                      **SR 113 NB Ramps/County Road 25A**                      **Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	117	97.8%	4.1	0.4	A
	Through						
	Right Turn	340	338	99.3%	4.2	0.1	A
	Subtotal	460	455	98.9%	4.2	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	27	90.7%	7.1	1.6	A
	Through	530	515	97.2%	10.2	1.6	B
	Right Turn						
	Subtotal	560	543	96.9%	10.1	1.5	B
WB	Left Turn						
	Through	1,230	1,216	98.8%	17.7	15.3	C
	Right Turn	210	214	101.9%	7.5	3.2	A
	Subtotal	1,440	1,430	99.3%	16.3	13.7	C
<b>Total</b>		<b>2,460</b>	<b>2,427</b>	<b>98.7%</b>	<b>12.5</b>	<b>7.9</b>	<b>B</b>

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Mitigated  
AM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	18	91.0%	5.4	1.9	A
	Subtotal	20	18	91.0%	5.4	1.9	A
SB	Left Turn						
	Through						
	Right Turn	160	153	95.3%	66.5	110.0	F
	Subtotal	160	153	95.3%	66.5	110.0	F
EB	Left Turn						
	Through	680	667	98.0%	1.7	0.3	A
	Right Turn	190	183	96.5%	1.0	0.2	A
	Subtotal	870	850	97.7%	1.5	0.3	A
WB	Left Turn						
	Through	1,280	1,276	99.7%	3.3	0.9	A
	Right Turn	30	28	94.0%	2.8	0.7	A
	Subtotal	1,310	1,304	99.6%	3.2	0.9	A
Total		2,360	2,325	98.5%	6.8	6.7	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Existing Plus Approved Plus Project Mitigated  
AM Peak Hour

Intersection 25













Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	90	93	103.4%	42.3	5.9	D
	Through	20	20	102.0%	37.9	21.2	D
	Right Turn	10	11	108.0%	7.0	4.9	A
	Subtotal	120	124	103.6%	39.0	3.5	D
SB	Left Turn	30	30	98.7%	42.8	14.1	D
	Through	60	54	90.7%	21.1	5.1	C
	Right Turn	610	601	98.6%	27.3	4.5	C
	Subtotal	700	685	97.9%	27.4	3.8	C
EB	Left Turn	500	493	98.6%	43.3	5.5	D
	Through	190	184	96.9%	18.6	2.1	B
	Right Turn	10	11	114.0%	6.3	7.6	A
	Subtotal	700	689	98.4%	36.4	4.2	D
WB	Left Turn	70	73	104.1%	66.4	11.3	E
	Through	610	609	99.8%	36.8	6.2	D
	Right Turn	30	34	112.3%	12.8	7.2	B
	Subtotal	710	716	100.8%	38.9	5.8	D
Total		2,230	2,214	99.3%	34.7	3.2	C

HCM 2010 Signalized Intersection Summary  
27: CR 102 & CR 25A

Existing + Approved + Project  
Conditions (Mitigated)  
Timing Plan: AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	70	280	100	230	570	40		
Future Volume (veh/h)	70	280	100	230	570	40		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	76	36	109	250	620	17		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	164	146	161	1239	843	717		
Arrive On Green	0.09	0.09	0.09	0.67	0.45	0.45		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	76	36	109	250	620	17		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	1.5	0.8	2.2	1.9	10.1	0.2		
Cycle Q Clear(g_c), s	1.5	0.8	2.2	1.9	10.1	0.2		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	164	146	161	1239	843	717		
V/C Ratio(X)	0.46	0.25	0.68	0.20	0.74	0.02		
Avail Cap(c_a), veh/h	1244	1110	502	2762	2009	1708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.0	15.6	16.3	2.4	8.3	5.6		
Incr Delay (d2), s/veh	2.0	0.9	4.9	0.1	1.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.7	1.3	1.0	5.3	0.1		
LnGrp Delay(d),s/veh	18.0	16.5	21.2	2.5	9.6	5.6		
LnGrp LOS	B	B	C	A	A	A		
Approach Vol, veh/h	112			359	637			
Approach Delay, s/veh	17.5			8.2	9.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		29.2		7.9	7.9	21.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		55.0		26.0	10.5	40.0		
Max Q Clear Time (g_c+I1), s		3.9		3.5	4.2	12.1		
Green Ext Time (p_c), s		1.6		0.3	0.1	4.7		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			9.9					
HCM 2010 LOS			A					

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project (Mitigated)  
PM Peak Hour

Intersection 2 Industrial Way-SR 113 SB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	40	39	96.8%	51.4	35.4	D
	Through	10	10	96.0%	22.2	19.7	C
	Right Turn	50	52	103.2%	33.4	28.9	C
	Subtotal	100	100	99.9%	41.0	30.0	D
SB	Left Turn	70	71	101.1%	64.8	48.8	E
	Through	80	76	94.8%	58.7	39.6	E
	Right Turn	30	30	100.7%	68.4	66.6	E
	Subtotal	180	177	98.2%	62.5	46.9	E
EB	Left Turn	30	20	66.0%	59.5	18.8	E
	Through	880	635	72.1%	138.0	17.9	F
	Right Turn	190	132	69.5%	153.2	20.5	F
	Subtotal	1,100	787	71.5%	138.9	17.3	F
WB	Left Turn	510	461	90.3%	70.0	26.3	E
	Through	930	870	93.5%	15.3	4.4	B
	Right Turn	80	77	96.6%	14.5	5.9	B
	Subtotal	1,520	1,408	92.6%	32.8	10.0	C
Total		2,900	2,471	85.2%	68.1	9.4	E

Intersection 3 SR 113 NB Ramps/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	260	237	91.3%	295.8	112.1	F
	Through						
	Right Turn	760	623	82.0%	484.8	111.1	F
	Subtotal	1,020	861	84.4%	432.2	108.2	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	980	727	74.2%	118.0	6.3	F
	Right Turn	30	24	78.7%	140.8	32.6	F
	Subtotal	1,010	751	74.3%	118.8	6.8	F
WB	Left Turn	50	43	86.4%	24.7	6.7	C
	Through	1,260	1,175	93.3%	9.6	1.8	A
	Right Turn						
	Subtotal	1,310	1,218	93.0%	10.1	1.9	B
Total		3,340	2,829	84.7%	164.6	33.6	F

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project (Mitigated)  
PM Peak Hour

Intersection 4 Pioneer Avenue/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	219	99.7%	67.3	6.6	E
	Through	180	184	102.2%	47.7	4.0	D
	Right Turn	210	211	100.3%	37.4	7.0	D
	Subtotal	610	614	100.6%	51.5	3.6	D
SB	Left Turn	130	132	101.8%	58.8	11.1	E
	Through	310	312	100.7%	48.3	6.5	D
	Right Turn	80	78	97.5%	21.5	11.8	C
	Subtotal	520	523	100.5%	47.0	5.0	D
EB	Left Turn	80	60	75.5%	74.0	17.8	E
	Through	1,410	1,106	78.4%	39.5	3.5	D
	Right Turn	230	169	73.3%	41.3	3.4	D
	Subtotal	1,720	1,335	77.6%	41.2	3.7	D
NW	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	410	358	87.3%	114.1	7.4	F
	Through	1,030	947	92.0%	45.5	4.3	D
	Right Turn	110	106	96.5%	35.2	3.2	D
	Subtotal	1,550	1,412	91.1%	62.5	5.4	E
Total		4,400	3,883	88.3%	60.7	2.9	E

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing + Approved + Project (Mitigated)  
PM Peak Hour

Intersection 5 Interstate-5 NB Off-Ramp/Main Street Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	830	759	91.4%	268.8	147.7	F
	Through						
	Right Turn	20	21	106.5%	196.4	145.1	F
	Subtotal	850	780	91.8%	266.7	148.0	F
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	570	487	85.4%	16.1	2.6	B
	Right Turn						
	Subtotal	570	487	85.4%	16.1	2.6	B
WB	Left Turn						
	Through	730	668	91.5%	184.7	84.2	F
	Right Turn						
	Subtotal	730	668	91.5%	184.7	84.2	F
Total		2,150	1,935	90.0%	175.5	58.2	F



SimTraffic Post-Processor  
 Average Results from 10 Runs  
 Volume and Delay by Movement

Woodland Tech Park TIS  
 Existing Plus Approved Plus Project (2030) Conditions - MITIGATED  
 PM Peak Hour

Intersection 12

Bourn Dr-Harry Lorenzo Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	140	142	101.3%	72.2	31.8	E
	Through	30	29	97.7%	46.7	18.8	D
	Right Turn	10	12	115.0%	28.4	20.2	C
	Subtotal	180	183	101.4%	65.7	26.4	E
SB	Left Turn	20	20	98.0%	69.5	21.0	E
	Through	30	32	105.3%	53.2	18.4	D
	Right Turn	80	81	100.8%	30.1	9.6	C
	Subtotal	130	132	101.4%	39.8	10.3	D
EB	Left Turn	210	204	97.3%	93.0	13.6	F
	Through	1,590	1,550	97.5%	58.7	7.0	E
	Right Turn	220	223	101.1%	55.8	7.1	E
	Subtotal	2,020	1,977	97.9%	61.9	7.4	E
WB	Left Turn	110	105	95.4%	80.7	16.6	F
	Through	1,110	1,125	101.4%	37.2	4.0	D
	Right Turn	80	77	95.9%	36.4	6.1	D
	Subtotal	1,300	1,307	100.5%	41.0	4.4	D
Total		3,630	3,599	99.1%	53.9	4.3	D

Intersection 13

Pioneer Ave/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	260	260	100.1%	56.0	5.8	E
	Through	260	259	99.4%	31.5	3.8	C
	Right Turn	440	429	97.4%	20.4	3.4	C
	Subtotal	960	948	98.7%	33.4	2.5	C
SB	Left Turn	60	57	95.5%	53.6	7.1	D
	Through	370	380	102.6%	35.5	3.8	D
	Right Turn	250	257	102.8%	19.4	2.7	B
	Subtotal	680	694	102.1%	31.0	2.3	C
EB	Left Turn	370	372	100.5%	54.9	5.9	D
	Through	850	826	97.2%	47.7	8.2	D
	Right Turn	400	386	96.4%	31.1	6.6	C
	Subtotal	1,620	1,584	97.7%	45.4	6.1	D
WB	Left Turn	520	520	100.1%	56.7	6.6	E
	Through	790	794	100.5%	38.2	4.4	D
	Right Turn	50	53	105.2%	30.6	6.8	C
	Subtotal	1,360	1,367	100.5%	45.3	3.3	D
Total		4,620	4,592	99.4%	40.6	2.6	D

HCM Signalized Intersection Capacity Analysis

14: CR 102 & E. Gibson Rd/CR 24

Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Future Volume (vph)	850	10	90	10	10	10	130	510	0	10	620	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1649	1655	1553		1716		1736	3471		1736	3471	1532
Flt Permitted	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1649	1655	1553		1716		1736	3471		1736	3471	1532
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	1037	12	110	12	12	12	159	622	0	12	756	695
RTOR Reduction (vph)	0	0	68	0	11	0	0	0	0	0	0	510
Lane Group Flow (vph)	529	520	42	0	25	0	159	622	0	12	756	185
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	39.4	39.4	39.4		6.2		13.4	46.9		4.1	30.3	30.3
Effective Green, g (s)	39.4	39.4	39.4		6.2		13.4	46.9		4.1	30.3	30.3
Actuated g/C Ratio	0.35	0.35	0.35		0.05		0.12	0.41		0.04	0.27	0.27
Clearance Time (s)	5.2	5.2	5.2		3.7		3.0	5.2		3.0	5.2	5.2
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0	1.5		1.0	1.5	1.5
Lane Grp Cap (vph)	571	573	538		93		204	1431		62	924	408
v/s Ratio Prot	c0.32	0.31			c0.01		c0.09	c0.18		0.01	c0.22	
v/s Ratio Perm			0.03									0.12
v/c Ratio	0.93	0.91	0.08		0.27		0.78	0.43		0.19	0.82	0.45
Uniform Delay, d1	35.8	35.4	25.0		51.6		48.7	23.9		53.2	39.1	34.8
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.9	17.7	0.0		0.6		15.6	0.1		0.6	5.4	0.3
Delay (s)	56.6	53.1	25.0		52.1		64.3	24.0		53.8	44.5	35.1
Level of Service	E	D	C		D		E	C		D	D	D
Approach Delay (s)		52.0			52.1			32.2			40.1	
Approach LOS		D			D			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			42.5				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			113.7				Sum of lost time (s)			19.1		
Intersection Capacity Utilization			87.8%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

**Intersection 21 SR 113 SB Ramps/County Road 25A Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	150	153	101.9%	4.3	0.5	A
	Through						
	Right Turn	40	44	109.0%	3.7	0.3	A
	Subtotal	190	197	103.4%	4.2	0.4	A
EB	Left Turn						
	Through	330	342	103.7%	8.0	0.5	A
	Right Turn	130	133	102.1%	4.3	0.3	A
	Subtotal	460	475	103.2%	6.9	0.4	A
WB	Left Turn	430	438	101.8%	6.8	1.0	A
	Through	680	691	101.6%	9.5	1.1	A
	Right Turn						
	Subtotal	1,110	1,128	101.7%	8.5	1.1	A
Total		1,760	1,800	102.3%	7.6	0.8	A

**Intersection 22 SR 113 NB Ramps/County Road 25A Roundabout**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	250	251	100.2%	4.4	0.3	A
	Through	10	11	110.0%	6.2	2.4	A
	Right Turn	760	753	99.0%	5.4	0.2	A
	Subtotal	1,020	1,014	99.4%	5.1	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	30	28	94.7%	5.1	0.7	A
	Through	450	466	103.5%	7.4	0.6	A
	Right Turn						
	Subtotal	480	494	102.9%	7.3	0.6	A
WB	Left Turn						
	Through	860	880	102.3%	9.5	0.3	A
	Right Turn	210	210	100.0%	5.6	0.3	A
	Subtotal	1,070	1,090	101.8%	8.8	0.3	A
Total		2,570	2,598	101.1%	7.1	0.1	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED  
PM Peak Hour

Intersection 23

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	50	48	95.4%	8.5	2.2	A
	Subtotal	50	48	95.4%	8.5	2.2	A
SB	Left Turn						
	Through						
	Right Turn	120	121	100.4%	11.2	5.1	B
	Subtotal	120	121	100.4%	11.2	5.1	B
EB	Left Turn						
	Through	1,080	1,083	100.3%	2.6	0.4	A
	Right Turn	130	133	102.2%	1.9	0.5	A
	Subtotal	1,210	1,216	100.5%	2.5	0.4	A
WB	Left Turn						
	Through	950	968	101.8%	2.1	0.2	A
	Right Turn	30	29	95.7%	2.8	0.9	A
	Subtotal	980	996	101.7%	2.1	0.2	A
Total		2,360	2,380	100.9%	3.0	0.3	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Existing Plus Approved Plus Project (2030) Conditions - MITIGATED  
PM Peak Hour

Intersection 25

Road B/County Road 25A













Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	193	101.3%	48.7	7.9	D
	Through	40	36	88.8%	34.3	9.1	C
	Right Turn	50	52	104.6%	11.6	2.9	B
	Subtotal	280	280	100.1%	39.6	5.9	D
SB	Left Turn	50	49	98.2%	36.1	5.8	D
	Through	50	50	99.4%	26.4	6.8	C
	Right Turn	510	521	102.1%	16.5	2.9	B
	Subtotal	610	620	101.6%	18.9	2.9	B
EB	Left Turn	670	677	101.0%	40.1	3.8	D
	Through	450	446	99.2%	24.0	2.1	C
	Right Turn	10	10	104.0%	16.2	7.9	B
	Subtotal	1,130	1,134	100.3%	33.5	2.1	C
WB	Left Turn	30	28	91.7%	52.4	11.5	D
	Through	280	283	101.1%	34.6	3.6	C
	Right Turn	30	32	105.3%	12.4	5.5	B
	Subtotal	340	342	100.6%	34.1	3.0	C
Total		2,360	2,376	100.7%	30.4	2.0	C

HCM 2010 Signalized Intersection Summary  
27: CR 102 & CR 25A

Existing + Approved + Project Conditions  
(Mitigated)

Timing Plan: PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	40	120	240	520	370	80		
Future Volume (veh/h)	40	120	240	520	370	80		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00				1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	43	10	261	565	402	26		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	104	93	338	1228	611	519		
Arrive On Green	0.06	0.06	0.19	0.66	0.33	0.33		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	43	10	261	565	402	26		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	0.7	0.2	4.5	4.7	5.9	0.4		
Cycle Q Clear(g_c), s	0.7	0.2	4.5	4.7	5.9	0.4		
Prop In Lane	1.00	1.00	1.00				1.00	
Lane Grp Cap(c), veh/h	104	93	338	1228	611	519		
V/C Ratio(X)	0.41	0.11	0.77	0.46	0.66	0.05		
Avail Cap(c_a), veh/h	1444	1289	583	2625	1750	1488		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.5	14.2	12.3	2.7	9.2	7.3		
Incr Delay (d2), s/veh	2.6	0.5	3.8	0.3	1.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.2	2.5	2.4	3.2	0.2		
LnGrp Delay(d),s/veh	17.1	14.7	16.0	2.9	10.4	7.4		
LnGrp LOS	B	B	B	A	B	A		
Approach Vol, veh/h	53			826	428			
Approach Delay, s/veh	16.7			7.1	10.2			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.6		6.4	10.6	15.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		45.0		26.0	10.5	30.0		
Max Q Clear Time (g_c+I1), s		6.7		2.7	6.5	7.9		
Green Ext Time (p_c), s		4.3		0.1	0.3	2.6		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			8.5					
HCM 2010 LOS			A					

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement  
Intersection 1

Woodland Tech Park TIS  
Cumulative Buildout Conditions (Mitigated)  
AM Peak Hour  
Signal

SR 113 NB Ramps/E Gibson Rd

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	120	122	101.9%	18.0	2.8	B
	Through						
	Right Turn	410	414	100.9%	11.8	1.9	B
	Subtotal	530	536	101.1%	13.2	1.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,070	1,065	99.6%	10.5	0.7	B
	Right Turn	380	394	103.7%	6.3	0.4	A
	Subtotal	1,450	1,460	100.7%	9.4	0.6	A
WB	Left Turn						
	Through	1,390	1,371	98.6%	18.2	1.4	B
	Right Turn	310	309	99.8%	10.9	0.8	B
	Subtotal	1,700	1,680	98.8%	16.8	1.2	B
Total		3,680	3,675	99.9%	13.4	0.7	B



**Intersection 2                      Bourn Dr-Harry Lorenzo Ave/E Gibson Rd                      Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	220	219	99.3%	103.6	42.0	F
	Through	30	29	95.7%	70.8	44.5	E
	Right Turn	30	32	105.7%	41.3	25.3	D
	Subtotal	280	279	99.6%	94.6	38.7	F
SB	Left Turn	60	57	94.7%	59.2	12.9	E
	Through	30	32	105.0%	63.8	19.9	E
	Right Turn	150	149	99.1%	47.5	13.9	D
	Subtotal	240	237	98.8%	52.7	11.2	D
EB	Left Turn	100	100	99.6%	77.1	17.0	E
	Through	1,320	1,324	100.3%	32.5	4.8	C
	Right Turn	60	62	103.8%	29.8	6.0	C
	Subtotal	1,480	1,486	100.4%	35.7	5.2	D
WB	Left Turn	20	17	86.5%	133.7	26.4	F
	Through	1,330	1,315	98.9%	116.8	17.3	F
	Right Turn	50	51	102.0%	124.9	19.5	F
	Subtotal	1,400	1,384	98.8%	117.3	17.2	F
Total		3,400	3,386	99.6%	75.9	8.5	E

**Intersection 3                      Pioneer Ave/E Gibson Rd                      Signal**






















Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	450	444	98.6%	83.5	27.5	F
	Through	680	682	100.2%	47.5	11.6	D
	Right Turn	640	654	102.2%	78.4	37.8	E
	Subtotal	1,770	1,780	100.5%	68.7	19.0	E
SB	Left Turn	70	71	101.0%	64.5	11.1	E
	Through	430	440	102.4%	42.0	4.1	D
	Right Turn	280	282	100.8%	44.3	19.1	D
	Subtotal	780	793	101.7%	45.0	7.8	D
EB	Left Turn	180	182	101.1%	64.8	10.5	E
	Through	800	793	99.1%	55.5	17.0	E
	Right Turn	430	433	100.6%	43.4	11.9	D
	Subtotal	1,410	1,407	99.8%	53.1	12.1	D
WB	Left Turn	470	471	100.2%	78.7	24.6	E
	Through	670	675	100.8%	37.3	2.9	D
	Right Turn	40	41	103.5%	28.7	7.2	C
	Subtotal	1,180	1,187	100.6%	53.8	10.9	D
Total		5,140	5,167	100.5%	57.6	8.1	E

# HCM Signalized Intersection Capacity Analysis

# Cumulative Buildout Conditions

## 4: CR 102 & E. Gibson Rd/CR 24

Timing Plan: AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	
Lane Configurations													
Traffic Volume (vph)	670	370	190	80	170	10	10	160	650	10	10	520	
Future Volume (vph)	670	370	190	80	170	10	10	160	650	10	10	520	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	5.2	5.2	3.0	3.7			3.0	5.2		3.0	5.2	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95			0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99			1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	1827	1526	1736	3439			3367	3462		1736	3471	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	1827	1526	1736	3439			3367	3462		1736	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	728	402	207	87	185	11	11	174	707	11	11	565	
RTOR Reduction (vph)	0	0	143	0	3	0	0	0	1	0	0	0	
Lane Group Flow (vph)	728	402	64	87	193	0	0	185	717	0	11	565	
Confl. Peds. (#/hr)			5			5				5			
Confl. Bikes (#/hr)													
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	3	8		7	4	
Permitted Phases			2										
Actuated Green, G (s)	25.6	31.4	31.4	9.7	17.0			12.3	25.1		12.3	25.1	
Effective Green, g (s)	25.6	31.4	31.4	9.7	17.0			12.3	25.1		12.3	25.1	
Actuated g/C Ratio	0.25	0.31	0.31	0.10	0.17			0.12	0.25		0.12	0.25	
Clearance Time (s)	3.0	5.2	5.2	3.0	3.7			3.0	5.2		3.0	5.2	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.5		1.0	1.5	
Lane Grp Cap (vph)	845	562	469	165	573			406	851		209	854	
v/s Ratio Prot	c0.22	c0.22		0.05	0.06			c0.05	0.21		0.01	0.16	
v/s Ratio Perm			0.04										
v/c Ratio	0.86	0.72	0.14	0.53	0.34			0.46	0.84		0.05	0.66	
Uniform Delay, d1	36.5	31.3	25.5	44.0	37.5			41.7	36.6		39.7	34.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	3.6	0.0	1.4	0.1			0.3	7.3		0.0	1.5	
Delay (s)	45.2	34.9	25.5	45.4	37.6			42.0	43.9		39.7	36.1	
Level of Service	D	C	C	D	D			D	D		D	D	
Approach Delay (s)		39.1			40.0				43.5			33.2	
Approach LOS		D			D				D			C	
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			102.0									Sum of lost time (s)	18.4
Intersection Capacity Utilization			80.9%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	780
Future Volume (vph)	780
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1541
Flt Permitted	1.00
Satd. Flow (perm)	1541
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	848
RTOR Reduction (vph)	195
Lane Group Flow (vph)	653
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	4%
Turn Type	pm+ov
Protected Phases	5
Permitted Phases	4
Actuated Green, G (s)	50.7
Effective Green, g (s)	50.7
Actuated g/C Ratio	0.50
Clearance Time (s)	3.0
Vehicle Extension (s)	1.0
Lane Grp Cap (vph)	765
v/s Ratio Prot	c0.21
v/s Ratio Perm	0.21
v/c Ratio	0.85
Uniform Delay, d1	22.4
Progression Factor	1.00
Incremental Delay, d2	8.8
Delay (s)	31.2
Level of Service	C
Approach Delay (s)	
Approach LOS	
<b>Intersection Summary</b>	

HCM 2010 Signalized Intersection Summary  
5: East St & CR 24C

Cumulative Buildout Conditions  
Timing Plan: AM Peak Hour
























Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	40	390	350	20	300	510		
Future Volume (veh/h)	40	390	350	20	300	510		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900	1900	1863		
Adj Flow Rate, veh/h	43	28	380	20	326	554		
Adj No. of Lanes	0	0	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	118	77	1285	68	416	620		
Arrive On Green	0.12	0.12	0.73	0.73	0.73	0.73		
Sat Flow, veh/h	1006	655	1754	92	468	847		
Grp Volume(v), veh/h	72	0	0	400	880	0		
Grp Sat Flow(s),veh/h/ln	1863	0	0	1846	1314	0		
Q Serve(g_s), s	2.7	0.0	0.0	5.0	33.8	0.0		
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.0	38.6	0.0		
Prop In Lane	0.60	0.39		0.05	0.37			
Lane Grp Cap(c), veh/h	198	0	0	1352	1036	0		
V/C Ratio(X)	0.36	0.00	0.00	0.30	0.85	0.00		
Avail Cap(c_a), veh/h	450	0	0	1970	1503	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	27.4	0.0	0.0	3.1	8.7	0.0		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.1	3.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.5	14.1	0.0		
LnGrp Delay(d),s/veh	28.5	0.0	0.0	3.2	11.9	0.0		
LnGrp LOS	C			A	B			
Approach Vol, veh/h	72		400		880			
Approach Delay, s/veh	28.5		3.2		11.9			
Approach LOS	C		A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		54.7				54.7		12.6
Change Period (Y+Rc), s		5.4				5.4		4.7
Max Green Setting (Gmax), s		71.9				71.9		18.0
Max Q Clear Time (g_c+1), s		7.0				40.6		4.7
Green Ext Time (p_c), s		2.5				8.7		0.1
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					
<b>Notes</b>								

User approved volume balancing among the lanes for turning movement.

Intersection				
Intersection Delay, s/veh	12.2			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	522	609	229	196
Demand Flow Rate, veh/h	532	621	234	199
Vehicles Circulating, veh/h	233	111	632	577
Vehicles Exiting, veh/h	543	755	133	155
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	12.9	12.3	11.9	10.0
Approach LOS	B	B	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	532	621	234	199
Cap Entry Lane, veh/h	895	1011	601	635
Entry HV Adj Factor	0.981	0.980	0.980	0.983
Flow Entry, veh/h	522	609	229	196
Cap Entry, veh/h	878	991	588	623
V/C Ratio	0.595	0.615	0.390	0.314
Control Delay, s/veh	12.9	12.3	11.9	10.0
LOS	B	B	B	A
95th %tile Queue, veh	4	4	2	1

HCM 2010 Signalized Intersection Summary  
 7: Road B/Road F & Parkland Ave

Cumulative Buildout Conditions  
 Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	430	310	350	280	50	200	20	290	120	80	60
Future Volume (veh/h)	30	430	310	350	280	50	200	20	290	120	80	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	33	467	188	380	304	43	217	22	32	130	87	55
Adj No. of Lanes	1	1	1	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	501	424	366	1277	179	272	286	241	157	105	66
Arrive On Green	0.07	0.27	0.27	0.21	0.41	0.41	0.15	0.15	0.15	0.19	0.19	0.19
Sat Flow, veh/h	1774	1863	1575	1774	3116	436	1774	1863	1568	839	561	355
Grp Volume(v), veh/h	33	467	188	380	171	176	217	22	32	272	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1575	1774	1770	1783	1774	1863	1568	1755	0	0
Q Serve(g_s), s	1.8	24.9	10.1	21.0	6.4	6.6	12.0	1.0	1.8	15.2	0.0	0.0
Cycle Q Clear(g_c), s	1.8	24.9	10.1	21.0	6.4	6.6	12.0	1.0	1.8	15.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	0.48		0.20
Lane Grp Cap(c), veh/h	116	501	424	366	725	730	272	286	241	328	0	0
V/C Ratio(X)	0.28	0.93	0.44	1.04	0.24	0.24	0.80	0.08	0.13	0.83	0.00	0.00
Avail Cap(c_a), veh/h	192	512	433	366	725	730	508	534	449	482	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	45.3	36.3	30.9	40.4	19.7	19.7	41.6	36.9	37.3	39.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	23.8	0.7	57.6	0.2	0.2	5.3	0.1	0.2	7.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	16.2	4.5	16.0	3.2	3.3	6.3	0.5	0.8	8.0	0.0	0.0
LnGrp Delay(d),s/veh	46.7	60.1	31.6	98.1	19.8	19.9	46.9	37.1	37.5	47.6	0.0	0.0
LnGrp LOS	D	E	C	F	B	B	D	D	D	D		
Approach Vol, veh/h		688			727			271			272	
Approach Delay, s/veh		51.7			60.7			45.0			47.6	
Approach LOS		D			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.7	25.0	32.5		23.6	10.7	46.8				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		29.2	21.0	28.0		28.0	11.0	38.0				
Max Q Clear Time (g_c+I1), s		14.0	23.0	26.9		17.2	3.8	8.6				
Green Ext Time (p_c), s		0.7	0.0	0.4		1.2	0.0	2.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			53.5									
HCM 2010 LOS			D									

HCM Signalized Intersection Capacity Analysis  
8: Parkland Ave & Pioneer Ave

Cumulative Buildout Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	640	150	160	280	230	430
Future Volume (vph)	640	150	160	280	230	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1556	1770	1556
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1863	1556	1770	1556
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	696	163	174	304	250	467
RTOR Reduction (vph)	0	0	0	255	0	377
Lane Group Flow (vph)	696	163	174	49	250	91
Confl. Peds. (#/hr)				5		5
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	42.7	15.2	15.2	15.2	18.1	18.1
Effective Green, g (s)	42.7	15.2	15.2	15.2	18.1	18.1
Actuated g/C Ratio	0.46	0.16	0.16	0.16	0.19	0.19
Clearance Time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	809	575	303	253	343	301
v/s Ratio Prot	c0.39	0.05	c0.09		c0.14	
v/s Ratio Perm				0.03		0.06
v/c Ratio	0.86	0.28	0.57	0.20	0.73	0.30
Uniform Delay, d1	22.7	34.3	36.1	33.8	35.3	32.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	0.3	2.6	0.4	7.5	0.6
Delay (s)	31.9	34.6	38.7	34.2	42.9	32.8
Level of Service	C	C	D	C	D	C
Approach Delay (s)		32.5	35.8		36.3	
Approach LOS		C	D		D	

Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	93.4	Sum of lost time (s)	17.4
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



HCM 2010 Signalized Intersection Summary  
 9: Road B & Road E

Cumulative Buildout Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↔		↕	↕↔	
Traffic Volume (veh/h)	150	10	90	50	10	150	40	210	10	80	520	140
Future Volume (veh/h)	150	10	90	50	10	150	40	210	10	80	520	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	163	11	76	54	11	65	43	228	8	87	565	130
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	15	103	105	21	127	162	769	27	237	751	172
Arrive On Green	0.20	0.20	0.20	0.15	0.15	0.15	0.09	0.22	0.22	0.13	0.26	0.26
Sat Flow, veh/h	1115	75	520	694	141	835	1774	3487	122	1774	2855	655
Grp Volume(v), veh/h	250	0	0	130	0	0	43	115	121	87	350	345
Grp Sat Flow(s),veh/h/ln	1711	0	0	1671	0	0	1774	1770	1840	1774	1770	1740
Q Serve(g_s), s	9.0	0.0	0.0	4.7	0.0	0.0	1.5	3.5	3.6	2.9	11.8	11.9
Cycle Q Clear(g_c), s	9.0	0.0	0.0	4.7	0.0	0.0	1.5	3.5	3.6	2.9	11.8	11.9
Prop In Lane	0.65		0.30	0.42		0.50	1.00		0.07	1.00		0.38
Lane Grp Cap(c), veh/h	338	0	0	254	0	0	162	390	406	237	466	458
V/C Ratio(X)	0.74	0.00	0.00	0.51	0.00	0.00	0.27	0.30	0.30	0.37	0.75	0.75
Avail Cap(c_a), veh/h	735	0	0	718	0	0	313	616	641	327	630	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	0.0	25.4	0.0	0.0	27.6	21.2	21.2	25.7	22.1	22.1
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.6	0.0	0.0	0.9	0.4	0.4	0.9	3.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	2.2	0.0	0.0	0.8	1.8	1.9	1.5	6.2	6.1
LnGrp Delay(d),s/veh	27.8	0.0	0.0	27.0	0.0	0.0	28.5	21.6	21.6	26.7	25.5	25.7
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		250			130			279			782	
Approach Delay, s/veh		27.8			27.0			22.7			25.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	19.5		18.0	10.0	22.3		15.0				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	12.0	22.7		28.0	11.5	23.2		28.0				
Max Q Clear Time (g_c+I), s	14.5	5.6		11.0	3.5	13.9		6.7				
Green Ext Time (p_c), s	0.1	1.1		1.3	0.0	2.9		0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				25.6								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
 10: Road B & Marston Dr

Cumulative Buildout Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	40	10	50	60	30	40	100	190	20	20	390	120
Future Volume (veh/h)	40	10	50	60	30	40	100	190	20	20	390	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	11	13	65	33	27	109	207	15	22	424	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	37	43	146	74	61	276	1093	79	100	641	156
Arrive On Green	0.13	0.13	0.13	0.16	0.16	0.16	0.16	0.33	0.33	0.06	0.23	0.23
Sat Flow, veh/h	1119	286	338	908	461	377	1774	3347	241	1774	2818	685
Grp Volume(v), veh/h	67	0	0	125	0	0	109	109	113	22	265	263
Grp Sat Flow(s),veh/h/ln1744	0	0	1747	0	0	1774	1770	1818	1774	1770	1733	
Q Serve(g_s), s	2.1	0.0	0.0	3.8	0.0	0.0	3.3	2.6	2.6	0.7	8.0	8.1
Cycle Q Clear(g_c), s	2.1	0.0	0.0	3.8	0.0	0.0	3.3	2.6	2.6	0.7	8.0	8.1
Prop In Lane	0.64		0.19	0.52		0.22	1.00		0.13	1.00		0.40
Lane Grp Cap(c), veh/h	223	0	0	282	0	0	276	578	594	100	403	394
V/C Ratio(X)	0.30	0.00	0.00	0.44	0.00	0.00	0.40	0.19	0.19	0.22	0.66	0.67
Avail Cap(c_a), veh/h	829	0	0	831	0	0	331	712	732	331	712	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	0.0	22.3	0.0	0.0	22.4	14.2	14.2	26.5	20.7	20.7
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.1	0.0	0.0	0.9	0.2	0.2	1.1	1.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.0	0.0	0.0	0.0	1.9	0.0	0.0	1.6	1.3	1.3	0.4	4.1	4.1
LnGrp Delay(d),s/veh	24.0	0.0	0.0	23.4	0.0	0.0	23.3	14.4	14.4	27.6	22.5	22.7
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		67			125			331			550	
Approach Delay, s/veh		24.0			23.4			17.3			22.8	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s7.3	24.3			12.6	13.1	18.5		14.6				
Change Period (Y+Rc), s 4.0	5.1			5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s 23.7				28.0	11.0	23.7		28.0				
Max Q Clear Time (g_c+1), s 4.6				4.1	5.3	10.1		5.8				
Green Ext Time (p_c), s 0.0		1.1		0.3	0.1	2.6		0.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				21.2								
HCM 2010 LOS				C								

Intersection				
Intersection Delay, s/veh	4.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	120	77	152
Demand Flow Rate, veh/h	111	122	78	155
Vehicles Circulating, veh/h	166	55	133	122
Vehicles Exiting, veh/h	111	156	144	55
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.9	4.4	4.4	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	111	122	78	155
Cap Entry Lane, veh/h	957	1069	989	1000
Entry HV Adj Factor	0.986	0.987	0.982	0.981
Flow Entry, veh/h	109	120	77	152
Cap Entry, veh/h	943	1055	970	980
V/C Ratio	0.116	0.114	0.079	0.155
Control Delay, s/veh	4.9	4.4	4.4	5.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	1

HCM 2010 Signalized Intersection Summary  
 12: Road B & Road C

Cumulative Buildout Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	40	10	30	220	20	30	90	220	110	40	330	60
Future Volume (veh/h)	40	10	30	220	20	30	90	220	110	40	330	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	11	8	239	22	29	98	239	62	43	359	51
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	38	28	321	30	39	262	671	170	166	581	82
Arrive On Green	0.12	0.12	0.12	0.22	0.22	0.22	0.15	0.24	0.24	0.09	0.19	0.19
Sat Flow, veh/h	1220	312	227	1449	133	176	1774	2790	708	1774	3110	438
Grp Volume(v), veh/h	62	0	0	290	0	0	98	150	151	43	203	207
Grp Sat Flow(s),veh/h/ln1759	0	0	0	1758	0	0	1774	1770	1729	1774	1770	1778
Q Serve(g_s), s	1.9	0.0	0.0	9.2	0.0	0.0	3.0	4.2	4.4	1.4	6.3	6.4
Cycle Q Clear(g_c), s	1.9	0.0	0.0	9.2	0.0	0.0	3.0	4.2	4.4	1.4	6.3	6.4
Prop In Lane	0.69		0.13	0.82		0.10	1.00		0.41	1.00		0.25
Lane Grp Cap(c), veh/h	215	0	0	390	0	0	262	426	416	166	330	332
V/C Ratio(X)	0.29	0.00	0.00	0.74	0.00	0.00	0.37	0.35	0.36	0.26	0.61	0.62
Avail Cap(c_a), veh/h	821	0	0	847	0	0	355	673	657	325	643	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	21.8	0.0	0.0	23.1	18.9	19.0	25.2	22.4	22.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.8	0.0	0.0	0.9	0.5	0.5	0.8	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.0	0.0	0.0	0.0	4.7	0.0	0.0	1.5	2.1	2.1	0.7	3.2	3.3
LnGrp Delay(d),s/veh	24.7	0.0	0.0	24.6	0.0	0.0	24.0	19.4	19.5	26.1	24.3	24.4
LnGrp LOS	C			C			C	B	B	C	C	C
Approach Vol, veh/h		62			290			399			453	
Approach Delay, s/veh		24.7			24.6			20.6			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s9.6	19.5			12.4	12.9	16.3		18.4				
Change Period (Y+Rc), s 4.0	5.1			5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s 22.8	22.8			28.0	12.0	21.8		28.9				
Max Q Clear Time (g_c+1), s 6.4	6.4			3.9	5.0	8.4		11.2				
Green Ext Time (p_c), s 0.0	0.0	1.5		0.2	0.1	1.9		1.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				23.2								
HCM 2010 LOS				C								

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
AM Peak Hour

Intersection 13                      East St/County Road 25A                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	18	88.0%	41.3	12.6	D
	Through	50	46	92.2%	40.1	8.6	D
	Right Turn	110	114	103.5%	6.4	1.1	A
	Subtotal	180	178	98.6%	19.2	4.7	B
SB	Left Turn	530	516	97.4%	31.0	3.4	C
	Through	100	97	97.2%	26.1	7.4	C
	Right Turn	90	87	96.6%	4.8	1.0	A
	Subtotal	720	701	97.3%	26.7	2.3	C
EB	Left Turn	60	60	100.0%	45.7	7.0	D
	Through	180	178	99.0%	25.4	3.6	C
	Right Turn	40	41	102.8%	16.8	8.4	B
	Subtotal	280	279	99.8%	28.2	3.4	C
WB	Left Turn	190	192	101.2%	47.3	9.4	D
	Through	210	212	101.1%	20.6	3.9	C
	Right Turn	410	414	101.1%	5.7	0.4	A
	Subtotal	810	819	101.1%	19.9	3.4	B
Total		1,990	1,976	99.3%	23.4	1.3	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
AM Peak Hour

Intersection 14 SR 113 SB Ramps/County Road 25A Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	160	161	100.4%	5.0	0.8	A
	Through						
	Right Turn	190	203	107.1%	4.8	0.2	A
	Subtotal	350	364	104.0%	4.9	0.4	A
EB	Left Turn						
	Through	430	428	99.5%	10.7	1.7	B
	Right Turn	390	381	97.7%	5.6	0.2	A
	Subtotal	820	809	98.7%	8.3	1.0	A
WB	Left Turn	750	745	99.3%	33.7	14.9	D
	Through	620	615	99.2%	36.9	15.3	E
	Right Turn						
	Subtotal	1,370	1,360	99.2%	35.1	15.0	E
Total		2,540	2,533	99.7%	22.7	8.8	C

Intersection 15 SR 113 NB Ramps/County Road 25A Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	290	286	98.6%	5.5	0.4	A
	Through						
	Right Turn	380	378	99.4%	4.9	0.3	A
	Subtotal	670	664	99.0%	5.1	0.3	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	110	103	93.6%	7.4	1.3	A
	Through	480	485	101.0%	10.1	1.1	B
	Right Turn						
	Subtotal	590	588	99.7%	9.6	1.1	A
WB	Left Turn						
	Through	1,080	1,067	98.8%	20.1	8.1	C
	Right Turn	200	201	100.7%	7.0	0.7	A
	Subtotal	1,280	1,268	99.1%	18.2	7.0	C
Total		2,540	2,520	99.2%	12.7	3.6	B

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
AM Peak Hour

Intersection 16

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	20	20	100.5%	5.0	1.2	A
	Subtotal	20	20	100.5%	5.0	1.2	A
SB	Left Turn						
	Through						
	Right Turn	160	156	97.8%	31.2	34.0	D
	Subtotal	160	156	97.8%	31.2	34.0	D
EB	Left Turn						
	Through	660	656	99.3%	2.1	0.4	A
	Right Turn	200	209	104.4%	1.8	0.5	A
	Subtotal	860	864	100.5%	2.0	0.4	A
WB	Left Turn						
	Through	1,120	1,109	99.0%	2.9	0.4	A
	Right Turn	80	77	96.4%	2.2	0.8	A
	Subtotal	1,200	1,186	98.9%	2.9	0.3	A
Total		2,240	2,227	99.4%	5.3	4.4	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
AM Peak Hour

Intersection 17

Road B/County Road 25A

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	90	88	97.6%	43.4	6.6	D
	Through	20	21	104.5%	32.5	11.0	C
	Right Turn	20	20	98.0%	8.4	4.2	A
	Subtotal	130	128	98.7%	36.0	6.3	D
SB	Left Turn	40	41	101.5%	38.1	9.4	D
	Through	50	50	100.6%	27.2	6.5	C
	Right Turn	490	494	100.8%	21.8	4.3	C
	Subtotal	580	585	100.8%	23.3	3.6	C
EB	Left Turn	410	404	98.5%	38.7	11.1	D
	Through	260	260	100.1%	18.9	2.0	B
	Right Turn	10	11	105.0%	9.7	5.5	A
	Subtotal	680	675	99.2%	30.6	7.3	C
WB	Left Turn	70	66	94.0%	56.6	9.3	E
	Through	560	546	97.4%	33.4	3.6	C
	Right Turn	60	65	107.7%	16.1	4.2	B
	Subtotal	690	676	98.0%	34.0	4.0	C
Total		2,080	2,064	99.2%	30.0	3.2	C



Intersection			
Intersection Delay, s/veh	12.5		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	347	685	348
Demand Flow Rate, veh/h	354	699	355
Vehicles Circulating, veh/h	200	44	599
Vehicles Exiting, veh/h	754	510	144
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	8.3	12.6	16.4
Approach LOS	A	B	C
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	354	699	355
Cap Entry Lane, veh/h	925	1081	621
Entry HV Adj Factor	0.980	0.980	0.980
Flow Entry, veh/h	347	685	348
Cap Entry, veh/h	906	1059	608
V/C Ratio	0.383	0.647	0.572
Control Delay, s/veh	8.3	12.6	16.4
LOS	A	B	C
95th %tile Queue, veh	2	5	4

Intersection			
Intersection Delay, s/veh11.1			
Intersection LOS B			
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	500	337	532
Demand Flow Rate, veh/h	510	344	543
Vehicles Circulating, veh/h	133	144	266
Vehicles Exiting, veh/h	676	499	222
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	10.2	7.5	14.3
Approach LOS	B	A	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	510	344	543
Cap Entry Lane, veh/h	989	978	866
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	500	337	532
Cap Entry, veh/h	969	957	848
V/C Ratio	0.516	0.352	0.627
Control Delay, s/veh	10.2	7.5	14.3
LOS	B	A	B
95th %tile Queue, veh	3	2	5

HCM 2010 Signalized Intersection Summary  
20: CR 102 & CR 25A

Cumulative Buildout Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	220	310	160	410	590	110		
Future Volume (veh/h)	220	310	160	410	590	110		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	239	163	174	446	641	52		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	383	1030	1030	871		
Arrive On Green	0.22	0.22	0.55	0.55	0.55	0.55		
Sat Flow, veh/h	1774	1583	747	1863	1863	1576		
Grp Volume(v), veh/h	239	163	174	446	641	52		
Grp Sat Flow(s),veh/h/ln	1774	1583	747	1863	1863	1576		
Q Serve(g_s), s	6.0	4.4	10.3	7.0	11.6	0.8		
Cycle Q Clear(g_c), s	6.0	4.4	21.9	7.0	11.6	0.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	392	350	383	1030	1030	871		
V/C Ratio(X)	0.61	0.47	0.45	0.43	0.62	0.06		
Avail Cap(c_a), veh/h	752	671	540	1421	1421	1202		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.4	16.8	15.0	6.5	7.6	5.1		
Incr Delay (d2), s/veh	1.5	1.0	0.8	0.3	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.1	2.0	2.2	3.6	6.1	0.3		
LnGrp Delay(d),s/veh	18.9	17.7	15.8	6.8	8.2	5.2		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	402			620	693			
Approach Delay, s/veh	18.4			9.3	7.9			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		33.9		15.7		33.9		
Change Period (Y+Rc), s		6.5		* 4.7		6.5		
Max Green Setting (Gmax), s		37.8		* 21		37.8		
Max Q Clear Time (g_c+I1), s		23.9		8.0		13.6		
Green Ext Time (p_c), s		3.5		1.1		4.8		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			10.9					
HCM 2010 LOS			B					
<b>Notes</b>								

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 21: East St & Gibson Rd/E Gibson Rd

Cumulative Buildout Conditions  
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	800	110	120	770	180	310	480	190	230	290	130
Future Volume (veh/h)	220	800	110	120	770	180	310	480	190	230	290	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	239	870	110	130	837	96	337	522	33	250	315	93
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	278	1009	128	224	1025	450	374	712	314	287	413	120
Arrive On Green	0.16	0.32	0.32	0.13	0.29	0.29	0.21	0.20	0.20	0.16	0.15	0.15
Sat Flow, veh/h	1757	3122	395	1757	3505	1538	1757	3505	1543	1757	2680	778
Grp Volume(v), veh/h	239	488	492	130	837	96	337	522	33	250	204	204
Grp Sat Flow(s),veh/h/ln	1757	1752	1765	1757	1752	1538	1757	1752	1543	1757	1752	1706
Q Serve(g_s), s	10.9	21.4	21.4	5.7	18.2	3.9	15.3	11.4	1.4	11.4	9.1	9.4
Cycle Q Clear(g_c), s	10.9	21.4	21.4	5.7	18.2	3.9	15.3	11.4	1.4	11.4	9.1	9.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	278	566	570	224	1025	450	374	712	314	287	270	263
V/C Ratio(X)	0.86	0.86	0.86	0.58	0.82	0.21	0.90	0.73	0.11	0.87	0.76	0.78
Avail Cap(c_a), veh/h	386	849	855	236	1398	614	665	1510	665	407	498	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	26.0	26.0	33.7	27.0	21.9	31.4	30.6	26.6	33.4	33.2	33.3
Incr Delay (d2), s/veh	10.3	4.1	4.0	1.9	2.0	0.1	3.8	0.6	0.1	10.4	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	10.9	11.0	2.9	9.0	1.6	7.8	5.6	0.6	6.3	4.5	4.6
LnGrp Delay(d),s/veh	44.0	30.1	30.1	35.6	28.9	22.0	35.2	31.1	26.6	43.8	34.8	35.2
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1219			1063			892			658	
Approach Delay, s/veh		32.8			29.1			32.5			38.4	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	21.5	13.4	30.6	20.4	17.5	15.9	28.1				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	19.0	35.3	11.0	39.7	31.0	23.3	18.0	32.7				
Max Q Clear Time (g_c+I), s	13.4	13.4	7.7	23.4	17.3	11.4	12.9	20.2				
Green Ext Time (p_c), s	0.1	2.2	0.0	2.9	0.1	1.2	0.1	2.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				32.7								
HCM 2010 LOS				C								

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Cumulative Buildout Conditions  
PM Peak Hour

Intersection 1

SR 113 NB Ramps/E Gibson Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	220	220	99.9%	19.4	2.4	B
	Through						
	Right Turn	900	895	99.4%	32.0	13.7	C
	Subtotal	1,120	1,114	99.5%	29.5	11.0	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	1,000	998	99.8%	32.8	11.8	C
	Right Turn	280	288	102.9%	8.8	3.4	A
	Subtotal	1,280	1,286	100.5%	27.4	9.7	C
WB	Left Turn						
	Through	1,230	1,244	101.2%	30.4	4.0	C
	Right Turn	160	161	100.6%	14.6	3.0	B
	Subtotal	1,390	1,405	101.1%	28.8	3.7	C
Total		3,790	3,806	100.4%	28.6	6.8	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Tech Park TIS  
Cumulative Buildout Conditions  
PM Peak Hour

Intersection 2                      Bourn Dr-Harry Lorenzo Ave/E Gibson Rd                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	100	103	103.1%	60.9	15.0	E
	Through	30	33	110.7%	50.0	16.0	D
	Right Turn	10	11	109.0%	29.8	28.5	C
	Subtotal	140	147	105.1%	56.0	11.5	E
SB	Left Turn	30	29	97.7%	60.4	14.6	E
	Through	30	27	90.3%	48.8	12.0	D
	Right Turn	90	88	97.6%	27.7	9.0	C
	Subtotal	150	144	96.1%	37.3	8.5	D
EB	Left Turn	200	193	96.4%	76.2	8.6	E
	Through	1,550	1,548	99.9%	50.2	6.9	D
	Right Turn	150	145	96.9%	48.1	7.4	D
	Subtotal	1,900	1,886	99.3%	52.7	6.5	D
WB	Left Turn	100	101	101.0%	70.1	14.4	E
	Through	1,200	1,212	101.0%	45.4	8.7	D
	Right Turn	90	86	95.2%	45.5	11.7	D
	Subtotal	1,390	1,398	100.6%	47.2	8.5	D
Total		3,580	3,576	99.9%	50.1	5.9	D

Intersection 3                      Pioneer Ave/E Gibson Rd                      Signal






















Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	230	234	101.6%	62.1	8.7	E
	Through	310	314	101.4%	35.5	3.6	D
	Right Turn	520	526	101.1%	35.8	17.7	D
	Subtotal	1,060	1,074	101.3%	41.3	8.7	D
SB	Left Turn	70	72	102.1%	51.2	10.9	D
	Through	470	472	100.5%	40.7	3.6	D
	Right Turn	210	213	101.2%	19.6	2.9	B
	Subtotal	750	756	100.8%	35.8	3.0	D
EB	Left Turn	340	341	100.2%	64.8	10.1	E
	Through	940	949	100.9%	52.4	11.2	D
	Right Turn	310	307	99.1%	32.2	8.0	C
	Subtotal	1,590	1,596	100.4%	51.4	8.2	D
WB	Left Turn	540	533	98.7%	75.2	25.4	E
	Through	950	958	100.9%	50.8	10.7	D
	Right Turn	100	102	102.4%	42.5	9.3	D
	Subtotal	1,590	1,594	100.3%	58.8	13.7	E
Total		4,990	5,020	100.6%	49.3	5.3	D

# HCM Signalized Intersection Capacity Analysis

# Cumulative Buildout Conditions

## 4: CR 102 & E. Gibson Rd/CR 24

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	950	330	140	230	400	10	10	230	790	10	10	870
Future Volume (vph)	950	330	140	230	400	10	10	230	790	10	10	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	5.2	5.2	3.5	5.2			3.0	5.2		3.0	5.2
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95			1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	3367	1827	1522	1736	3457			1736	3463		1736	3471
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	3367	1827	1522	1736	3457			1736	3463		1736	3471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1033	359	152	250	435	11	11	250	859	11	11	946
RTOR Reduction (vph)	0	0	96	0	1	0	0	0	1	0	0	0
Lane Group Flow (vph)	1033	359	56	250	445	0	0	261	869	0	11	946
Confl. Peds. (#/hr)			5			5				5		
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	NA
Protected Phases	5	2		1	6		3	3	8		7	4
Permitted Phases			2									
Actuated Green, G (s)	44.5	43.1	43.1	24.6	23.2			21.8	38.8		21.8	38.8
Effective Green, g (s)	44.5	43.1	43.1	24.6	23.2			21.8	38.8		21.8	38.8
Actuated g/C Ratio	0.29	0.28	0.28	0.16	0.15			0.14	0.25		0.14	0.25
Clearance Time (s)	3.5	5.2	5.2	3.5	5.2			3.0	5.2		3.0	5.2
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0			1.0	1.5		1.0	1.5
Lane Grp Cap (vph)	984	517	431	280	526			248	882		248	884
v/s Ratio Prot	c0.31	0.20		0.14	c0.13			c0.15	0.25		0.01	c0.27
v/s Ratio Perm			0.04									
v/c Ratio	1.05	0.69	0.13	0.89	0.85			1.05	0.99		0.04	1.07
Uniform Delay, d1	53.8	48.7	40.6	62.5	62.8			65.2	56.4		56.2	56.7
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	42.7	3.3	0.0	27.4	11.5			71.6	26.5		0.0	50.8
Delay (s)	96.5	51.9	40.6	89.9	74.3			136.8	82.9		56.2	107.5
Level of Service	F	D	D	F	E			F	F		E	F
Approach Delay (s)		80.6			79.9				95.3			75.3
Approach LOS		F			E				F			E
<b>Intersection Summary</b>												
HCM 2000 Control Delay			82.0			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			152.2			Sum of lost time (s)			18.9			
Intersection Capacity Utilization			93.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	720
Future Volume (vph)	720
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.5
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1538
Flt Permitted	1.00
Satd. Flow (perm)	1538
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	783
RTOR Reduction (vph)	71
Lane Group Flow (vph)	712
Confl. Peds. (#/hr)	5
Confl. Bikes (#/hr)	2
Heavy Vehicles (%)	4%
Turn Type	pm+ov
Protected Phases	5
Permitted Phases	4
Actuated Green, G (s)	83.3
Effective Green, g (s)	83.3
Actuated g/C Ratio	0.55
Clearance Time (s)	3.5
Vehicle Extension (s)	1.0
Lane Grp Cap (vph)	841
v/s Ratio Prot	0.25
v/s Ratio Perm	0.22
v/c Ratio	0.85
Uniform Delay, d1	29.1
Progression Factor	1.00
Incremental Delay, d2	7.6
Delay (s)	36.6
Level of Service	D
Approach Delay (s)	
Approach LOS	
<b>Intersection Summary</b>	

HCM 2010 Signalized Intersection Summary  
5: East St & CR 24C

Cumulative Buildout Conditions  
Timing Plan: PM Peak Hour
























Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	40	340	510	20	360	420		
Future Volume (veh/h)	40	340	510	20	360	420		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1900	1900	1863		
Adj Flow Rate, veh/h	43	107	554	21	391	457		
Adj No. of Lanes	0	0	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	51	127	1440	55	437	462		
Arrive On Green	0.11	0.11	0.81	0.81	0.81	0.81		
Sat Flow, veh/h	458	1139	1783	68	489	571		
Grp Volume(v), veh/h	151	0	0	575	848	0		
Grp Sat Flow(s),veh/h/ln	1608	0	0	1851	1060	0		
Q Serve(g_s), s	11.5	0.0	0.0	10.9	87.3	0.0		
Cycle Q Clear(g_c), s	11.5	0.0	0.0	10.9	98.2	0.0		
Prop In Lane	0.28	0.71		0.04	0.46			
Lane Grp Cap(c), veh/h	180	0	0	1495	898	0		
V/C Ratio(X)	0.84	0.00	0.00	0.38	0.94	0.00		
Avail Cap(c_a), veh/h	231	0	0	1504	904	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	54.6	0.0	0.0	3.4	17.1	0.0		
Incr Delay (d2), s/veh	19.1	0.0	0.0	0.2	17.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	5.5	32.5	0.0		
LnGrp Delay(d),s/veh	73.7	0.0	0.0	3.5	34.9	0.0		
LnGrp LOS	E			A	C			
Approach Vol, veh/h	151		575		848			
Approach Delay, s/veh	73.7		3.5		34.9			
Approach LOS	E		A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		106.7				106.7		18.7
Change Period (Y+Rc), s		5.4				5.4		4.7
Max Green Setting (Gmax), s		101.9				101.9		18.0
Max Q Clear Time (g_c+11), s		12.9				100.2		13.5
Green Ext Time (p_c), s		4.0				1.1		0.2
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			27.2					
HCM 2010 LOS			C					
<b>Notes</b>								

User approved volume balancing among the lanes for turning movement.

Intersection				
Intersection Delay, s/veh	12.8			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	489	695	207	185
Demand Flow Rate, veh/h	499	710	211	189
Vehicles Circulating, veh/h	255	89	577	643
Vehicles Exiting, veh/h	577	699	177	156
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	12.5	14.4	10.3	10.7
Approach LOS	B	B	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	499	710	211	189
Cap Entry Lane, veh/h	876	1034	635	594
Entry HV Adj Factor	0.981	0.979	0.983	0.977
Flow Entry, veh/h	489	695	207	185
Cap Entry, veh/h	858	1012	623	580
V/C Ratio	0.570	0.687	0.333	0.318
Control Delay, s/veh	12.5	14.4	10.3	10.7
LOS	B	B	B	B
95th %tile Queue, veh	4	6	1	1

HCM 2010 Signalized Intersection Summary  
7: Road B/Road F & Parkland Ave

Cumulative Buildout Conditions  
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	360	210	350	370	120	320	60	360	70	30	40
Future Volume (veh/h)	50	360	210	350	370	120	320	60	360	70	30	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	54	391	105	380	402	106	348	65	65	76	33	29
Adj No. of Lanes	1	1	1	1	2	0	1	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	453	382	400	1060	277	399	419	354	109	47	42
Arrive On Green	0.09	0.24	0.24	0.23	0.38	0.38	0.23	0.23	0.23	0.11	0.11	0.11
Sat Flow, veh/h	1774	1863	1574	1774	2775	724	1774	1863	1573	961	417	367
Grp Volume(v), veh/h	54	391	105	380	255	253	348	65	65	138	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1574	1774	1770	1729	1774	1863	1573	1744	0	0
Q Serve(g_s), s	2.8	19.6	5.3	20.6	10.1	10.3	18.4	2.7	3.3	7.4	0.0	0.0
Cycle Q Clear(g_c), s	2.8	19.6	5.3	20.6	10.1	10.3	18.4	2.7	3.3	7.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	0.55		0.21
Lane Grp Cap(c), veh/h	154	453	382	400	676	661	399	419	354	198	0	0
V/C Ratio(X)	0.35	0.86	0.27	0.95	0.38	0.38	0.87	0.16	0.18	0.70	0.00	0.00
Avail Cap(c_a), veh/h	200	535	452	400	708	692	513	539	455	501	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	41.9	35.3	29.9	37.2	21.7	21.8	36.4	30.3	30.5	41.6	0.0	0.0
Incr Delay (d2), s/veh	1.4	12.2	0.4	32.1	0.3	0.4	12.5	0.2	0.2	4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.6	2.3	13.6	5.0	5.0	10.4	1.4	1.4	3.8	0.0	0.0
LnGrp Delay(d),s/veh	43.3	47.5	30.3	69.2	22.1	22.2	48.9	30.5	30.8	46.0	0.0	0.0
LnGrp LOS	D	D	C	E	C	C	D	C	C	D		
Approach Vol, veh/h		550			888			478			138	
Approach Delay, s/veh		43.8			42.3			43.9			46.0	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	26.0	28.8		15.6	12.5	42.3				
Change Period (Y+Rc), s		5.1	4.0	5.1		4.6	4.0	5.1				
Max Green Setting (Gmax), s		28.2	22.0	28.0		28.0	11.0	39.0				
Max Q Clear Time (g_c+I1), s		20.4	22.6	21.6		9.4	4.8	12.3				
Green Ext Time (p_c), s		1.1	0.0	1.4		0.7	0.0	3.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			43.3									
HCM 2010 LOS			D									

HCM Signalized Intersection Capacity Analysis  
8: Parkland Ave & Pioneer Ave

Cumulative Buildout Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	560	150	170	220	210	610
Future Volume (vph)	560	150	170	220	210	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1863	1556	1770	1556
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1863	1556	1770	1556
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	163	185	239	228	663
RTOR Reduction (vph)	0	0	0	196	0	526
Lane Group Flow (vph)	609	163	185	43	228	137
Confl. Peds. (#/hr)				5		5
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	34.9	15.5	15.5	15.5	17.6	17.6
Effective Green, g (s)	34.9	15.5	15.5	15.5	17.6	17.6
Actuated g/C Ratio	0.41	0.18	0.18	0.18	0.21	0.21
Clearance Time (s)	5.8	5.8	5.8	5.8	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	723	642	338	282	364	320
v/s Ratio Prot	c0.34	0.05	c0.10		c0.13	
v/s Ratio Perm				0.03		0.09
v/c Ratio	0.84	0.25	0.55	0.15	0.63	0.43
Uniform Delay, d1	22.8	30.0	31.8	29.4	30.9	29.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	1.8	0.3	3.3	0.9
Delay (s)	31.6	30.2	33.6	29.7	34.3	30.4
Level of Service	C	C	C	C	C	C
Approach Delay (s)		31.3	31.4		31.4	
Approach LOS		C	C		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			31.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.72			
Actuated Cycle Length (s)			85.4		Sum of lost time (s)	17.4
Intersection Capacity Utilization			69.3%		ICU Level of Service	C
Analysis Period (min)			15			
c	Critical Lane Group					

HCM 2010 Signalized Intersection Summary  
 9: Road B & Road E

Cumulative Buildout Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	130	10	60	20	10	90	80	520	40	150	290	150
Future Volume (veh/h)	130	10	60	20	10	90	80	520	40	150	290	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	11	49	22	11	9	87	565	39	163	315	104
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	16	72	91	46	37	247	810	56	301	712	231
Arrive On Green	0.17	0.17	0.17	0.10	0.10	0.10	0.14	0.24	0.24	0.17	0.27	0.27
Sat Flow, veh/h	1209	94	420	915	458	374	1774	3357	231	1774	2623	850
Grp Volume(v), veh/h	201	0	0	42	0	0	87	297	307	163	211	208
Grp Sat Flow(s),veh/h/ln	1724	0	0	1747	0	0	1774	1770	1819	1774	1770	1703
Q Serve(g_s), s	6.6	0.0	0.0	1.3	0.0	0.0	2.7	9.3	9.3	5.1	6.0	6.2
Cycle Q Clear(g_c), s	6.6	0.0	0.0	1.3	0.0	0.0	2.7	9.3	9.3	5.1	6.0	6.2
Prop In Lane	0.70		0.24	0.52		0.21	1.00		0.13	1.00		0.50
Lane Grp Cap(c), veh/h	296	0	0	174	0	0	247	427	439	301	480	462
V/C Ratio(X)	0.68	0.00	0.00	0.24	0.00	0.00	0.35	0.70	0.70	0.54	0.44	0.45
Avail Cap(c_a), veh/h	795	0	0	806	0	0	339	662	680	351	673	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	25.2	0.0	0.0	23.6	21.0	21.0	23.0	18.3	18.4
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.7	0.0	0.0	0.9	2.1	2.0	1.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	0.0	0.7	0.0	0.0	1.4	4.8	4.9	2.6	3.0	3.0
LnGrp Delay(d),s/veh	26.3	0.0	0.0	25.9	0.0	0.0	24.5	23.1	23.1	24.6	18.9	19.1
LnGrp LOS	C			C			C	C	C	C	B	B
Approach Vol, veh/h		201			42			691			582	
Approach Delay, s/veh		26.3			25.9			23.2			20.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.3	19.7		15.5	12.5	21.6		11.1				
Change Period (Y+Rc), s	4.0	5.1		5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s	12.0	22.7		28.0	11.6	23.1		28.0				
Max Q Clear Time (g_c+1), s	11.3			8.6	4.7	8.2		3.3				
Green Ext Time (p_c), s	0.2	2.7		1.1	0.1	2.1		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				22.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary  
 10: Road B & Marston Dr

Cumulative Buildout Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	100	20	100	30	10	20	70	400	50	40	270	50
Future Volume (veh/h)	100	20	100	30	10	20	70	400	50	40	270	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	22	79	33	11	1	76	435	45	43	293	40
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	34	122	141	47	4	247	789	81	172	631	85
Arrive On Green	0.19	0.19	0.19	0.11	0.11	0.11	0.14	0.24	0.24	0.10	0.20	0.20
Sat Flow, veh/h	882	178	639	1312	437	40	1774	3236	333	1774	3129	423
Grp Volume(v), veh/h	210	0	0	45	0	0	76	237	243	43	164	169
Grp Sat Flow(s),veh/h/ln1700	0	0	1790	0	0	1774	1770	1800	1774	1770	1782	
Q Serve(g_s), s	6.1	0.0	0.0	1.2	0.0	0.0	2.1	6.3	6.3	1.2	4.4	4.5
Cycle Q Clear(g_c), s	6.1	0.0	0.0	1.2	0.0	0.0	2.1	6.3	6.3	1.2	4.4	4.5
Prop In Lane	0.52		0.38	0.73		0.02	1.00		0.19	1.00		0.24
Lane Grp Cap(c), veh/h	325	0	0	192	0	0	247	431	439	172	357	360
V/C Ratio(X)	0.65	0.00	0.00	0.23	0.00	0.00	0.31	0.55	0.55	0.25	0.46	0.47
Avail Cap(c_a), veh/h	892	0	0	936	0	0	365	780	793	365	780	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	0.0	21.9	0.0	0.0	20.7	17.7	17.7	22.4	18.8	18.8
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.6	0.0	0.0	0.7	1.1	1.1	0.7	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/lr3.1	0.0	0.0	0.0	0.6	0.0	0.0	1.1	3.2	3.2	0.6	2.2	2.3
LnGrp Delay(d),s/veh	22.1	0.0	0.0	22.5	0.0	0.0	21.4	18.8	18.8	23.1	19.7	19.8
LnGrp LOS	C			C			C	B	B	C	B	B
Approach Vol, veh/h		210			45			556			376	
Approach Delay, s/veh		22.1			22.5			19.1			20.1	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s9.2	18.2			15.3	11.4	15.9		10.8				
Change Period (Y+Rc), s 4.0	5.1			5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s 23.6	23.6			28.1	11.0	23.6		28.0				
Max Q Clear Time (g_c+1), s 8.3	8.3			8.1	4.1	6.5		3.2				
Green Ext Time (p_c), s 0.0	0.0	2.4		1.2	0.1	1.7		0.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			20.1									
HCM 2010 LOS			C									



Intersection				
Intersection Delay, s/veh	4.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	109	131	120	77
Demand Flow Rate, veh/h	111	134	122	79
Vehicles Circulating, veh/h	102	111	123	134
Vehicles Exiting, veh/h	111	134	90	111
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5	5
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.6	4.8	4.8	4.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	111	134	122	79
Cap Entry Lane, veh/h	1020	1011	999	988
Entry HV Adj Factor	0.986	0.981	0.987	0.979
Flow Entry, veh/h	109	131	120	77
Cap Entry, veh/h	1006	991	986	967
V/C Ratio	0.109	0.133	0.122	0.080
Control Delay, s/veh	4.6	4.8	4.8	4.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

HCM 2010 Signalized Intersection Summary  
 12: Road B & Road C

Cumulative Buildout Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	60	20	20	170	20	50	110	340	230	40	260	40
Future Volume (veh/h)	60	20	20	170	20	50	110	340	230	40	260	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	22	11	185	22	44	120	370	149	43	283	31
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	58	29	254	30	60	279	601	238	166	578	63
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.16	0.24	0.24	0.09	0.18	0.18
Sat Flow, veh/h	1172	397	198	1284	153	305	1774	2469	979	1774	3216	349
Grp Volume(v), veh/h	98	0	0	251	0	0	120	264	255	43	155	159
Grp Sat Flow(s),veh/h/ln1767	0	0	0	1742	0	0	1774	1770	1678	1774	1770	1795
Q Serve(g_s), s	3.0	0.0	0.0	8.2	0.0	0.0	3.7	8.0	8.2	1.4	4.8	4.9
Cycle Q Clear(g_c), s	3.0	0.0	0.0	8.2	0.0	0.0	3.7	8.0	8.2	1.4	4.8	4.9
Prop In Lane	0.66		0.11	0.74		0.18	1.00		0.58	1.00		0.19
Lane Grp Cap(c), veh/h	260	0	0	345	0	0	279	431	409	166	318	323
V/C Ratio(X)	0.38	0.00	0.00	0.73	0.00	0.00	0.43	0.61	0.63	0.26	0.49	0.49
Avail Cap(c_a), veh/h	815	0	0	804	0	0	322	691	655	322	691	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	22.8	0.0	0.0	23.1	20.4	20.5	25.6	22.4	22.4
Incr Delay (d2), s/veh	0.9	0.0	0.0	2.9	0.0	0.0	1.0	1.4	1.6	0.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln1.5	0.0	0.0	0.0	4.2	0.0	0.0	1.9	4.0	4.0	0.7	2.4	2.5
LnGrp Delay(d),s/veh	24.3	0.0	0.0	25.7	0.0	0.0	24.2	21.8	22.1	26.4	23.5	23.6
LnGrp LOS	C			C			C	C	C	C	C	C
Approach Vol, veh/h		98			251			639			357	
Approach Delay, s/veh		24.3			25.7			22.4			23.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s9.7	19.9			14.0	13.5	16.0		17.1				
Change Period (Y+Rc), s 4.0	5.1			5.1	4.0	5.1		5.1				
Max Green Setting (Gmax), s 23.7	23.7			28.0	11.0	23.7		28.0				
Max Q Clear Time (g_c+1), s 10.2	10.2			5.0	5.7	6.9		10.2				
Green Ext Time (p_c), s 0.0	0.0	2.6		0.4	0.1	1.5		1.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				23.5								
HCM 2010 LOS				C								

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
PM Peak Hour

Intersection 13                      East St/County Road 25A                      Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	40	41	101.8%	42.1	5.9	D
	Through	130	125	96.1%	34.7	4.9	C
	Right Turn	210	211	100.2%	7.9	1.3	A
	Subtotal	380	376	99.0%	21.0	2.6	C
SB	Left Turn	350	350	100.1%	34.3	4.9	C
	Through	80	88	110.5%	25.5	5.7	C
	Right Turn	70	73	103.7%	4.1	0.7	A
	Subtotal	500	511	102.3%	28.3	3.0	C
EB	Left Turn	90	93	103.6%	43.3	4.8	D
	Through	100	97	96.9%	25.8	4.9	C
	Right Turn	30	29	96.3%	11.5	5.8	B
	Subtotal	220	219	99.5%	31.1	4.1	C
WB	Left Turn	180	177	98.4%	43.1	6.5	D
	Through	130	124	95.3%	24.8	3.8	C
	Right Turn	630	631	100.2%	8.7	1.1	A
	Subtotal	940	932	99.2%	17.3	2.2	B
Total		2,040	2,039	99.9%	22.3	1.3	C

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
PM Peak Hour

Intersection 14

SR 113 SB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	200	192	96.0%	4.0	0.2	A
	Through						
	Right Turn	230	224	97.4%	4.1	0.2	A
	Subtotal	430	416	96.7%	4.1	0.2	A
EB	Left Turn						
	Through	500	500	100.0%	7.6	0.3	A
	Right Turn	160	160	99.8%	4.2	0.1	A
	Subtotal	660	660	99.9%	6.8	0.3	A
WB	Left Turn	450	437	97.2%	6.4	1.1	A
	Through	710	708	99.7%	9.0	1.4	A
	Right Turn						
	Subtotal	1,160	1,145	98.7%	8.0	1.2	A
Total		2,250	2,220	98.7%	6.9	0.7	A

Intersection 15

SR 113 NB Ramps/County Road 25A

Roundabout

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	280	275	98.2%	4.3	0.3	A
	Through						
	Right Turn	640	645	100.8%	4.6	0.2	A
	Subtotal	920	920	100.0%	4.5	0.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn	120	118	98.0%	4.9	0.4	A
	Through	580	575	99.2%	7.3	0.3	A
	Right Turn						
	Subtotal	700	693	99.0%	6.9	0.2	A
WB	Left Turn						
	Through	880	872	99.1%	9.1	0.4	A
	Right Turn	180	182	101.1%	5.9	0.3	A
	Subtotal	1,060	1,054	99.5%	8.5	0.4	A
Total		2,680	2,667	99.5%	6.7	0.2	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement

Woodland Research Park  
Cumulative Plus Project Conditions  
PM Peak Hour

Intersection 16

Road A/County Road 25A

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn	40	43	106.3%	10.5	4.4	B
	Subtotal	40	43	106.3%	10.5	4.4	B
SB	Left Turn						
	Through						
	Right Turn	120	118	98.3%	11.2	4.7	B
	Subtotal	120	118	98.3%	11.2	4.7	B
EB	Left Turn						
	Through	1,090	1,091	100.1%	3.1	0.4	A
	Right Turn	130	129	99.2%	2.3	0.6	A
	Subtotal	1,220	1,220	100.0%	3.0	0.4	A
WB	Left Turn						
	Through	940	937	99.7%	2.3	0.2	A
	Right Turn	100	101	100.5%	3.1	0.5	A
	Subtotal	1,040	1,038	99.8%	2.4	0.2	A
Total		2,420	2,418	99.9%	3.3	0.5	A

SimTraffic Post-Processor  
Average Results from 10 Runs  
Volume and Delay by Movement  
Intersection 17

Road B/County Road 25A

Woodland Research Park  
Cumulative Plus Project Conditions  
PM Peak Hour  
Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	190	184	96.8%	45.0	4.9	D
	Through	40	41	102.5%	35.2	9.1	D
	Right Turn	70	74	106.0%	17.1	6.3	B
	Subtotal	300	299	99.7%	36.8	3.1	D
SB	Left Turn	80	81	101.4%	37.3	7.1	D
	Through	40	39	98.0%	29.8	12.8	C
	Right Turn	400	402	100.4%	14.1	1.3	B
	Subtotal	520	522	100.4%	18.7	2.5	B
EB	Left Turn	650	650	99.9%	46.1	8.6	D
	Through	470	469	99.9%	22.7	4.6	C
	Right Turn	10	11	112.0%	18.7	10.8	B
	Subtotal	1,130	1,130	100.0%	35.8	5.7	D
WB	Left Turn	40	40	99.5%	49.2	6.8	D
	Through	400	399	99.9%	32.9	4.0	C
	Right Turn	30	33	110.3%	19.1	6.2	B
	Subtotal	470	472	100.5%	33.3	4.0	C
Total		2,420	2,424	100.1%	31.7	2.7	C

Intersection			
Intersection Delay, s/veh	11.1		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	608	522	196
Demand Flow Rate, veh/h	620	532	200
Vehicles Circulating, veh/h	122	144	355
Vehicles Exiting, veh/h	433	598	321
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	12.6	10.9	7.5
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	620	532	200
Cap Entry Lane, veh/h	1000	978	792
Entry HV Adj Factor	0.980	0.981	0.980
Flow Entry, veh/h	608	522	196
Cap Entry, veh/h	980	959	776
V/C Ratio	0.620	0.544	0.253
Control Delay, s/veh	12.6	10.9	7.5
LOS	B	B	A
95th %tile Queue, veh	4	3	1

Intersection			
Intersection Delay, s/veh	11.3		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	619	435	272
Demand Flow Rate, veh/h	632	444	277
Vehicles Circulating, veh/h	66	333	333
Vehicles Exiting, veh/h	544	365	444
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	5	5	5
Ped Cap Adj	0.999	0.999	0.999
Approach Delay, s/veh	11.5	12.6	8.6
Approach LOS	B	B	A
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	632	444	277
Cap Entry Lane, veh/h	1058	810	810
Entry HV Adj Factor	0.980	0.981	0.982
Flow Entry, veh/h	619	435	272
Cap Entry, veh/h	1036	794	795
V/C Ratio	0.598	0.549	0.342
Control Delay, s/veh	11.5	12.6	8.6
LOS	B	B	A
95th %tile Queue, veh	4	3	2



HCM 2010 Signalized Intersection Summary  
20: CR 102 & CR 25A

Cumulative Buildout Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	170	140	240	530	560	190		
Future Volume (veh/h)	170	140	240	530	560	190		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	185	30	261	576	609	100		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	326	291	448	1160	1160	982		
Arrive On Green	0.18	0.18	0.62	0.62	0.62	0.62		
Sat Flow, veh/h	1774	1583	736	1863	1863	1577		
Grp Volume(v), veh/h	185	30	261	576	609	100		
Grp Sat Flow(s),veh/h/ln	1774	1583	736	1863	1863	1577		
Q Serve(g_s), s	5.5	0.9	17.8	9.8	10.6	1.5		
Cycle Q Clear(g_c), s	5.5	0.9	28.4	9.8	10.6	1.5		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	326	291	448	1160	1160	982		
V/C Ratio(X)	0.57	0.10	0.58	0.50	0.53	0.10		
Avail Cap(c_a), veh/h	643	574	597	1537	1537	1301		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.5	19.7	14.1	6.0	6.1	4.4		
Incr Delay (d2), s/veh	1.5	0.2	1.2	0.3	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	0.4	3.7	5.1	5.5	0.7		
LnGrp Delay(d),s/veh	23.1	19.8	15.3	6.3	6.5	4.4		
LnGrp LOS	C	B	B	A	A	A		
Approach Vol, veh/h	215			837	709			
Approach Delay, s/veh	22.6			9.1	6.2			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		42.6		15.4		42.6		
Change Period (Y+Rc), s		6.5		* 4.7		6.5		
Max Green Setting (Gmax), s		47.8		* 21		47.8		
Max Q Clear Time (g_c+I1), s		30.4		7.5		12.6		
Green Ext Time (p_c), s		5.6		0.5		5.1		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			9.6					
HCM 2010 LOS			A					
<b>Notes</b>								

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary  
 21: East St & Gibson Rd/E Gibson Rd

Cumulative Buildout Conditions  
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	770	230	200	740	180	230	420	160	280	470	210
Future Volume (veh/h)	90	770	230	200	740	180	230	420	160	280	470	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	98	837	230	217	804	116	250	457	35	304	511	193
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	162	922	253	244	1359	597	278	700	308	331	573	215
Arrive On Green	0.09	0.34	0.34	0.14	0.39	0.39	0.16	0.20	0.20	0.19	0.23	0.23
Sat Flow, veh/h	1757	2704	743	1757	3505	1541	1757	3505	1543	1757	2493	937
Grp Volume(v), veh/h	98	542	525	217	804	116	250	457	35	304	358	346
Grp Sat Flow(s),veh/h/ln	1757	1752	1695	1757	1752	1541	1757	1752	1543	1757	1752	1678
Q Serve(g_s), s	6.1	33.6	33.6	13.8	20.7	5.7	15.9	13.6	2.1	19.3	22.5	22.7
Cycle Q Clear(g_c), s	6.1	33.6	33.6	13.8	20.7	5.7	15.9	13.6	2.1	19.3	22.5	22.7
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	162	598	578	244	1359	597	278	700	308	331	403	386
V/C Ratio(X)	0.60	0.91	0.91	0.89	0.59	0.19	0.90	0.65	0.11	0.92	0.89	0.90
Avail Cap(c_a), veh/h	263	772	747	309	1637	719	541	1137	501	433	461	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	35.8	35.8	48.1	27.7	23.0	47.0	41.9	37.3	45.3	42.4	42.5
Incr Delay (d2), s/veh	1.3	10.6	11.0	19.1	0.2	0.1	4.3	0.4	0.1	18.6	16.1	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	18.0	17.5	8.0	10.1	2.4	8.0	6.6	0.9	11.1	12.7	12.4
LnGrp Delay(d),s/veh	51.0	46.4	46.8	67.2	27.8	23.1	51.3	42.3	37.3	63.9	58.5	60.0
LnGrp LOS	D	D	D	E	C	C	D	D	D	E	E	E
Approach Vol, veh/h		1165			1137			742			1008	
Approach Delay, s/veh		46.9			34.8			45.1			60.6	
Approach LOS		D			C			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.4	27.6	18.8	42.9	21.0	31.0	13.5	48.2				
Change Period (Y+Rc), s	3.0	4.9	3.0	4.1	3.0	4.9	3.0	4.1				
Max Green Setting (Gmax), s	28.6	36.9	20.0	50.1	35.0	29.9	17.0	53.1				
Max Q Clear Time (g_c+D1), s	21.3	15.6	15.8	35.6	17.9	24.7	8.1	22.7				
Green Ext Time (p_c), s	0.1	1.8	0.0	3.2	0.1	1.4	0.1	3.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				46.6								
HCM 2010 LOS				D								