Traffic Impact Study

Gas Station with Convenience Market, Fast Food Restaurants, and Truck Fueling Facility at Northeast Corner of State Highway 65 and Cedar Avenue, Tulare County, California

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Table of Contents

List of Tables:

Appendix "A" Exhibits and Figures:

(Continued)

Appendix "A" Exhibit and Figures (Continued):

I. INTRODUCTION

This traffic impact study was prepared to determine traffic impact and potential mitigation for a proposed highway commercial development in Tulare County, sited at the northeast corner of State Highway 65 and Cedar Street, roughly one quarter mile west of the city of Lindsay. The study has been required by the California Department of Transportation.

A. Project Description

The Project site comprises 6.28 acres and proposes a 5,439 square foot convenience market, two fast food restaurants, one with drive through service, 16 automobile fueling positions and a six-position truck fueling facility.

The site is relatively flat and is currently vacant, but in the past was under cultivation as row crops.

The Project is bounded by State Highway 65 along its southern frontage and Cedar Avenue along its western boundary. Ingress and egress from the Project is proposed from both State Highway 65 and Cedar Avenue.

The Project is intended to attract truckers and the traveling public from State Route 65. The site is laid out to facilitate circulation through fueling stations and eliminate queuing. The access drive from SR 65 is 47-feet wide with 50 foot radii curb returns. In addition, a 200-foot deceleration lane is proposed for westbound traffic (technically northbound) entering the site. This configuration will rapidly remove vehicles from the SR 65 traveled way and eliminate any hindrances for trucks turning into the site. In addition, and per Caltrans' recommendation, a raised median porkchop is proposed for the SR 65 project entrance. The "porkchop" will prohibit any movement other than westbound (northbound) "right in and egress "right out". The "porkchop" will also prohibit eastbound (technically southbound) left turns into the site.

The six truck fueling positions have been aligned 240-feet directly north of the SR 65 entrance drive. This will provide sufficient decision time for truckers to select a vacant fuel bay and will provide storage if needed. The combining benefits of a wide drive approach, large return radii, deceleration lane and on-site circulation will result in rapid processing of trucks through the fueling facility.

Similarly, a westbound (northbound) deceleration and right turn lane is proposed for Cedar Avenue, as well as an eastbound (southbound) dedicated left turn lane.

Finally, the turning wheel paths of large trucks have been superimposed on the site plan to demonstrate ease of circulation.

Additional traffic mitigation is discussed later in this report.

Figure 1, included in Appendix A, shows the project location within Tulare County and its proximity to the City of Lindsay.

An Architectural Site Plan, included in Appendix A, provides the Project's site layout.

B. Existing and Surrounding Land Use

Surrounding land is entirely under cultivation; however, a residential neighborhood in the City of Lindsay exists about one quarter mile east of the Project.

Roughly one quarter mile to the west on the north frontage of SR 65, exists a Chevron gas station with three retail stores.

Figure 1 is a recent aerial photo showing the Project site and the surrounding area.

II. EXISTING LOCAL STREET NETWORK

The following is a description of streets in the vicinity of the site, which may be impacted to some extent by the Project.

State Route 65: Pursuant to the Surface Transportation Act of 1982 State Route 65 is a designated route for large trucks. State Route 65 commences in Bakersfield and runs northward roughly 94 miles through the cities and communities of Oildale, Ducor, Terra Bella, Strathsmore, Lindsay, and terminates at its intersection with State Route 198 just north of Exeter and about 8 miles east of Visalia. State Route 65 transitions back and forth between a two-lane rural highway and a four lane expressway. In the vicinity of the Project, SR 65 is a two lane undivided road with dedicated left and right turn lanes at major intersections.

Caltrans and the County of Tulare have plans to re-align and reconstruct State Route 65, which will include the construction of a roundabout, located at the intersection of State Route 65 and Cedar Avenue. Construction is tentatively planned to commence in 2034.

Cedar Avenue: Cedar Avenue is as two lane County Road running between State Route 65 at its south end and terminating one mile north at its intersection with Avenue 240. Cedar Avenue is not a thoroughfare and provides access to agricultural property and less than ten residences. Cedar Avenue was surfaced in the past with asphalt concrete, but the pavement is old and in disrepair and missing in many locations. Along the Project's frontage, Cedar is planned to be improved to accommodate the anticipated Project traffic. The existing pavement structural section should be evaluated for adequacy under future truck loads.

As part of the SR 65 realignment project, Caltrans intend to realign Cedar north of it intersection (with SR 65) to tie into Oak Avenue.

As previously mentioned above, Caltrans and the County of Tulare have plans to re-align and reconstruct State Route 65. As a part of the roundabout project, Cedar Ave will be realigned to the East to connect with Oak Ave. It is recommended that the intersection of State Route 65 and Cedar Avenue be re-evaluated in the future.

North Spruce Avenue: North Spruce is a Tulare County road which commences a mile south of SR 65 and runs north 9 miles paralleling SR 65 to its terminus at its intersection with State Route 198. North Spruce Road is a two-lane paved Tulare County Road with paved shoulders and is in a good state of repair. Traffic counts indicate that this is a well-used roadway.

North Spruce Avenue is signalized at its intersection with State Route 65. A signal dedicated lane is provided for each movement from State Route 65; however, only a signal shared lane is provided for the north and south legs of this intersection.

West Tulare Avenue: West Tulare Avenue is a two lane, paved east-west road running through residential neighborhoods in the northern part of Lindsay. The west Terminus of West Tulare is its intersection with SR 65. West Tulare Avenue becomes East Tulare Avenue in the City of Lindsay and has a paved shoulder, curb, gutter and sidewalk over most of its length. Between SR 65 and 650 feet to the east, West Tulare Avenue has only paved shoulders. As part of the planned realignment of SR 65, West Tulare Avenue will be realigned to tie into Oak Avenue and its intersection with SR 65 will be removed.

III. METHOD OF ANALYSIS & TRAFFIC ESTIMATES

A. General

Additional detailed descriptions of methods and "findings" are provided in the appropriate sections herein. However, as a preface to the following sections, a brief step-by-step description used for analysis in this report, as follows:

1. Existing conditions of the Project and surrounding area are surveyed, including traffic counts, laneage, and intersection control. Traffic counts were performed during periods of peak volume.

2. Using growth rates project from historical traffic data in the vicinity of the Project, existing traffic is extrapolated to future year volumes. In this case, future traffic was estimated for Year 2025 and Year 2045. Year 2025 is the anticipated "opening" day, i.e., when the development is open for business.

It is possible that opening day could be sooner than 2025. In that scenario, the theoretical traffic developed for 2025 would be larger than previous years, and the results considered conservative.

3. Project-generated traffic, based on the proposed land use, is estimated and distributed onto the street network. Project-generated traffic is added to both present day and future year scenarios described in the following step.

4. Intersections, and street segments with any significant impact from Project-generated traffic are analyzed for "Level of Service" (LOS) for the various scenarios: A) Existing conditions with No Project; B) Existing Conditions plus Project Traffic; C) Year 2025 (Assumed as "Opening Day") with No Project; D) Year 2025 plus Project traffic; E) Year 2045 with No Project; F) Year 2035 plus Project Traffic; and G) Year 2032 plus Cumulative Project traffic and proposed mitigation improvements. H) Year 2045 plus Project Traffic; and I) Year 2042 plus Cumulative Project traffic and proposed mitigation improvements.

5. Mitigation or capacity/level of service improvements are determined for any of the above scenarios which result in an unacceptable "Level of Service" (LOS). Usually, an unacceptable LOS is anything less than "C". Given special circumstances, occasionally an agency will lower the "mitigation threshold" to a LOS of "D".

6. Resultant LOS's are calculated to determine the effectiveness of the proposed mitigation. If improvements to the facility are funded by the RTIF program, they are evaluated for adequacy under future traffic conditions. The Project's obligation for funding of any needed mitigation improvements is determined. Project-funded mitigation improvements are usually improvements that would not necessarily be needed if there was no project. In these cases, the Project's obligation, in very simplified terms, is the cost of a particular mitigation improvement multiplied by the ratio of Project-generated traffic to total estimated future year traffic volume.

7. Vehicle Miles Traveled: The total daily Vehicle Miles Traveled (VMT) is calculated for the Project. This methodology is explained later in this report, but VMT, is theoretically, the vehicle miles caused by the Project.

Again, in the following sections methodology, findings, and mitigation are discussed in further detail.

B. Traffic Counts

Traffic counts were performed over the existing street network to determine existing intersection volumes, and traffic flow patterns. As discussed in the following section, future year traffic volumes are estimated by applying annual growth rates derived from historical growth rates.

Traffic counts were performed in February of 2023 during the morning and evening peak periods during weekdays, excluding Mondays, Fridays, holidays, and days preceding or following holidays. Weekdays before or after holidays or weekends are not representative of normal traffic patterns and thus are not counted or considered appropriate for analysis.

Specifically, traffic counts were performed during the morning peak period between 6:30 A.M. and 8:30 A.M. as well as the evening peak period between 4:00 P.M. and 6:00 P.M. Usually, the peak period for various intersections and streets are close but do not occur at identical times. In this study, conservatively, the highest one-hour volumes for each intersection or street segment within their individual peak periods were used for analysis in this report.

Figures 2 & 3, included in Appendix "A" of this study, show the peak hour volumes during the morning and evening peak periods, respectively, for all facilities counted. These figures also show the actual turning movements at all counted intersections.

C. Future Year Traffic Volumes

As mentioned, future traffic for the Years 2025, 2035, and 2045 were estimated by applying growth rates to existing volumes. Growth rates were extrapolated from Caltrans traffic data from years 2016 and 2018. The latest year of published traffic volumes by Caltrans is 2020. However, year 2020 data was not used since it would result in a negative growth rate, which would not be accepted by Caltrans.

Table 1 herein provides a weighted average of SR 65 between Years 2016 and 2018, yielding an average annual growth rate of 1.9 percent. This growth was applied to present day volumes and compounded annually to arrive at Year 2025, Year 2035, and Year 2045 volumes.

Figures 2 and 3, included in Appendix A, shows the morning and evening "Year 2023", or present-day peak hour volumes and turning movements used for analysis in this Study. Figures 6A and 6B show the Year 2025 morning and evening peak hour volumes and turning movements. Figures 8A and 8B, also in Appendix A, show the Year 2035 morning and evening peak hour volumes and turning movements. Figures 10A and 10B, also in Appendix A, show the Year 2045 morning and evening peak hour volumes and turning movements.

Project generated traffic was not added to any of the previously mentioned figures.

Table 1: Projected Average Annual Growth Rates

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item No.	**Road Segment**	**From**	**To**	**Year 2016 Annual Average Daily Traffic**	**Year 2018 Annual Average Daily Traffic**	**Annual Average Growth Rate (%)**	**Factor: Year 2023 to Year 2025**	**Factor: Year 2023 to Year 2035**	**Factor: Year 2023 to Year 2045**
1.	State Route 65	Hermosa Street	Oak Avenue	21,600	21,800	0.5%	1.0093	1.0569	1.1067
2.	State Route 65	Oak Avenue	Spruce Avenue	22,250	22,250	0.0%	1.0000	1.0000	1.0000
3.	State Route 65	Spruce Avenue	State Route 137	17,500	18,550	3.0%	1.0600	1.4185	1.8983
4.	State Route 137	Road 140	Road 168	10,300	11,100	3.8%	1.0777	1.5664	2.2769
5.	State Route 137	Road 168	State Route 65	10,500	11,550	4.9%	1.1000	1.7716	2.8531
					Weighted Average:	**1.9%**	**1.0387**	**1.2562**	**1.5192**

Notes:

1) Annual Average Daily Traffic (AADT) per Caltrans Traffic Census Program
2) Due to Covid-19's effect on traffic volumes, "Pre-Covid" Traffic Census data was selected for analysis. Analysis of 2018-2020 results in negative growth for the region.

D. Project Generated Traffic

Project generated vehicular trips were estimated using the *Institute of Transportation Engineers Trip Generation Manual*, 11th Edition, hereinafter referred to as the ITE Manual. The ITE Manual provides mathematical correlations between various land uses and trip generation, i.e., the ITE Manual provides average trip rates for many land use types. Some ITE land uses also include fitted curves for trip generation rates. As discussed in Section I, and as shown on the site plan in Appendix "A", the Project includes fueling for automobiles, a convenience market, truck fueling and fast food restaurants, one with drive through service.

The following Table 2 provides an ITE Code appropriate for each land use, provides the land use description, the independent variable, and a trip generation rate associated with each independent variable. In this case, the independent variable used for each land use is "gross leasable floor area", and "fueling positions". Table 2 also provides trip rates and total trip generation for the 24-hour average day, and the A.M. and P.M. peak hour, and the directional split for each scenario. Table 2 indicates an unadjusted total for all land uses as 8,712 average daily trips, and 765 and 655 peak hour trips for the morning and evening peak hours respectively.

The challenge in accurately estimating trips is avoiding over-estimations. However, given agency restrictions on trip adjustment factors, this is only partially obtainable. A true Project-generated primary trip is one that departs from an origin, travels to the Project, and then returns to its origin; or vise-versa. In other words, the sole purpose of the trip was to visit the project site and then return to the origin, or vice versa.

Theoretically, any visit to the site for fuel counts as two trips: the arrival and the departure. This same theory applies to any other land uses such as fast food. If a motorist stops for gas and gets fast food at the same commercial center, they have theoretically created 4 trips. In this case, without adjustment factors, 4 trips would be added to the public roadway, when in fact only two were appropriate.

Similarly, if someone stopped for fast food as part of the work to home commute, is it appropriate to state that the commercial facility caused two trips to be added to the public roadway? In this scenario, the work to home commute is the primary trip, and the only trip on the roadway. In this case the commercial center did not add traffic to the public road, and two trips should not be allocated to the project.

In another scenario, a trucker exits from a freeway to get gas and food, then returns to the freeway to continue onto their primary destination. In this case, it would be improper to add 4 project trips to the freeway. However, it is appropriate to add two trips to the freeway ramps and the cross-street since those facilities are impacted by the stop for food and gas.

To account for the above scenarios, adjustment factors have been developed which are intended to apply to basic trip generation calculation to yield realistic values.

In the following, trip types and said trip adjustment factors are discussed.

"Pass-bys": Briefly, ***"Pass-By***" trips are intermediate trips or stops taken as part of the primary trip. As an example, stopping at a highway commercial center for fuel or fast-food while commuting between home and work, (without diverted from the primary travel route), is considered a ***"pass-by"*** trip, i.e., in a proper traffic analysis, the stop at the commercial center, not being the purpose of the primary trip, should not be considered as project-generated trips to be added to the surrounding street network. Without a reduction for ***"pass-by"*** all intermediate stops during a primary trip would be improperly included in the summation of traffic volume contributed by the Project.

As discussed further in the section below, driveway surveys of similar facilities, performed by LAV//Pinnacle Engineering, have yielded pass-by rates of close to 100 percent. For analysis of Level of Service for this Project, a "pass-by" reduction of 20 percent was selected.

"Diverted-Link trips" are similar to "pass-bys" except these trips make a slight detour to reach an interim destination, then return to the original route to continue onto their primary destination. As an example, a diverted link trip would be exiting the freeway to reach the Project site, then returning to the freeway to continue the primary trip. Although "Diverted-Link" trips are not additive to freeway traffic, they nevertheless impact the freeway ramps and the cross-street to reach said interim destination. However, given the Project fronts State Highway 65, (the source of the majority of trips), there are no "side routes" necessary to reach the Project site, and thus "diverted-link trips" were considered unlikely and not factored into final trip generation calculations, i.e., no deductions were taken for "diverted link trips."

Captured Trips: Another traffic phenomenon, ***"Capture"***, can be described as trips that are made internally within the limits of a mix use project. "Internally" means these trips do not return to the public street network between trips within the same site. Similar to the previous example provided, captured trips would include stopping for gas and fast food at different establishments within the same commercial center. Without an adjustment for "capture", four trips attributable to the Project, would be added to the public street network, when only two trips were appropriate: the arrival and the departure from the commercial center. Capture adjustments are intended to eliminate double and trip counting of project-generated trips.

Capture is appropriately applied to all types of trips, including primary, diverted link and pass-bys.

Caltrans permits a reduction of 5% for "Capture".

Driveway Surveys: To accurately estimate "Pass-Bys", "Diverted Link" and "Captured" trips, driveway surveys were performed at a similar highway commercial establishment, located at the Southeast corner of Highway 65 and Avenue 128. Two surveys were performed during weekday

peak and non-peak hours. Non-peak hours were included since the results for "Pass-By" and "Diverted Link" would likely be conservative given a lesser make-up of commuters. At the time of this study, the Chevron Station (and C-Store) ¼ mile west of the Project at the intersection of North Spruce Street and State Highway 65 was under construction, invalidating it as a suitable location for a driveway survey.

In both surveys, 100 percent of survey respondents indicated that their stop at said commercial center was not the primary purpose of their trip. All respondents indicated that they were traveling to other destinations. As stated, employee arrivals and departures are primary trips; the driveway surveys were random and no respondents indicated they were employees.

Numerous surveys for establishments similar to the Project have been performed by the author of this report. These surveys were performed in both urban and rural areas. All yield similar results: nearly 100 percent of trips were either "pass-bys", "diverted link" trips, or a combination thereof. The surveys have been included in Appendix "C" herein.

Caltrans' Guide for the Preparation of Traffic Impact Studies sets a limit for "pass-by" and "capture" to 15 percent and five percent respectively. However, a larger reduction can be applied on the condition that the increased reduction is justified. Given the results of the surveys discussed above, a "pass-bys" reduction of 20 percent was considered conservative, and therefore appropriate for traffic analysis. After a discussion with Caltrans, the 20 reduction was approved for use in the study. Said correspondence has been included in Appendix "C" herein.

Table 2 shows said trip reduction taken for both "pass-bys" and "capture" at 20 percent and 5 percent respectively. Given these limited deductions, it is apparent that Project-generated trips allocated to the surrounding street network is certainly very conservative. Distribution and assignment of Project-generated trips are discussed in the following section.

Table 2: Trip Generation for Commercial Development at the Northeast Corner of Ave 232 & Cedar Ave, Lindsay

Commercial - Land Uses					*24 Hour Trips*		*A.M. Peak Hour Trips*				*P.M. Peak Hour Trips*			
Item No.	**Proposed Land Use**	**ITE Code**	**Independent Variable**		**Trip Rate**	**Veh Trips (vpd)**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**
1	Gasoline/Service Station w/Convenience Market (GFA 5.5-10k)	945	16	Gasoline Fueling Positions	345.75	5,532	31.60	506	253	253	26.90	430	215	215
2	Heavy Truck Fueling	950	6	Gasoline Fueling Positions	224.00	1,344	13.97	84	41	43	15.42	93	49	44
3	Fast-Food Restaurant w/ Drive-Through Window	934	2.0	Gross Leasable Floor Area (1k S.F.)	467.48	935	44.61	89	46	43	33.03	66	34	32
4	Fast-Food Restaurant w/o Drive-Through Window	933	2.0	Gross Leasable Floor Area (1k S.F.)	450.49	901	43.18	86	50	36	33.21	66	33	33
				Total Trips:		8,712		765	390	375		655	332	323
				20% Reduction for "Pass-by" - All Land Uses:		(1,742)		(153)	(78)	(75)		(131)	(66)	(65)
				5% Reduction for "Capture" - All Land Uses:		(436)		(38)	(20)	(19)		(33)	(17)	(16)
				Total Adjusted Trips:		6,534		574	293	281		491	249	243

E. Trip Distribution and Assignment

There are no known additional roadways, roadway realignments, or road closures anticipated in the near future that would significantly change existing traffic patterns. Therefore, Project-generated trips were distributed on the existing street network assuming they would follow existing traffic patterns well into the future. Existing traffic patterns, again, were determined from traffic counts, traffic observations, and driveway surveys of the adjacent development.

Project-generated trip distribution have been shown in Figure 4.

F. Trip Assimilation

Based on information provided by the Tulare County Council of Government, the average work commute travel time for Tulare County is 20 minutes. At an average speed of 33 miles per hour, this yields an average work-commute trip of 11 miles. Assuming a 50/50 split of work-commute trips less than and greater than 11 miles, an average trip assimilation rate of 8.33 percent per mile is derived. This rate of assimilation is likely conservative and over the years has been accepted by various reviewing agencies. The trip distribution shown in Figure 4 has been adjusted accordingly.

IV. IMPACT OF PROJECT TRAFFIC

A. Level of Service (LOS)

Operational analysis of streets and intersections were performed using methods outlined in the *Transportation Research Board, National Research Council Highway Capacity Manual,* HCM, 2016.

Level of Service (LOS) is the generally accepted gauge for describing the quality of operation of either a road segment or street intersection. Other attributes of operational quality associated with each Level of Service are v/c - volume to capacity ratio, vehicle delay through an intersection, and reserve capacity of an intersection approach. For each type of street segment or intersection analysis, the Level of Service criteria varies slightly. Levels of Service for every type of roadway or intersection are described thoroughly in the *Highway Capacity Manual,* however, the brief descriptions have been provided in the following:

Table 3: Level of Service for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec.)
A	< 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60.0

Table 4: Level of Service for Un-Signalized Intersections

Level of Service	Reserve Capacity (DCPH)	Expected Delay to Minor Street Traffic
A	≥ 400	Little or no delay
B	300-399	Short traffic delay
C	200-299	Average traffic delay
D	100-199	Long traffic delay
E	0-99	Very long traffic delay
F	Note 1	See Note 1

Note 1: When demand volume exceeds the capacity of the lane, extreme delays will be encountered. This condition usually warrants improvement to the intersection.

Table 5: Level of Service for Highways and Arterials

Level of Service	Description
A	Free flow conditions, unimpeded ability to maneuver and pass, very little delay, no platoons, highest average travel speeds.
B	Mostly free flow conditions: presence of other vehicles begins to be noticeable. Passing is required to maintain speeds, slightly less average travel speeds than Level of Service "A".
C	Traffic density clearly affects the ability to pass and maneuver within the stream. Speeds are reduced to about 50 mph on highways and to about 50% of the average on urban arterials.
D	Unstable flow. Speeds are reduced from 40% to 60% of normal. Passing demand is high although mostly impossible on 2-Lane Highways. Traffic disruptions usually cause extensive queues.
E	Very unstable flow at or near capacity. Passing and maneuvering is virtually impossible. Extensive platooning on highways and queuing on arterials. Speeds range from 20 mph or less on arterials and 2-Lane Highways, and up to 50 mph on Multi-Lane Highways.
F	Forced or breakdown flow. Demand exceeds capacity. Vehicles experience short spurts of movement followed by stoppages. Intersection congestion, long queues and delays are common.

B. Traffic Impact Analysis

As discussed in Section III herein, Project-generated traffic was distributed onto the existing street network based on existing patterns. In accordance with agency criteria, any street segment or intersection, currently operating at or above a "C" Level of Service, must be analyzed if it receives 50 or more Project-generated peak hour trips. If the facility currently operates at a "D", "E" or "F", the analysis threshold drops to 40, 20 and 10 trips, respectively.

Level of Service calculations are based on methods outlined in the *Highway Capacity Manual, 2016*. Computer software from "McTrans Highway Capacity" package was used to facilitate extensive calculations.

In accordance with Caltrans' requirement, various traffic scenarios were analyzed to include present day traffic, and the addition of Project-generated traffic to existing (Year 2023), Project "Opening day" (Year 2025), and future traffic (Years 2035 & 2045). The following lists the various specific scenarios that were analyzed and provides a reference to the appropriate figures.

Existing Year 2023 A.M. Peak Hour without Project-Generated Trips – (No Project Scenario). These volumes are actual traffic counts, as discussed in Section III, and are shown in Figure 2 herein.

Existing Year 2023 P.M Peak Hour– without Project-Generated Trips (No Project Scenario). These volumes are actual traffic counts, as discussed in Section III, and are shown in Figure 3 herein.

Year 2023 A.M. Peak Hour Volumes with the addition Project-Generated Trips. These volumes can be referenced in Figure 5A of this report.

Year 2023 P.M. Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 5B of this report.

Year 2025 "Opening Day" A.M Peak Hour without Project-Generated Trips – (No Project Scenario). Derivation of these volumes is discussed in Section III and is shown in Figure 6Aof this report.

Year 2025 "Opening Day" P.M Peak Hour without Project-Generated Trips. – (No Project Scenario). Derivation of these volumes is discussed in Section III and is shown in Figure 6B of this report.

Year 2025 "Opening Day" A.M. Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 7A of this report.

Year 2025 "Opening Day" P.M Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 7B of this report.

Year 2035 A.M Peak Hour without Project-Generated Trips – (No Project Scenario). Derivation of these volumes is discussed in Section III and is shown in Figure 8Aof this report.

Year 2035 P.M Peak Hour without Project-Generated Trips. – (No Project Scenario). Derivation of these volumes is discussed in Section III and is shown in Figure 8B of this report.

Year 2035 A.M. Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 9A of this report.

Year 2035 P.M Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 9B of this report.

Year 2045 A.M. Peak Hour Volumes without the addition Project-Generated Trips ("No Project" Scenario). Derivation of these volumes is discussed in Section III of this report and can be referenced in Figure 10A herein.

Year 2045 P.M. Peak Hour Volumes without the addition of Project-Generated Trips ("No Project" Scenario). Derivation of these volumes is discussed in Section III of this report and can be referenced in Figure 10B herein.

Year 2045 A.M. Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 11A of this report.

Year 2045 P.M. Peak Hour Volumes with the addition of Project-Generated Trips. These volumes can be referenced in Figure 11B of this report.

Year 2045 A.M. Peak Hour Volumes with the addition of Project-Generated Trips - Evaluated under proposed mitigation improvements. In addition to the above scenarios, any facility needing mitigation was analyzed to determine the resultant Level of Service once proposed improvements were in-place.

Year 2045 P.M. Peak Hour Volumes with the addition of Project-Generated Trips – Evaluated under proposed mitigation improvements. In addition to the above scenarios, any facility needing mitigation was analyzed to determine the resultant Level of Service once proposed improvements were in-place. The criteria to warrant mitigation is discussed in Section V of this report.

Summaries of the Level of Service calculations for the various scenarios described have been included in the following tables:

- Table 6 shows the results of the intersection Level of Service calculations for all listed scenarios.

- Table 7 show the results of Level of Service calculations for various street segments for all listed scenarios.

The above list tables show scenarios with poor Levels of Service (below "C"), and resultant LOS with mitigation improvements. A detailed discussion of mitigation has been provided in Section VI of this report.

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
1)	Hwy 65 & Cedar Ave	Year 2023 A.M. Existing	1W	-	-	-	-	-	-	C	-	-	-	-	-	C	15.4	No
		Year 2023 A.M. with Project	1W	-	-	-	-	F	-	D	-	-	-	-	-	F	2109.2	Yes
		Year 2025 A.M. without Project	1W	-	-	-	-	-	-	C	-	-	-	-	-	C	16.0	No
		Year 2025 A.M. with Project	1W	-	-	-	-	F	-	D	-	-	-	-	-	F	2482.5	Yes
		Year 2035 A.M. without Project	1W	-	-	-	-	-	-	C	-	-	-	-	-	C	20.4	No
		Year 2035 A.M. with Project	1W	-	-	-	-	F	-	F	-	-	-	-	-	F	8080.8	Yes
		Year 2045 A.M. without Project	1W	-	-	-	-	-	-	D	-	-	-	-	-	D	27.9	No
		Year 2045 A.M. with Project	1W	-	-	-	-	F	-	F	-	-	-	-	-	F	9954.1	Yes
		Year 2045 A.M. with Project Mitigated	S	-	-	-	-	E	D	F	A	-	-	-	-	C	32.5	N/A
		Year 2023 P.M. Existing	1W	-	-	-	-	-	-	B	-	-	-	-	-	B	11.4	No
		Year 2023 P.M. with Project	1W	-	-	-	-	F	-	B	-	-	-	-	-	F	517.7	Yes
		Year 2025 P.M. without Project	1W	-	-	-	-	-	-	B	-	-	-	-	-	B	11.7	No
		Year 2025 P.M. with Project	1W	-	-	-	-	F	-	C	-	-	-	-	-	F	583.1	Yes
		Year 2035 P.M. without Project	1W	-	-	-	-	-	-	B	-	-	-	-	-	B	13.4	No
		Year 2035 P.M. with Project	1W	-	-	-	-	F	-	C	-	-	-	-	-	F	1080.5	Yes
		Year 2045 P.M. without Project	1W	-	-	-	-	-	-	C	-	-	-	-	-	C	16.0	No
		Year 2045 P.M. with Project	1W	-	-	-	-	F	-	D	-	-	-	-	-	F	2166.9	Yes
		Year 2045 P.M. with Project Mitigated	S	-	-	-	-	E	D	B	A	-	-	-	-	B	10.2	N/A
2)	Hwy 65 & W Tulare Rd	Year 2023 A.M. Existing	1W	-	-	-	F	-	D	D	-	-	-	-	-	D	34.7	Yes
		Year 2023 A.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	91.2	Yes
		Year 2025 A.M. without Project	1W	-	-	-	F	-	E	D	-	-	-	-	-	E	43.5	Yes
		Year 2025 A.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	138.5	Yes
		Year 2035 A.M. without Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	438.0	Yes
		Year 2035 A.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	688.1	Yes
		Year 2045 A.M. without Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	1365.1	Yes
		Year 2045 A.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	2692.4	Yes
		Year 2045 A.M. with Project Mitigated	S	-	-	-	-	D	E	F	A	-	-	A	A	B	14.8	N/A

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
2)	Hwy 65 & W Tulare Rd	Year 2023 P.M. Existing	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	86.0	Yes
		Year 2023 P.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	248.7	Yes
		Year 2025 P.M. without Project	1W	-	-	-	E	-	F	E	-	-	-	-	-	F	126.8	Yes
		Year 2025 P.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	489.4	Yes
		Year 2035 P.M. without Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	1109.1	Yes
		Year 2035 P.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	4363.8	Yes
		Year 2045 P.M. without Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	8617.4	Yes
		Year 2045 P.M. with Project	1W	-	-	-	F	-	F	F	-	-	-	-	-	F	32771.1	Yes
		Year 2045 P.M. with Project Mitigated	S	-	-	-	-	D	F	F	A	-	-	A	A	B	14.4	N/A
3)	Hwy 65 & W Hermosa St	Year 2023 A.M. Existing	S	E	B	B	E	B	B	D	D	-	D	D	D	C	28.5	N/A
		Year 2023 A.M. with Project	S	E	C	B	E	B	B	D	D	-	D	D	D	C	28.7	N/A
		Year 2025 A.M. without Project	S	E	C	B	E	B	B	D	D	-	D	C	D	C	29.0	N/A
		Year 2025 A.M. with Project	S	E	C	B	E	B	B	D	D	-	D	C	D	C	29.3	N/A
		Year 2035 A.M. without Project	S	E	C	C	E	B	B	D	D	-	D	C	C	C	33.2	N/A
		Year 2035 A.M. with Project	S	E	C	C	E	C	B	D	D	-	D	C	C	C	34.3	N/A
		Year 2045 A.M. without Project	S	E	F	C	E	D	C	D	D	-	D	C	C	E	62.0	N/A
		Year 2045 A.M. with Project	S	E	F	C	E	C	B	D	E	-	F	C	C	E	62.3	N/A
		Year 2023 P.M. Existing	S	E	B	B	E	B	B	D	D	-	E	D	D	C	26.7	N/A
		Year 2023 P.M. with Project	S	E	B	B	E	B	B	D	D	-	E	D	D	C	26.8	N/A
		Year 2025 P.M. without Project	S	E	B	B	E	B	B	D	D	-	D	D	D	C	27.2	N/A
		Year 2025 P.M. with Project	S	E	B	B	E	B	B	D	D	-	D	D	D	C	27.3	N/A
		Year 2035 P.M. without Project	S	E	C	C	E	C	B	D	D	-	D	C	D	C	30.6	N/A
		Year 2035 P.M. with Project	S	E	C	C	E	C	B	D	D	-	D	C	D	C	31.3	N/A
		Year 2045 P.M. without Project	S	E	D	C	E	C	B	D	D	-	D	C	C	D	36.9	N/A
		Year 2045 P.M. with Project	S	E	D	C	E	C	B	D	D	-	D	C	C	D	39.4	N/A

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

				Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
No.	Intersection	Time Period	Control	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
4)	Hwy 65 & W Lindmore St	Year 2023 A.M. Existing	1W	A	-	-	A	-	-	E	-	B	E	-	B	A	9.8	No
		Year 2023 A.M. with Project	1W	A	-	-	A	-	-	F	-	B	F	-	B	B	10.4	No
		Year 2025 A.M. without Project	1W	A	-	-	A	-	-	E	-	B	E	-	B	B	10.0	No
		Year 2025 A.M. with Project	1W	A	-	-	B	-	-	F	-	B	F	-	B	B	10.6	No
		Year 2035 A.M. without Project	1W	A	-	-	B	-	-	F	-	B	F	-	B	B	11.2	No
		Year 2035 A.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	12.4	No
		Year 2045 A.M. without Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	14.0	No
		Year 2045 A.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	C	17.0	No
		Year 2023 P.M. Existing	1W	A	-	-	B	-	-	F	-	B	E	-	B	B	11.4	No
		Year 2023 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	12.7	No
		Year 2025 P.M. without Project	1W	A	-	-	B	-	-	F	-	B	F	-	B	B	12.1	No
		Year 2025 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	13.6	No
		Year 2035 P.M. without Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	19.1	No
		Year 2035 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	24.3	No
		Year 2045 P.M. without Project	1W	B	-	-	B	-	-	F	-	B	F	-	C	F	60.7	No
		Year 2045 P.M. with Project	1W	C	-	-	C	-	-	F	-	C	F	-	C	F	85.6	No
5)	Hwy 65 & Marigold St	Year 2023 A.M. Existing	1W	A	-	-	A	-	-	C	-	A	B	-	B	B	8.6	No
		Year 2023 A.M. with Project	1W	A	-	-	A	-	-	C	-	A	C	-	B	B	8.9	No
		Year 2025 A.M. without Project	1W	A	-	-	A	-	-	C	-	A	B	-	B	B	8.6	No
		Year 2025 A.M. with Project	1W	A	-	-	A	-	-	C	-	A	C	-	B	B	9.0	No
		Year 2035 A.M. without Project	1W	A	-	-	A	-	-	C	-	A	C	-	B	B	9.1	No
		Year 2035 A.M. with Project	1W	A	-	-	A	-	-	C	-	B	C	-	B	B	9.5	No
		Year 2045 A.M. without Project	1W	A	-	-	A	-	-	D	-	B	C	-	B	B	9.6	No
		Year 2045 A.M. with Project	1W	A	-	-	B	-	-	D	-	B	C	-	B	B	10.1	No

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
5)	Hwy 65 & Marigold St	Year 2023 P.M. Existing	1W	B	-	-	B	-	-	-	-	B	E	-	B	B	11.2	No
		Year 2023 P.M. with Project	1W	B	-	-	B	-	-	-	-	B	E	-	B	B	11.8	No
		Year 2025 P.M. without Project	1W	B	-	-	B	-	-	-	-	B	E	-	B	B	11.4	No
		Year 2025 P.M. with Project	1W	B	-	-	B	-	-	-	-	B	F	-	B	B	12.1	No
		Year 2035 P.M. without Project	1W	B	-	-	B	-	-	-	-	C	F	-	B	B	13.7	No
		Year 2035 P.M. with Project	1W	B	-	-	B	-	-	-	-	C	F	-	B	B	15.0	No
		Year 2045 P.M. without Project	1W	C	-	-	B	-	-	-	-	C	F	-	C	D	26.3	No
		Year 2045 P.M. with Project	1W	C	-	-	B	-	-	-	-	C	F	-	C	D	34.4	No
6)	Hwy 65 & Ave 208	Year 2023 A.M. Existing	1W	A	-	-	A	-	-	-	-	B	C	-	B	B	9.2	No
		Year 2023 A.M. with Project	1W	A	-	-	A	-	-	-	-	B	C	-	B	B	9.6	No
		Year 2025 A.M. without Project	1W	A	-	-	A	-	-	-	-	B	C	-	B	B	9.3	No
		Year 2025 A.M. with Project	1W	A	-	-	A	-	-	-	-	B	C	-	B	B	9.7	No
		Year 2035 A.M. without Project	1W	A	-	-	B	-	-	-	-	B	C	-	B	B	10.0	No
		Year 2035 A.M. with Project	1W	A	-	-	B	-	-	-	-	B	D	-	B	B	10.4	No
		Year 2045 A.M. without Project	1W	A	-	-	B	-	-	-	-	B	D	-	B	B	11.0	No
		Year 2045 A.M. with Project	1W	B	-	-	B	-	-	-	-	B	E	-	B	B	11.6	No
		Year 2023 P.M. Existing	1W	A	-	-	B	-	-	F	-	B	D	-	B	B	10.7	No
		Year 2023 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	D	-	B	B	11.2	No
		Year 2025 P.M. without Project	1W	B	-	-	B	-	-	F	-	B	D	-	B	B	10.9	No
		Year 2025 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	E	-	B	B	11.4	No
		Year 2035 P.M. without Project	1W	B	-	-	B	-	-	F	-	B	E	-	B	B	12.6	No
		Year 2035 P.M. with Project	1W	B	-	-	B	-	-	F	-	B	F	-	B	B	13.2	No
		Year 2045 P.M. without Project	1W	B	-	-	B	-	-	F	-	C	F	-	C	C	16.5	No
		Year 2045 P.M. with Project	1W	B	-	-	C	-	-	F	-	C	F	-	C	C	19.9	No

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
7)	Hwy 65 & N Spruce Ave	Year 2023 A.M. Existing	S	-	E	-	-	D	-	E	B	-	F	B	B	C	24.0	N/A
		Year 2023 A.M. with Project	S	-	E	-	-	D	-	E	C	-	E	C	C	C	28.4	N/A
		Year 2025 A.M. without Project	S	-	E	-	-	D	-	E	B	-	F	B	C	C	25.1	N/A
		Year 2025 A.M. with Project	S	-	E	-	-	D	-	E	C	-	E	C	C	C	30.1	N/A
		Year 2035 A.M. without Project	S	-	E	-	-	D	-	E	C	-	F	C	D	D	35.7	N/A
		Year 2035 A.M. with Project	S	-	E	-	-	F	-	E	D	-	E	D	D	D	52.0	N/A
		Year 2045 A.M. without Project	S	-	E	-	-	F	-	E	D	-	E	D	E	E	69.2	N/A
		Year 2045 A.M. with Project	S	-	E	-	-	F	-	E	D	-	E	F	F	F	95.4	N/A
		Year 2045 A.M. with Project Mitigated	S	-	E	-	D	D	-	C	B	-	B	C	F	C	34.0	N/A
		Year 2023 P.M. Existing	S	-	E	-	-	D	-	E	C	B	E	C	B	C	25.5	N/A
		Year 2023 P.M. with Project	S	-	E	-	-	D	-	E	C	B	E	C	C	C	30.1	N/A
		Year 2025 P.M. without Project	S	-	E	-	-	D	-	E	C	B	E	C	B	C	26.9	N/A
		Year 2025 P.M. with Project	S	-	E	-	-	D	-	E	C	B	E	C	C	C	32.3	N/A
		Year 2035 P.M. without Project	S	-	E	-	-	D	-	E	D	B	E	D	C	D	45.0	N/A
		Year 2035 P.M. with Project	S	-	E	-	-	F	-	E	F	C	E	E	B	E	61.0	N/A
		Year 2045 P.M. without Project	S	-	E	-	-	F	-	E	F	B	E	F	C	F	88.0	N/A
		Year 2045 P.M. with Project	S	-	E	-	-	F	-	E	F	B	E	F	C	F	113.6	N/A
		Year 2045 P.M. with Project Mitigated	S	-	E	-	D	D	-	C	B	B	B	C	D	C	33.2	N/A
8)	Hwy 65 & Hwy 137	Year 2023 A.M. Existing	S	D	D	-	D	D	-	E	B	B	E	C	B	C	32.1	N/A
		Year 2023 A.M. with Project	S	D	D	-	D	D	-	E	C	B	E	C	B	C	32.4	N/A
		Year 2025 A.M. without Project	S	D	D	-	D	D	-	E	C	B	E	C	B	C	32.7	N/A
		Year 2025 A.M. with Project	S	D	D	-	D	D	-	E	C	B	E	C	B	C	33.0	N/A
		Year 2035 A.M. without Project	S	D	D	-	D	D	-	E	C	B	E	C	C	D	37.4	N/A
		Year 2035 A.M. with Project	S	D	D	-	D	D	-	E	C	B	E	D	C	D	38.9	N/A
		Year 2045 A.M. without Project	S	D	F	-	D	D	-	E	D	C	E	E	C	E	56.5	N/A
		Year 2045 A.M. with Project	S	D	F	-	D	D	-	E	E	C	E	F	C	E	64.4	N/A

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
8)	Hwy 65 & Hwy 137	Year 2023 P.M. Existing	S	D	E	-	D	D	-	E	B	B	E	B	B	C	31.6	N/A
		Year 2023 P.M. with Project	S	D	E	-	D	D	-	E	B	B	E	C	B	C	31.8	N/A
		Year 2025 P.M. without Project	S	D	E	-	D	D	-	E	B	B	E	B	B	C	32.0	N/A
		Year 2025 P.M. with Project	S	D	E	-	D	D	-	E	B	B	E	C	B	C	32.4	N/A
		Year 2035 P.M. without Project	S	D	D	-	D	D	-	E	C	B	E	C	B	D	35.6	N/A
		Year 2035 P.M. with Project	S	D	D	-	D	D	-	E	C	B	E	C	C	D	36.8	N/A
		Year 2045 P.M. without Project	S	D	E	-	D	D	-	E	D	C	E	E	C	D	48.0	N/A
		Year 2045 P.M. with Project	S	D	F	-	D	D	-	E	D	C	E	E	C	D	53.3	N/A
9)	Hwy 137 & Road 188	Year 2023 A.M. Existing	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.1	No
		Year 2023 A.M. with Project	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.2	No
		Year 2025 A.M. without Project	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.1	No
		Year 2025 A.M. with Project	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.3	No
		Year 2035 A.M. without Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	A	4.4	No
		Year 2035 A.M. with Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	A	4.7	No
		Year 2045 A.M. without Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	B	5.0	No
		Year 2045 A.M. with Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	B	5.3	No
		Year 2023 P.M. Existing	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.3	No
		Year 2023 P.M. with Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	A	4.5	No
		Year 2025 P.M. without Project	1W	-	C	-	-	C	-	-	A	-	-	A	-	A	4.4	No
		Year 2025 P.M. with Project	1W	-	C	-	-	C	-	-	B	-	-	A	-	A	4.6	No
		Year 2035 P.M. without Project	1W	-	C	-	-	D	-	-	B	-	-	A	-	B	5.0	No
		Year 2035 P.M. with Project	1W	-	D	-	-	D	-	-	B	-	-	A	-	B	5.3	No
		Year 2045 P.M. without Project	1W	-	D	-	-	E	-	-	B	-	-	A	-	B	6.1	No
		Year 2045 P.M. with Project	1W	-	E	-	-	F	-	-	B	-	-	A	-	B	6.7	No

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
10)	Hwy 137 & Road 180	Year 2023 A.M. Existing	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.5	No
		Year 2023 A.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.6	No
		Year 2025 A.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.5	No
		Year 2025 A.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.6	No
		Year 2035 A.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.6	No
		Year 2035 A.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.7	No
		Year 2045 A.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.7	No
		Year 2045 A.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.8	No
		Year 2023 P.M. Existing	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.6	No
		Year 2023 P.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.7	No
		Year 2025 P.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.6	No
		Year 2025 P.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.7	No
		Year 2035 P.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.7	No
		Year 2035 P.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.8	No
		Year 2045 P.M. without Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.8	No
		Year 2045 P.M. with Project	1W	-	B	-	-	B	-	-	A	-	-	A	-	A	3.9	No
11)	N Spruce Ave & Acacia Ave	Year 2023 A.M. Existing	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.2	No
		Year 2023 A.M. with Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.4	No
		Year 2025 A.M. without Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.3	No
		Year 2025 A.M. with Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.5	No
		Year 2035 A.M. without Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.7	No
		Year 2035 A.M. with Project	1W	-	A	-	-	A	-	-	C	-	-	D	-	A	4.9	No
		Year 2045 A.M. without Project	1W	-	A	-	-	A	-	-	C	-	-	D	-	B	5.3	No
		Year 2045 A.M. with Project	1W	-	A	-	-	A	-	-	C	-	-	E	-	B	5.7	No

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
11)	N Spruce Ave & Acacia Ave	Year 2023 P.M. Existing	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.1	No
		Year 2023 P.M. with Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.2	No
		Year 2025 P.M. without Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.1	No
		Year 2025 P.M. with Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.2	No
		Year 2035 P.M. without Project	1W	-	A	-	-	A	-	-	B	-	-	C	-	A	4.4	No
		Year 2035 P.M. with Project	1W	-	A	-	-	A	-	-	B	-	-	D	-	A	4.6	No
		Year 2045 P.M. without Project	1W	-	A	-	-	A	-	-	B	-	-	D	-	A	4.9	No
		Year 2045 P.M. with Project	1W	-	A	-	-	A	-	-	C	-	-	E	-	B	5.1	No
12)	N Spruce Ave & Sycamore Ave	Year 2023 A.M. Existing	4W	F	-	-	F	-	-	C	-	-	C	-	-	F	56.9	No
		Year 2023 A.M. with Project	4W	F	-	-	F	-	-	C	-	-	C	-	-	F	76.8	No
		Year 2025 A.M. without Project	4W	F	-	-	F	-	-	C	-	-	C	-	-	F	67.1	Yes
		Year 2025 A.M. with Project	4W	F	-	-	F	-	-	C	-	-	C	-	-	F	92.1	Yes
		Year 2035 A.M. without Project	4W	F	-	-	F	-	-	E	-	-	D	-	-	F	165.7	Yes
		Year 2035 A.M. with Project	4W	F	-	-	F	-	-	E	-	-	D	-	-	F	200.9	Yes
		Year 2045 A.M. without Project	4W	F	-	-	F	-	-	E	-	-	D	-	-	F	1196.2	Yes
		Year 2045 A.M. with Project	4W	F	-	-	F	-	-	F	-	-	F	-	-	F	1371.0	Yes
		Year 2045 A.M. with Project Mitigated	S	B	C	-	B	C	B	D	D	D	D	D	D	C	33.7	N/A
		Year 2023 P.M. Existing	4W	D	-	-	C	-	-	B	-	-	B	-	-	C	21.9	No
		Year 2023 P.M. with Project	4W	D	-	-	C	-	-	B	-	-	B	-	-	C	23.5	No
		Year 2025 P.M. without Project	4W	E	-	-	C	-	-	B	-	-	B	-	-	D	26.9	No
		Year 2025 P.M. with Project	4W	F	-	-	C	-	-	B	-	-	B	-	-	D	34.0	No
		Year 2035 P.M. without Project	4W	F	-	-	D	-	-	C	-	-	B	-	-	F	166.5	Yes
		Year 2035 P.M. with Project	4W	F	-	-	E	-	-	C	-	-	B	-	-	F	208.5	Yes
		Year 2045 P.M. without Project	4W	F	-	-	F	-	-	D	-	-	C	-	-	F	515.3	Yes
		Year 2045 P.M. with Project	4W	F	-	-	F	-	-	D	-	-	C	-	-	F	582.5	Yes
		Year 2045 P.M. with Project Mitigated	S	A	B	-	B	B	A	-	E	D	-	E	D	C	25.7	N/A

TABLE 7a: Street Segment Level of Service for AM Peak Hour

				Year 2023 Existing A.M. Volumes (Figure 2)	Year 2023 A.M. Plus Project Traffic (Figure 5A)		Year 2025 A.M. Without Project Traffic (Figure 6A)	Year 2025 A.M. Plus Project Traffic (Figure 7A)		Year 2035 A.M. Without Project Traffic (Figure 8A)	Year 2035 A.M. Plus Project Traffic (Figure 9A)		Year 2045 A.M. Without Project Traffic (Figure 8A)	Year 2045 A.M. Plus Project Traffic (Figure 9A)
Item	**Street Segment**	**Limits**	**Existing # of Laneage**	**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**
1	Hwy 65	Cedar Ave/ Tulare Rd	2	E	E		E	E		E	E		F	F
2	Hwy 65	Tulare Rd/ Hermosa St	4	A	A		A	A		A	A		A	A
3	Hwy 65	Hermosa St/ Lindmore St	4	A	A		A	A		A	A		A	A
4	Hwy 65	Lindmore St/ Marigold St	4	A	A		A	A		A	A		A	A
5	Hwy 65	Marigold St/ Ave 208	4	A	A		A	A		A	A		A	A

TABLE 7a: Street Segment Level of Service for AM Peak Hour (cont.)

				Year 2023 Existing A.M. Volumes (Figure 2)	Year 2023 A.M. Plus Project Traffic (Figure 5A)		Year 2025 A.M. Without Project Traffic (Figure 6A)	Year 2025 A.M. Plus Project Traffic (Figure 7A)		Year 2035 A.M. Without Project Traffic (Figure 8A)	Year 2035 A.M. Plus Project Traffic (Figure 9A)		Year 2045 A.M. Without Project Traffic (Figure 8A)	Year 2045 A.M. Plus Project Traffic (Figure 9A)
Item	**Street Segment**	**Limits**	**Existing # of Laneage**	**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**
6	Hwy 65	Cedar Ave/ N Spruce Ave	2	E	E		E	E		E	E		F	F
7	Hwy 65	N Spruce Ave/ Hwy 137	2	D	D		D	D		E	E		E	E
8	Hwy 137	Hwy 65/ Road 188	2	D	D		D	D		D	D		D	D
9	Hwy 137	Road 188/ Road 180	2	C	C		C	C		C	C		C	C
10	N Spruce Ave	Hwy 65/ Acacia Ave	2	D	D		D	D		D	D		E	E
11	N Spruce Ave	Acacia Ave/ Sycamore Ave	2	D	D		D	D		D	D		D	D

TABLE 7b: Street Segment Level of Service for PM Peak Hour

				Year 2023 Existing P.M. Volumes (Figure 2)	Year 2023 P.M. Plus Project Traffic (Figure 5B)		Year 2025 P.M. Without Project Traffic (Figure 6B)	Year 2025 P.M. Plus Project Traffic (Figure 7B)		Year 2035 P.M. Without Project Traffic (Figure 8B)	Year 2035 P.M. Plus Project Traffic (Figure 9B)		Year 2045 P.M. Without Project Traffic (Figure 8B)	Year 2045 P.M. Plus Project Traffic (Figure 9B)
Item	**Street Segment**	**Limits**	**Existing # of Laneage**	**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**
1	Hwy 65	Cedar Ave/ Tulare Rd	2	E	E		E	E		F	F		F	F
2	Hwy 65	Tulare Rd/ Hermosa St	4	A	A		A	A		A	A		A	A
3	Hwy 65	Hermosa St/ Lindmore St	4	A	A		A	A		A	A		A	A
4	Hwy 65	Lindmore St/ Marigold St	4	A	A		A	A		A	A		A	A
5	Hwy 65	Marigold St/ Ave 208	4	A	A		A	A		A	A		A	A

TABLE 7b: Street Segment Level of Service for PM Peak Hour (cont.)

				Year 2023 Existing P.M. Volumes (Figure 2)	Year 2023 P.M. Plus Project Traffic (Figure 5B)		Year 2025 P.M. Without Project Traffic (Figure 6B)	Year 2025 P.M. Plus Project Traffic (Figure 7B)		Year 2035 P.M. Without Project Traffic (Figure 8B)	Year 2035 P.M. Plus Project Traffic (Figure 9B)		Year 2045 P.M. Without Project Traffic (Figure 8B)	Year 2045 P.M. Plus Project Traffic (Figure 9B)
Item	**Street Segment**	**Limits**	**Existing # of Laneage**	**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**		**Level of Service (LOS)**	**Level of Service (LOS)**
6	Hwy 65	Cedar Ave/ N Spruce Ave	2	E	E		E	E		E	E		F	F
7	Hwy 65	N Spruce Ave/ Hwy 137	2	D	D		D	D		E	E		E	E
8	Hwy 137	Hwy 65/ Road 188	2	D	D		D	D		D	D		D	D
9	Hwy 137	Road 188/ Road 180	2	C	C		C	C		C	C		C	C
10	N Spruce Ave	Hwy 65/ Acacia Ave	2	D	D		D	D		D	D		D	D
11	N Spruce Ave	Acacia Ave/ Sycamore Ave	2	D	D		D	D		D	D		D	D

C. Traffic Signal Warrant Analysis

Non-signalized intersections within a Project's vicinity are typically analyzed for satisfaction of the Peak Hour Volume Warrant as described in Section 9 of the **Caltrans Traffic Manual** and the **Manual of Uniform Traffic Control Devices**. A brief explanation of the intersection warrant analysis is provided as follows:

The Manual of Uniform Traffic Control Devices (MUTCD) prescribes "tests" which are conducted to determine the need for installation of a traffic signal. These "tests" are referred to as "warrants". The MUTCD list minimum signal "warrants", which have been adopted by the California Department of Transportation and most California agencies, including the City of Lindsay and the County of Tulare. These "warrants" consist of evaluation of various criteria that have been determined as critical for the installation of a signal. The warrant criterion has been derived empirically.

In actual practice, justification for signal installation is usually based on satisfaction of a number of warrants as well as poor Levels of Service for multiple movements. In keeping within the scope of this traffic study, non-signalized intersections were evaluated for signalization, including expansion of the intersection, based solely on satisfaction of said Peak Hour Signal Warrant and a poor level of service.

As shown in Table 8 herein, the intersection of State Route 65 and Cedar Avenue, by the Year 2025, with the addition of Project-generated traffic, satisfies the Peak Hour Warrant. In addition, the intersection of State Route 65 and W. Tulare Road satisfies the Peak Hour Warrant under existing traffic volumes, without the addition of Project-generated traffic.

Table 8: Peak Hour Warrant Analysis[1]

		Year 2023 Volumes		Year 2025 Volumes		Year 2035 Volumes		Year 2045 Volumes	
		Existing Volumes (Figures 2 & 3)	Existing Volumes Plus Project (Figure 5)	Opening Day Volumes (Figure 6)	Opening Day Volumes Plus Project (Figure 7)	Future Volumes (Figures 8)	Future Volumes Plus Project (Figures 9)	Future Volumes (Figures 10)	Future Volumes Plus Project (Figures 11)
No.	**Existing Non-Signalized Intersection**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**
1)	Hwy 65 & Cedar Ave AM	No	Yes	No	Yes	No	Yes	No	Yes
	Hwy 65 & Cedar Ave PM	No	Yes	No	Yes	No	Yes	No	Yes
2)	Hwy 65 & W Tulare Rd AM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Hwy 65 & W Tulare Rd PM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3)	Hwy 65 & W Lindmore St AM	No	No	No	No	No	No	No	No
	Hwy 65 & W Lindmore St PM	No	No	No	No	No	No	No	No

1) Table shown as summary only. Peak Warrant calculations included in Appendix "C" herein.

Table 8: Peak Hour Warrant Analysis (cont.)[1]

		Year 2023 Volumes		Year 2025 Volumes		Year 2035 Volumes		Year 2045 Volumes	
		Existing Volumes (Figures 2 & 3)	Existing Volumes Plus Project (Figure 5)	Opening Day Volumes (Figure 6)	Opening Day Volumes Plus Project (Figure 7)	Future Volumes (Figures 8)	Future Volumes Plus Project (Figures 9)	Future Volumes (Figures 10)	Future Volumes Plus Project (Figures 11)
No.	**Existing Non-Signalized Intersection**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**
4)	Hwy 65 & Marigold St AM	No	No	No	No	No	No	No	No
	Hwy 65 & Marigold St PM	No	No	No	No	No	No	No	No
5)	Hwy 65 & Ave 208 AM	No	No	No	No	No	No	No	No
	Hwy 65 & Ave 208 PM	No	No	No	No	No	No	No	No
6)	Hwy 137 & Road 188 AM	No	No	No	No	No	No	No	No
	Hwy 137 & Road 188 PM	No	No	No	No	No	No	No	No

1) Table shown as summary only. Peak Warrant calculations included in Appendix "C" herein.

Table 8: Peak Hour Warrant Analysis (cont.)[1]

		Year 2023 Volumes		Year 2025 Volumes		Year 2035 Volumes		Year 2045 Volumes	
		Existing Volumes (Figures 2 & 3)	Existing Volumes Plus Project (Figure 5)	Opening Day Volumes (Figure 6)	Opening Day Volumes Plus Project (Figure 7)	Future Volumes (Figures 8)	Future Volumes Plus Project (Figures 9)	Future Volumes (Figures 10)	Future Volumes Plus Project (Figures 11)
No.	**Existing Non-Signalized Intersection**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**	**Peak Hour Warrant Satisfied**
7)	Hwy 137 & Road 180 AM	No	No	No	No	No	No	No	No
	Hwy 137 & Road 180 PM	No	No	No	No	No	No	No	No
8)	N Spruce Ave & Acacia Ave AM	No	No	No	No	No	No	No	No
	N Spruce Ave & Acacia Ave PM	No	No	No	No	No	No	No	No
9)	N Spruce Ave & Sycamore Ave AM	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	N Spruce Ave & Sycamore Ave PM	No	No	No	No	Yes	Yes	Yes	Yes

1) Table shown as summary only. Peak Warrant calculations included in Appendix "C" herein.

V. PROJECT VEHICLE MILES TRAVELED

A. Background

The California Legislature, through Senate Bill 746, Senate Bill 32, and Executive Order, have required the California Environmental Quality Act (CEQA) to consider the effects of a project on the surrounding transportation system, with Vehicle Miles Traveled (VMT) as an appropriate measure of impact. The specific goal is reduction of greenhouse gas emission by reducing reliance on individual vehicles, improving mass transit, and reduction in trip length via denser infill development.

Senate Bill 32 requires the State of California to reduce greenhouse gas emission to 40 percent below 1990 levels by Year 2030; and Executive Order requires reduction of greenhouse gas emission to 90 percent below 1990 levels by Year 2050.

The calculation of VMT of any project, simply put, is the number of project-generated trips multiplied by the travel length of each trip. Obviously, there is no completely precise method for determining VMT for any project prior to development and occupancy; however, the best available data must be used for estimating both project-generated trips and trip length.

B. Project Generated Trips for VMT Calculation

The phenomena of "Capture", "Pass-by" and "Diverted Link" trips have been previously discussed. However, trip reductions taken for these phenomena for the purpose of Level of Service (LOS) analysis are typically limited by agency standards. This ensures a conservative analysis of Level of Service (LOS) impact. For determination of VMT, this analysis has defaulted to rates obtained from driveway surveys. As indicated earlier, multiple field surveys of the adjacent highway commercial development as well as other similar facilities virtually all Project-generated trips are "pass-bys" trips do not contribute to VMT. Since all vehicles must eventually stop for fuel, it can be argued that any other fueling destination would not be a lesser distance traveled than the Project.

VI. TRAFFIC MITIGATION

A. Project's Obligation to Fund Mitigation

Mitigation is normally considered necessary if a particular intersection or street segment, under any existing or future scenario, (with or without the addition of Project-generated traffic), is anticipated to function at a less than Level of Service (LOS) "C". Generally, the objective of traffic mitigation is to restore the Level of Service to a "C" or better. However, the Project, only has an obligation to fund mitigation if the addition of its trip generation caused the Level of Service (LOS) of a facility to fall below "C"; or degrade a pre-Project LOS that is already less than "C" further.

In other words, if a facility presently functions at a LOS of "D", and Project-generated traffic does not degrade the LOS further to an "E", then the project has no obligation to fund mitigation. However, in this same scenario, if Project trips degraded the LOS from a "D" to an "E", then the project would be obligated to mitigate to the pre-project LOS of "D".

B. Project's Pro-Rata Share of Mitigation

In a scenario where degradation of a facility's LOS to less than "C" is attributable to Project-generated traffic, the Project pro-rata share of mitigation necessary to restore a "C" LOS. If a facility's pre-project LOS was a "D" or worse, mitigation is only required to restore the LOS to the pre-project condition. Again, if the LOS degradation is not attributable to the Project, the developer has no obligation to fund mitigation.

For mitigation improvements inside the Caltrans right of way, the equation is the ratio of Project traffic to the difference of future traffic and current existing traffic. Again, the total Year 2042 traffic includes Project or cumulative project trips. The equation is as follows:

$$Caltrans\ Pro-rata\ Share = \frac{Project\ Traffic}{Total\ Future\ Traffic - Current\ Existing\ Traffic}$$

Table 9: Project Pro-Rata Share

		2045 A.M. Peak Hour				2045 P.M. Peak Hour				Weighted Average - Project Pro-Rata Share
Location	**Mitigation**	**Total Traffic Year 2022**	**Total Traffic Year 2042**	**Project Generated Traffic**	**Project Pro-Rata Share**	**Total Traffic Year 2022**	**Total Traffic Year 2042**	**Project Generated Traffic**	**Project Pro-Rata Share**	
Highway 65 and Cedar Ave	Install Traffic Signal	1,959	2,760	419	52%	1,601	2,242	363	57%	54%
Highway 65 and N Spruce Ave	Widened for Additional Lanes	2,418	3,528	286	26%	2,474	3,639	234	20%	23%

Notes:

1. Pro-rata Share for mitigation in Caltrans' right of way calculated using the Caltrans pro-rata share formula: (Project Traffic/(Future Traffic-Present Traffic))

C. Proposed Mitigation

As discussed in detail earlier in this report, a poor operational Level of Service for multiple movements, and satisfaction of the Peak Hour Warrant were considered justification for installation of a traffic signal or upgrading an existing signalized intersection (to full expansion in accordance with all local standards).

In any present day or future year scenario, degradation of the LOS of a street segment to less than "C", whether or not attributable to Project-traffic, was considered justification for mitigation. However, as discussed, the Project may or may not be obligated to fund such mitigation.

It should be noted that in the analysis of an intersection, every through and turning movement is evaluated for its own Level of Service (LOS). However, the average estimated delay of all vehicles passing through the intersection is used to determine a composite, or average LOS. The composite level of service is used to determine if mitigation is required. In the following, the need for mitigation is discussed for every intersection and street segment within the scope of this study.

I. **Intersections:** As shown in Table 6, there are four intersections that are anticipated to degrade or currently function at an unsatisfactory LOS. In the following, each intersection within the scope of this study is discussed including the need for mitigation and Project obligation for funding such:

A. **State Route 65 and W. Tulare Avenue:** Under present day traffic volumes, this intersection has been shown to operate at a Level of Service (LOS) of "D". Again, the poor LOS is without the addition of Project-generation traffic.

Recommended Mitigation: Signalization of this intersection would theoretically improve its LOS to an "A"; however, this intersection is less than a quarter mile from the intersection of Cedar Avenue. As discussed in the next item, a signal is also warranted at Cedar Avenue and SR 65. However, since mitigation was warranted under existing traffic volumes without the addition of Project-generated traffic, the Project should have no obligation to fund mitigation. Again, as mentioned in Section II herein, W. Tulare will be realigned to tie into Oak Avenue and its intersection with SR 65 will be removed.

B. **Intersection of State Route 65 and Cedar Avenue:** Under existing conditions, with a "no Project scenario", this intersection currently function at an LOS of "C". The addition of Project-generated traffic further degrades the LOS to less than "C".

Recommended Mitigation: Installation of a traffic signal at this intersection will improve the LOS to a "C" and better through the year 2045. Given the addition of Project-generated traffic degrades the LOS under present day and future volumes, this signal

should be installed by "Opening Day". As mentioned previously, roundabout project, Cedar Ave will be realigned as a part of the roundabout construction project and realignment of State Route 65. It is recommended that the intersection be re-evaluated in the future in order to determine new intersection control methods are appropriate for the new layout.

C. **Intersection of State Route 65 and North Spruce Avenue:** For Year 2035 analysis, with a "no Project scenario", this intersection currently function at an LOS of "C". The addition of Project-generated traffic further degrades the LOS of "D".

Recommended Mitigation: Widening this intersection to include more lanes will improve the LOS to a "C" through the year 2045. For the western and eastern segments, the intersection should be widened to include three lanes in each direction, including dedicated left turn lane. For the northern segment, it should be widened to three lanes, with two lanes as dedicated left turn lanes. The southern segment can remain unchanged. Again, the addition of Project-generated traffic degrades the LOS under Year 2035 conditions only. Under present day and opening day conditions, the LOS does not degrade with the addition of the project.

D. **North Spruce Avenue and Sycamore Avenue:** Under present day traffic volumes, this intersection has been shown to operate at a Level of Service (LOS) of "F". The poor LOS is without the addition of Project-generation traffic.

Recommended Mitigation: Signalization of this intersection would theoretically improve its LOS to an "C"; Since mitigation was warranted under existing traffic volumes, and without the addition of Project-generated traffic, the Project should have no obligation to fund mitigation.

II. **Street Segments:** Street segment LOS for all analyzed traffic scenarios are shown in Table 7a and 7b. The addition of Project-generated traffic under any present day or future scenario did not degrade the level of service; therefore, no mitigation is warranted.

VII. CONCLUSIONS & RECOMMENDATIONS

The study has shown that with the addition of Project-generated traffic, a traffic signal is warranted at the intersection of Cedar Avenue and State Route 65. This signal is warranted by "opening day" of the Project and will result in a satisfactory LOS for this intersection through the year 2045.

It is noted that this study has been prepared in a conservative manner. Some of the conservative methodology is summarized in the following:

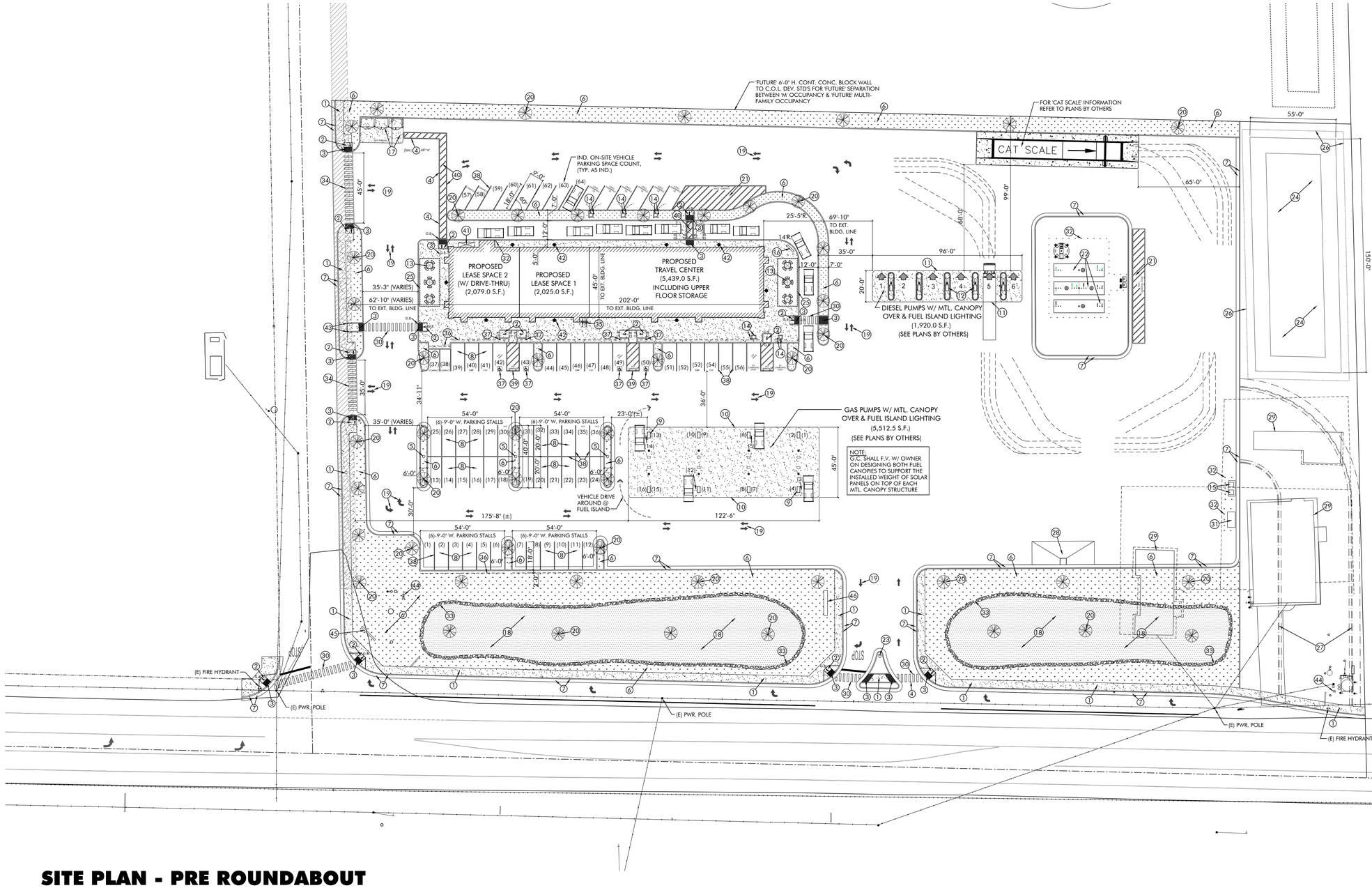
- Although the latest surveys for State Highway 65 indicate a decreasing trend in traffic volume, a positive growth factor of 1.9% was used to extrapolate future traffic scenarios.

- "Pass-by" rates used to determine final trip count were far less than that yielded by numerous surveys of similar highway commercial developments. Although pass-by trips will affect driveway and intersection LOS, they should not be added to the volume of surrounding streets, to include State Route 65. Since the trip reduction for "pass-bys" was only 20 percent, the analysis of State 65 should certainly be considered conservative.

Finally, the calculations and "findings" of this report have shown that with implementation of recommended mitigation the impact of the Project and adjacent development will be "less-than-significant".

Additionally, as mentioned previously, Caltrans and the County of Tulare have plans to re-align and reconstruct State Route 65, which will include the construction of a roundabout, located at the intersection of State Route 65 and Cedar Avenue, tentatively planned to commence in 2034. As a part of the roundabout project, Cedar Ave will be realigned to the East to connect with Oak Ave. It is recommended that the intersection of State Route 65 and Cedar Avenue be re-evaluated in the future to determine if the intersection's traffic control improvements are adequate.

Appendix “A”
Exhibits and Figures



SITE PLAN - PRE ROUNDABOUT

SC.: 1/32" = 1'-0"

N (REF.)

TYP. THIS SHEET

(THIS SHEET ONLY)

SITE PLAN KEY NOTES AND LEGEND:

1. 5'-0" W. CONT. CONC. SIDEWALK, (PER C.O.L. DEV. STD'S), REFER TO CIVIL DWGS. BY OTHERS
2. ADA/ACCESSIBLE CONC. RAMP PER C.O.L. DEV. STD'S, REFER TO CIVIL DWGS. BY OTHERS
3. DETECTABLE WARNING SURFACE (TRUNCATED DOME PANELS), 3'-0" DP. (MIN.) IN DIRECTION OF TRAVEL, (SEE ARCH. DWGS.)
4. FROM BUILDING; 5'-0" W. (U.O.N.) ACCESSIBLE P.O.T. TO REFUSE ENCLOSURE
5. ON-SITE LIGHT-POLE, (FOR PHOTOMETRIC PLAN & LIGHT STD. DTLS. SEE ELEC. DWGS. BY OTHERS)
6. LANDSCAPE BED, (SEE LANDSCAPE DWGS. BY OTHERS)
7. CONT. CONC. CURB & GUTTER, (PER C.O.L. DEV. STD'S), REFER TO CIVIL DWGS. BY OTHERS FOR VERTICAL CONTROL
8. 9'-0" WIDE PARKING SPACE
9. FUEL PUMPS; 8 PUMPS/16 DISPENSERS, (DESIGN/DWGS. BY OTHERS)
10. 5,512.5 S.F. MTL. FUEL CANOPY ABV., (DESIGN/DWGS. BY OTHERS)
11. 1,920 S.F. MTL. DIESEL CANOPY ABV., (DESIGN/DWGS. BY OTHERS)
12. DIESEL PUMPS; 5 PUMPS/10 DISPENSERS, (DESIGN/DWGS. BY OTHERS)
13. PRE-MFG. OUTDOOR DINING TABLES W/ ATTACHED BENCHES, BOLTED TO CONC. FLATWORK FOR PERMANENT INSTALLATION, COLOR & STYLE PER OWNER, (TYP. OF 6)
    A. PROVIDE ONE (1) ACCESSIBLE SPACE @ EACH IND. OUTDOOR DINING AREA, W/ 30"x48" CLEAR FLOOR SPACE @ FORWARD APPROACH, AND 34" MAX. TABLE HEIGHT
    B. LOCATE PRE-MFG. OUTDOOR DINING TABLES/BENCHES TO PROVIDE 48" MIN. HORIZ. CLEARANCE BETWEEN DINING TABLES/BENCHES, AND/OR WALL FIN. OF BLDGS., OR ANY STRUCT. ELEMENTS
14. 'FUTURE' POLE MTD. 'ACCESSIBLE EVCS' CHARGING STATION SIGNAGE, (N.I.C.) BY OTHERS @ FUTURE DATE PER C.B.C., (ONE (1) 'VAN' ACCESSIBLE & SEVEN (7) REG. EVCS), ALSO PROVIDE CONDUITS FOR 'FUTURE' IND. VEHICLES CHARGING EQUIPMENT, & MAIN ELEC. PANEL SIZED TO SUPPORT THE 'FUTURE' ADDITION OF CIRCUITING FOR THE ELEC. VEHICLES CHARGING EQUIPMENT PER CA GREEN CODE, (SEE ELEC. DWGS. BY OTHERS)
15. AIR & WATER DISPENSERS, (FOR PUBLIC USE)
16. DRIVE-THRU 'FUTURE' MENU BOARD, (DESIGN/DWGS. BY OTHERS)
17. 3-BIN REFUSE ENCLOSURE, (PER C.O.L. DEV. STD'S), W/ CMU WALLS, CONC. FOUND., MTL. SWING GATES @ EA. BIN, & 10'-0" DP. REINF. CONC. APRON @ FRONT OF ENCLOSURE, (SEE CIVIL DWGS.)
18. BIO SWALE, (DESIGN/DWGS. BY OTHERS)
19. PAINTED DIRECTIONAL ARROWS, (SEE ARCH. DWGS.)
20. TREE, (SEE LANDSCAPE DWGS. BY OTHERS)
    A. DOUBLE STAKE ALL TREES W/ 2"Ø x 8'-0" H. LODGEPOLE STAKES
    B. PROVIDE 18" DEEP (TREE) ROOT BARRIER IF IND. TREE IS WITHIN FIVE FEET (5'-0") OF CONCRETE FLATWORK, AND/OR A.C. PAVED AREAS OF PROJECT, (TYP.)
21. LOADING AREA, (OR FUEL DELIVERY TRUCK)
22. 12,000 GAL. DIESEL TANKS, (TYP. OF 3)
23. RIGHT TURN ONLY SIGN
24. RETENTION BASIN, (DESIGN & DWGS. BY OTHERS)
25. 13'-0" WIDE x 31'-0" LONG x 10'-0" TALL SHADE COVER TO EXTEND UNDER MTL. AWNING OF BLDG.
26. 8'-0" TALL CHAIN LINK FENCE @ PERIMETER OF RETENTION BASIN W/ LOCKABLE GATE
27. FUTURE DRIVE
28. R.V. WASTE DUMP
29. (E) RESIDENCE(S) TO BE REMOVED PRIOR TO (N) BUILDING(S) OCCUPANCY
30. 5'-0" W. PAINTED CROSS WALK, (COLOR: 'WHITE')
31. PROPANE TANK, (SIZE DETERMINED BY OTHERS)
32. PROTECTION BOLLARD, (SEE ARCH. DWGS.)
33. GRAVEL, (REFER TO BIO-SWALE DWGS. BY OTHERS)
34. 5'-0" W. PAINTED CROSS WALK, (COLOR: 'WHITE'), W/ 4'-0" W. MIN. ACCESSIBLE P.O.T. BEHIND D/A
35. G.C. SHALL PROVIDE SHORT-TERM BICYCLE PARKING WITHIN 200'-0" OF FACILITY MAIN ENTRY(S), TWO (2) BIKES MIN., MEETING THE REQUIREMENTS OF CA GREEN BLDG. STD'S CODE SEC. 5.106.4.1.1
36. LINE OF 2'-0" NOSE OF VEHICLE OVERHANG @ PARKING STALLS
37. FOR ACCESSIBLE PARKING GRAPHIC ON A.C. PAVING/CONC., OR MTD. ON MTL. POLE, (SEE ARCH. DWGS.)
38. PAINTED PARKING STALL STRIPING ON A.C. PAVING (OR CONC., VARIES), 4" WIDE (MIN.). COLOR: WHITE, (TYP. AS IND.)
39. 4" WIDE STRIPING; W/ BORDER PAINTED BLUE, (@ THE 8'-0" W. SIDE AISLE ONLY), W/ 4" WIDE PAINTED WHITE DIAGONALS WITHIN THE BLUE BORDER, (@ 45°) @ 36" O.C., (MAX.)
40. 4" WIDE STRIPING; W/ BORDER PAINTED WHITE W/ 4" WIDE PAINTED WHITE DIAGONALS WITHIN THE WHITE BORDER, (@ 45°) @ 36" O.C., (MAX.), TYP. @ 2-LOCATIONS
41. ELEC. METER MAINS IN PRE-MFG. MTL. WEATHER RATED SWITCH GEAR EQUIP. HOUSING, (SEE ELEC. DWGS. BY OTHERS). CONC. FLATWORK IMMEDIATELY BLW. THE SWITCH GEAR HOUSING SHALL BE LEVEL
42. IND. EGRESS DOOR(S) LOCATIONS AROUND THE PERIMETER OF THE BLDG.
43. DUB-DOWN/WARP CONC. CURBS DOWN TO BACK OF WALK ELEV.
44. (E) WELL TO BE ABANDON
45. LOW LEVEL SITE MONUMENT SIGNAGE, (UNDER SEPARATE PERMIT, DWGS. BY OTHERS)
46. 'PRIMARY' SITE SIGNAGE MTD. ON MTL. POLE, (UNDER SEPARATE PERMIT, DWGS. BY OTHERS)

SITE SUMMARY:

PROJECT DESCRIPTION:

C-STORE: 5,946 S.F. GROSS FLOOR AREA
OCCUPANCY TYPE: "M"
CONSTRUCTION TYPE: "VB"
ALLOWABLE AREA: 9,000 S.F.
ALLOWABLE AREA INCREASE: 25%
ADJUSTED ALLOWABLE AREA: 11,250 S.F.
OCCUPANT LOAD FACTOR @ STORE FLOOR: 1OCCUPANT/60 S.F.
OCCUPANT LOAD FACTOR @ STORAGE: 1OCCUPANT/300 S.F
OCCUPANT LOAD FACTOR @ KITCHEN: 1OCCUPANT/200 S.F.
TOTAL OCCUPANT LOAD: 62

LEASE SPACE 1: 2,025 S.F. GROSS FLOOR AREA
OCCUPANCY TYPE: 'M'
CONSTRUCTION TYPE: 'VB'
ALLOWABLE AREA: 9,000 S.F.
ALLOWABLE AREA INCREASE: 25%
ADJUSTED ALLOWABLE AREA: 11,250 S.F.
OCCUPANT LOAD FACTOR @ SEATING: 1 OCCUPANT/15 S.F.
OCCUPANT LOAD FACTOR @ KITCHEN: 1 OCCUPANT/200 S.F.
1,000 S.F. @ 15 NET= 67 OCCUPANTS
1,000 S.F. @ 200 NET= 5 OCCUPANTS
TOTAL OCCUPANTS= 72
18 REG. PARKING SPACES REQUIRED

LEASE SPACE 2 (DRIVE-THRU): 2,025 S.F. GROSS FLOOR AREA
OCCUPANCY TYPE: 'M'
CONSTRUCTION TYPE: 'VB'
ALLOWABLE AREA: 9,000 S.F.
ALLOWABLE AREA INCREASE: 25%
ADJUSTED ALLOWABLE AREA: 11,250 S.F.
OCCUPANT LOAD FACTOR @ SEATING: 1 OCCUPANT/15 S.F.
OCCUPANT LOAD FACTOR @ KITCHEN: 1 OCCUPANT/200 S.F
1,000 S.F. @ 15 NET= 67 OCCUPANTS
1,000 S.F. @ 200 NET= 5 OCCUPANTS
TOTAL OCCUPANTS= 72
17 REG. PARKING SPACES REQUIRED

LOT DESCRIPTION:

A.P.N. : 199-050-067
TOTAL LOT SIZE: 429,501 S.F. OR 9.86 ACRES (+/-)
TOTAL DEVELOPED AREA: 273,557 S.F. OR 6.28 ACRES (+/-)

PROJECT ADDRESS:

1647 W. TULARE ROAD
LINDSAY, CA 93247

FLOOD ZONE:

ZONE "X" - AREAS OF MINIMAL FLOODING
FEMA PANEL NO.: 1305E
EFFECTIVE DATE: JUNE 16, 2009
REFERENCE: www.fema.gov

PARKING ANALYSIS: (PER C.O.L. ZONING ORD.)

- LEASE SPACE 1:
  1:4 SEATS=1,000 S.F. SEATING DIVIDED BY 15=67 PEOPLE
  PLUS 3= 70 PEOPLE
  70 DIVIDED BY 40 =17.5: 18 SPACES
- LEASE SPACE 2 (DRIVE THROUGH):
  SAME AS LEASE SPACE 1: 18 SPACES
- C-STORE:
  2,980 S.F. FLOOR SPACE/150=20 SPACES
- TOTAL REQUIRED PARKING: 56 SPACES

ACTUAL PARKING SPACES PROVIDED:
STALLS PROVIDED: 71 STALLS
REGULAR STALLS: 50 STALLS
C.A.V. : 9 STALLS
VAN HNDCP: 2 STALLS
HNDCP: 2 STALLS
HNDCP C.A.V.: 1 STALL
REGULAR E.V. CHARGING: 7 STALLS
ACCESSIBLE PARKING SPACES REQUIRED PER CBC TABLE 11B-6;
TOTAL # OF PARK'G SPACES 51-75 — MIN. # OF ACCESSIBLE SPACES REQ'D 3

LANDSCAPE ANALYSIS:
PER C.O.L. ZONING ORDINANCE A MINIMUM OF 5% OF THE GROSS LOT AREA SHALL BE LANDSCAPED
DEVELOPED AREA = 273,557 S.F. - 5% OF LOT AREA = 13,678 S.F. OF LANDSCAPING REQUIRED PER C.O.L. STD'S
ACTUAL COMBINED LANDSCAPE AREAS PROVIDED ON-SITE @ C-STORE = 45,137 S.F. ∴ COMPLIES

GENERAL SITE NOTES:

1. THE INDICATED TRIPLE REFUSE BIN ENCLOSURE ON-SITE IS DESIGNED TO BE ACCESSIBLE. A.C. PAVED, OR CONC. AREAS SHOULD BE ENGINEERED TO WITHSTAND A 60,000 POUND REFUSE TRUCK
2. 10% OF IND. ON-SITE PARKING SPACES ALLOWED TO BE 'COMPACT' (7'-0" WIDE x 16'-0" DEEP PARKING STALL)
3. PER C.B.C. 11B-208; FOR PURPOSES OF THIS SECTION, ELECTRIC VEHICLE CHARGING STATIONS ARE NOT PARKING SPACES
4. EMERGENCY FUEL SHUT-OFF SWITCHES (W/ SIGNAGE) @ THE TRAVEL CENTER TO BE LOCATED & COORDINATED BY OTHERS, (REFER TO FLOOR PLAN, SHEET 'A-2' FOR TENTATIVE LOCATIONS)
5. DRIVE-THRU MENU BOARD, POST MTD. SPEAKER BOX W/ CANOPY & LIGHTING, DRIVE-THRU HEIGHT LIMITING POLE (9'), CAR DETECTOR LOOPS, CONDUITS, PWR. FEEDS, SIGN FTGS., & INTERNALLY LIT DRIVE THRU DIRECTIONAL SIGNAGE(S) TO BE FIELD COORDINATED BY 'FUTURE' FRANCHISEE OF THE NOTED LEASABLE AREA, (N.I.C.)
6. VEHICLE SPACES & ACCESS AISLES SERVING THEM SHALL COMPLY W/ C.B.C. SEC. 11B-302. ACCESS AISLES SHALL BE THE SAME LEVEL AS THE VEHICLE SPACE THEY SERVE. CHANGES IN LEVEL, SLOPES EXCEEDING 1:48, & DETECTABLE WARNINGS SHALL NOT BE PERMITTED IN VEHICLE SPACES & ACCESS AISLES, (11B-812.3)
7. ACCESSIBLE WALKING SURFACES @ ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48, C.B.C. SEC. 11B-403.3
8. PROVIDE PAINTED TWELVE INCH (12") HIGH LETTERS (COLOR: WHITE) WHICH READ: 'NO PARKING', LOCATED @ THE END OF EACH 8'-0" W. ACCESSIBLE SIDE AISLE SPACE. PROVIDE SIM. PAINTED LETTERS @ THE 'CAV' SPACES, AND AT 'LOADING ZONE' AREAS ON-SITE, (TYP.)

ABBREVIATIONS:

C.O.L. - CITY OF LINDSAY
(N) - NEW
(E) - EXISTING
T.R. - TO REMAIN
F.V. - FIELD VERIFY
G.B. - GRADE BREAK
T.B.R. - TO BE REMOVED
D/A - DRIVE APPROACH
STD'S - STANDARDS
PWR. - POWER
DEV. - DEVELOPMENT
P.L. - PROPERTY LINE
P.O.T. - PATH OF TRAVEL
G.C. - GENERAL CONTRACTOR
U.O.N. - UNLESS OTHERWISE NOTED

NOTE:

FOR PAVING REQUIREMENTS & SITE WORK FINISH SURFACE ELEVATIONS REFER TO CIVIL DRAWINGS BY OTHERS

TOWNSEND ARCHITECTURAL GROUP
www.TownsendGroup.net
484 NORTH PROSPECT STREET, SUITE 'B'
PORTERVILLE, CA. 93257
(559) 789-9999 FAX (559) 781-3201

Licensed Architect
Dennis A. Townsend
No. C-24088
Ren. 9-30-23
State of California

A New Travel Center for:

Nashwan Obad

1647 W. Tulare Road
Lindsay, CA
93247

DRAWN BY:	U. Garcia/M. Taylor
DES. BY:	'T.A.G.'
PLOT DATE:	12/27/2022
CHK'D BY:	L. Couch/M. Taylor

REVISION

DESCRIPTION	DATE

ARCHITECTURAL SITE PLAN

PRE-ROUNDABOUT PHASE

PROJECT NUMBER: 21T107

SHEET NUMBER: A-1

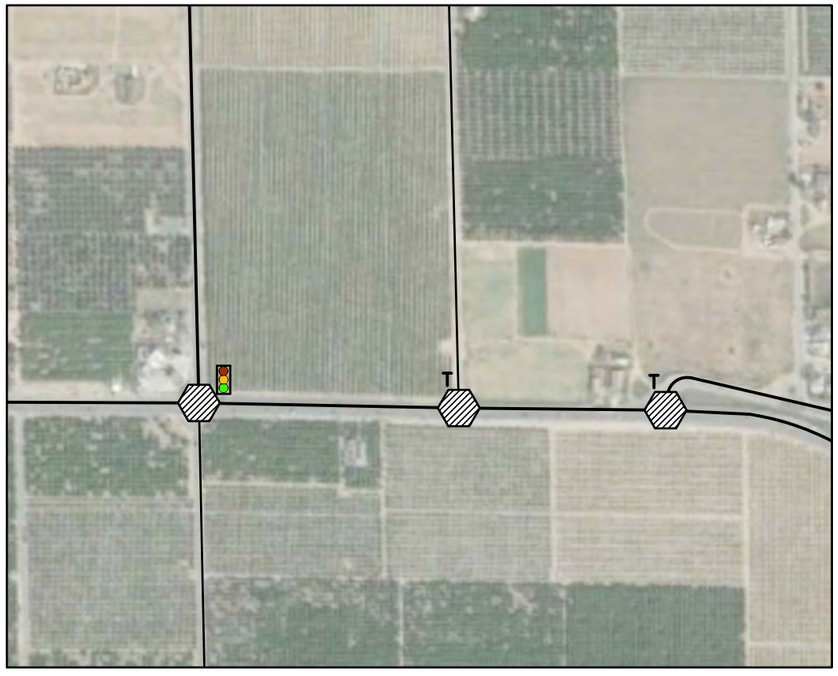
FIGURE 1

PROJECT LOCATION AND EXISTING STREET NETWORK

SEE DETAIL "A"

LEGEND:

———	EXISTING FREEWAY
———	EXISTING ARTERIAL STREET
———	EXISTING COLLECTOR STREET
T	EXISTING STOP SIGN
	EXISTING TRAFFIC SIGNAL
2U	TWO LANE UNDIVIDED
2D	TWO LANE DIVIDED
4D	FOUR LANE DIVIDED
6D	SIX LANE DIVIDED
	INTERSECTION STUDIED



DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 2

YEAR 2023 EXISTING
A.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 3

YEAR 2023 EXISTING P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 4A

A.M. PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

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FIGURE 4B

P.M. PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 5A

YEAR 2023 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

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FIGURE 5B

YEAR 2023 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

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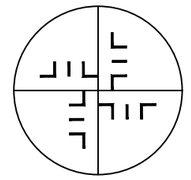
FIGURE 6A

YEAR 2025 OPENING DAY A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS

LEGEND:

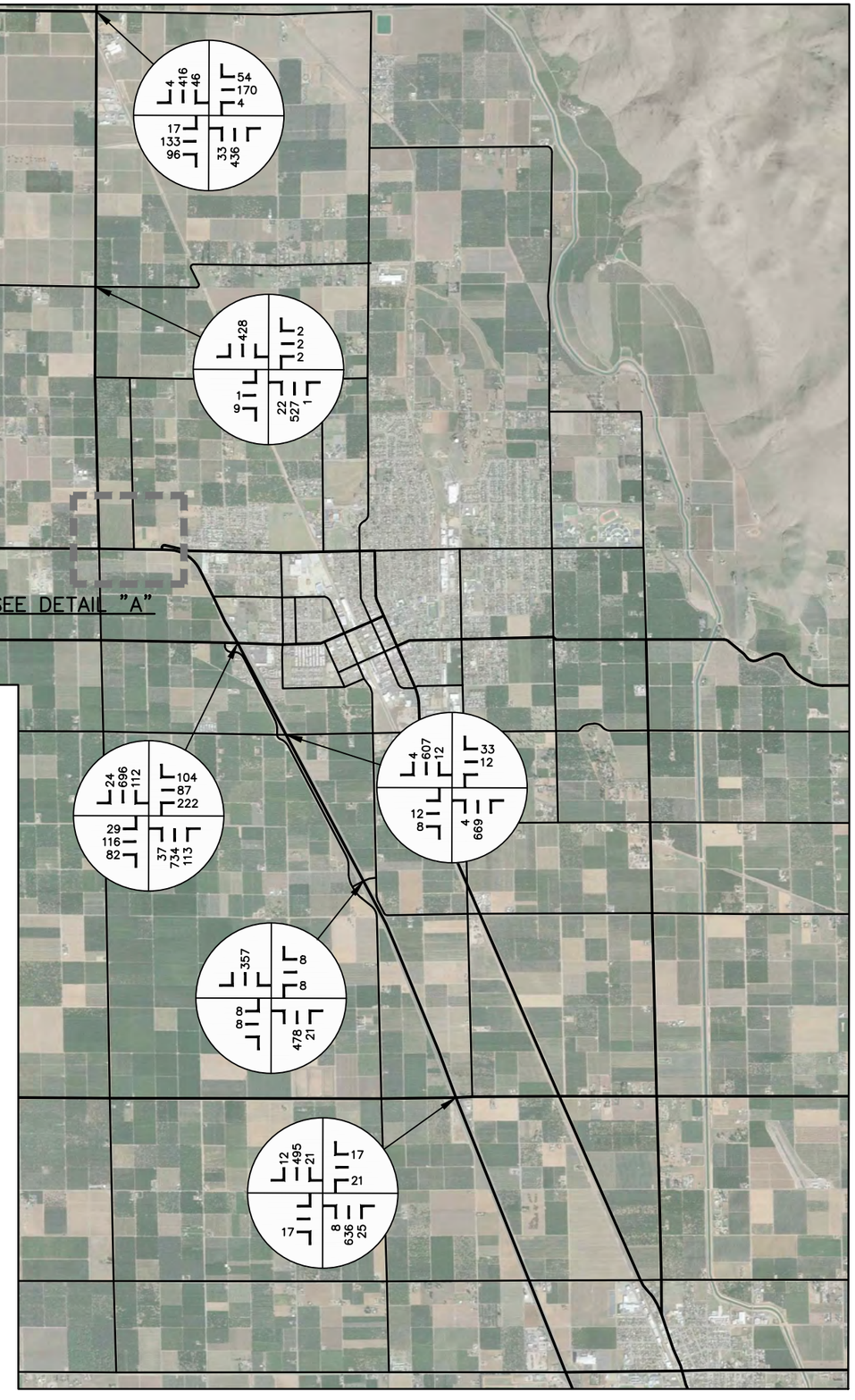
- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

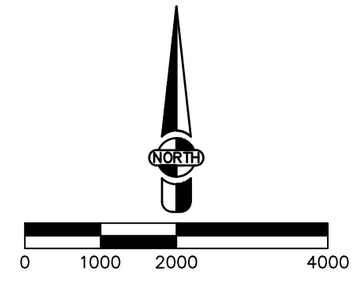


INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'





DATE: MARCH 2023

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FIGURE 6B

YEAR 2025 OPENING DAY
P.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 7A

YEAR 2025 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

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FIGURE 7B

YEAR 2025 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

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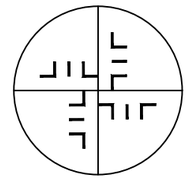
FIGURE 8A

YEAR 2035 FUTURE
A.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

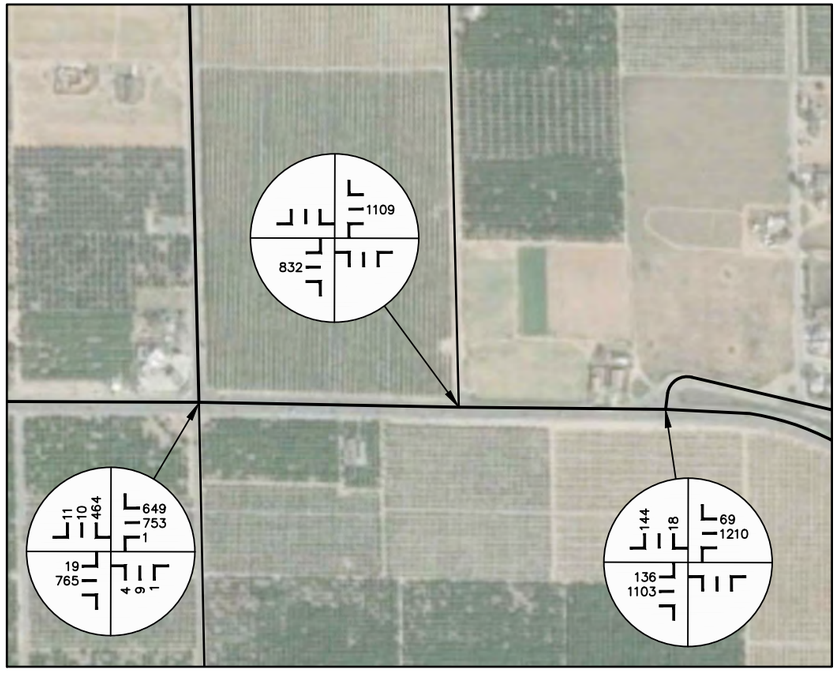
LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

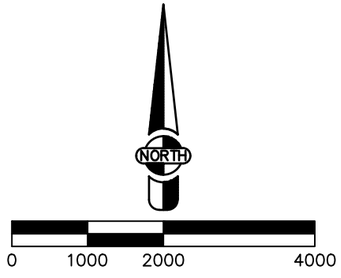


INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"



DETAIL "A"
SCALE: 1"=600'



DATE: MARCH 2023

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FIGURE 8B

YEAR 2035 FUTURE
P.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
ENGINEERING • PLANNING • SURVEYING
12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
Phone: (661) 869-0184 Fax: (661) 885-4155

FIGURE 9A

YEAR 2035 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
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12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
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FIGURE 9B

YEAR 2035 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
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Phone: (661) 869-0184 Fax: (661) 885-4155

FIGURE 10A

YEAR 2045 FUTURE A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
ENGINEERING • PLANNING • SURVEYING
12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
Phone: (661) 869-0184 Fax: (661) 885-4155

FIGURE 10B

YEAR 2045 FUTURE P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH
0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
ENGINEERING • PLANNING • SURVEYING
12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
Phone: (661) 869-0184 Fax: (661) 885-4155

FIGURE 11A

YEAR 2045 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
ENGINEERING • PLANNING • SURVEYING
12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
Phone: (661) 869-0184 Fax: (661) 885-4155

FIGURE 11B

YEAR 2045 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

SEE DETAIL "A"

DETAIL "A"
SCALE: 1"=600'

NORTH

0 1000 2000 4000

DATE: MARCH 2023

LAV// Pinnacle Engineering
ENGINEERING • PLANNING • SURVEYING
12418 Rosedale Hwy., Suite A, Bakersfield, CA 93312
Phone: (661) 869-0184 Fax: (661) 885-4155

Appendix “B”
LOS Calculations

Intersections

HCS7 Two-Way Stop-Control Report

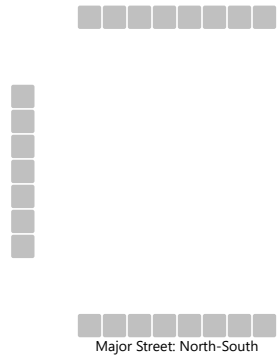
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	16		20	0	16	0	8	612	24	0	20	476	12
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		18		23		18		9				23		
Capacity, c (veh/h)				710		281		631		971				837		
v/c Ratio				0.03		0.08		0.03		0.01				0.03		
95% Queue Length, Q_{95} (veh)				0.1		0.3		0.1		0.0				0.1		
Control Delay (s/veh)				10.2		18.9		10.9		8.7				9.4		
Level of Service (LOS)				B		C		B		A				A		
Approach Delay (s/veh)						15.3				0.1				0.4		
Approach LOS						C										

HCS7 Two-Way Stop-Control Report

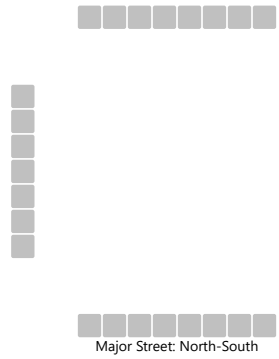
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	16		20	0	18	0	8	689	24	0	23	541	14
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		18		23		20		9				26		
Capacity, c (veh/h)				671		245		591		908				774		
v/c Ratio				0.03		0.09		0.03		0.01				0.03		
95% Queue Length, Q_{95} (veh)				0.1		0.3		0.1		0.0				0.1		
Control Delay (s/veh)				10.5		21.2		11.3		9.0				9.8		
Level of Service (LOS)				B		C		B		A				A		
Approach Delay (s/veh)					16.5				0.1				0.4			
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

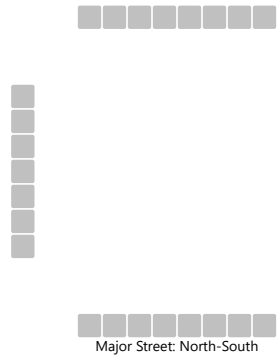
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	17		21	0	17	0	8	636	25	0	21	495	12
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		19		24		19		9				24		
Capacity, c (veh/h)				698		269		618		953				816		
v/c Ratio				0.03		0.09		0.03		0.01				0.03		
95% Queue Length, Q_{95} (veh)				0.1		0.3		0.1		0.0				0.1		
Control Delay (s/veh)				10.3		19.7		11.0		8.8				9.5		
Level of Service (LOS)				B		C		B		A				A		
Approach Delay (s/veh)					15.8				0.1				0.4			
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

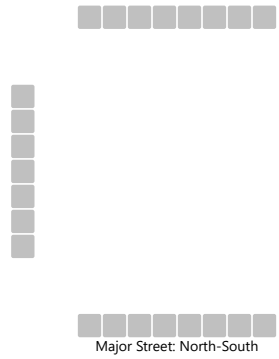
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	17		21	0	19	0	8	713	25	0	24	560	14
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		19		24		22		9				27		
Capacity, c (veh/h)				660		235		579		891				754		
v/c Ratio				0.03		0.10		0.04		0.01				0.04		
95% Queue Length, Q_{95} (veh)				0.1		0.3		0.1		0.0				0.1		
Control Delay (s/veh)				10.6		22.1		11.5		9.1				10.0		
Level of Service (LOS)				B		C		B		A				A		
Approach Delay (s/veh)					17.0				0.1				0.4			
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

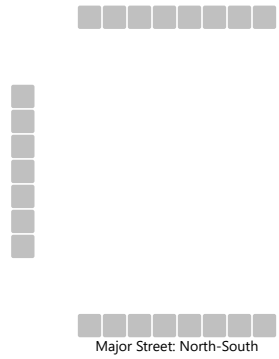
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	20		25	0	20	0	10	771	30	0	25	600	15
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		23		28		23		11				28		
Capacity, c (veh/h)				638		211		550		855				708		
v/c Ratio				0.04		0.13		0.04		0.01				0.04		
95% Queue Length, Q_{95} (veh)				0.1		0.5		0.1		0.0				0.1		
Control Delay (s/veh)				10.9		24.7		11.8		9.3				10.3		
Level of Service (LOS)				B		C		B		A				B		
Approach Delay (s/veh)						19.0				0.1				0.4		
Approach LOS						C										

HCS7 Two-Way Stop-Control Report

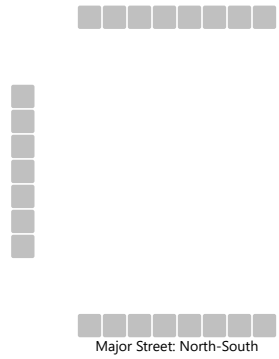
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	20		25	0	22	0	10	848	30	0	28	665	17
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		23		28		25		11				32		
Capacity, c (veh/h)				603		184		515		799				654		
v/c Ratio				0.04		0.15		0.05		0.01				0.05		
95% Queue Length, Q_{95} (veh)				0.1		0.5		0.2		0.0				0.2		
Control Delay (s/veh)				11.2		28.1		12.4		9.6				10.8		
Level of Service (LOS)				B		D		B		A				B		
Approach Delay (s/veh)					20.7				0.1				0.4			
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

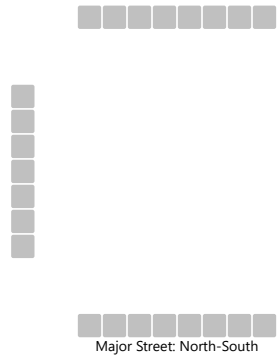
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	24		30	0	24	0	12	930	36	0	30	724	18
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		27		34		27		14				34		
Capacity, c (veh/h)				573		159		479		751				598		
v/c Ratio				0.05		0.21		0.06		0.02				0.06		
95% Queue Length, Q_{95} (veh)				0.1		0.8		0.2		0.1				0.2		
Control Delay (s/veh)				11.6		33.8		13.0		9.9				11.4		
Level of Service (LOS)				B		D		B		A				B		
Approach Delay (s/veh)					24.6				0.1				0.4			
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

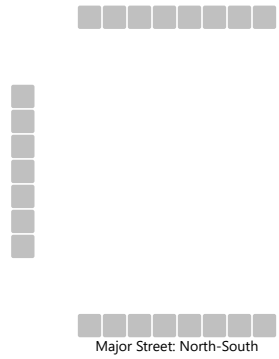
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	24		30	0	26	0	12	1007	36	0	44	789	20
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		27		34		30		14				50		
Capacity, c (veh/h)				542		136		448		702				552		
v/c Ratio				0.05		0.25		0.07		0.02				0.09		
95% Queue Length, Q_{95} (veh)				0.2		1.0		0.2		0.1				0.3		
Control Delay (s/veh)				12.0		40.3		13.6		10.2				12.2		
Level of Service (LOS)				B		E		B		B				B		
Approach Delay (s/veh)					27.9				0.1				0.6			
Approach LOS					D											

HCS7 Two-Way Stop-Control Report

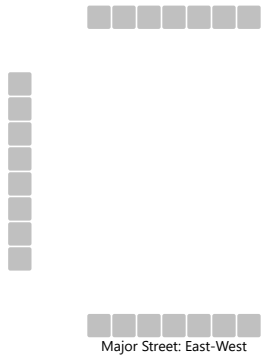
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	660				880	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		346														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		15.4														
Level of Service (LOS)		C														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

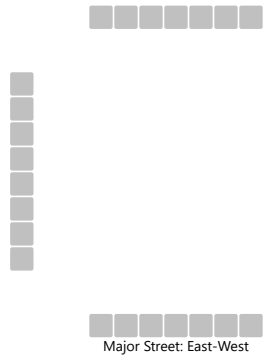
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		139	660				954	0						134		72
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		158													234	
Capacity, c (veh/h)		305													36	
v/c Ratio		0.52													6.54	
95% Queue Length, Q_{95} (veh)		3.1													102.6	
Control Delay (s/veh)		29.4													10189.6	
Level of Service (LOS)		D													F	
Approach Delay (s/veh)		5.1												10189.6		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

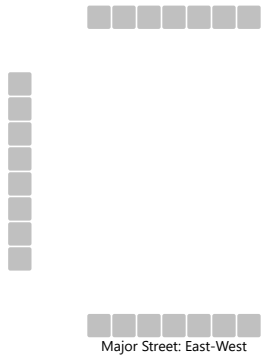
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	686				914	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		326														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		16.0														
Level of Service (LOS)		C														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

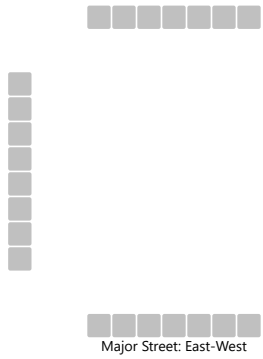
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		139	686				988	0						134		72
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		158													234	
Capacity, c (veh/h)		287													30	
v/c Ratio		0.55													7.69	
95% Queue Length, Q_{95} (veh)		3.5													105.2	
Control Delay (s/veh)		32.6													12294.0	
Level of Service (LOS)		D													F	
Approach Delay (s/veh)		5.5												12294.0		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

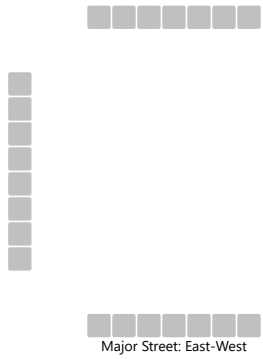
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	832				1109	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		233														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		20.4														
Level of Service (LOS)		C														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

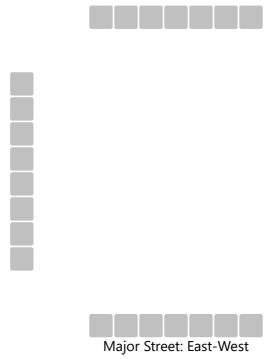
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		139	832				1183	0						134		72
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		158													234	
Capacity, c (veh/h)		205													9	
v/c Ratio		0.77													26.00	
95% Queue Length, Q_{95} (veh)		7.6													115.6	
Control Delay (s/veh)		74.6													45818.8	
Level of Service (LOS)		F													F	
Approach Delay (s/veh)		10.7												45818.8		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

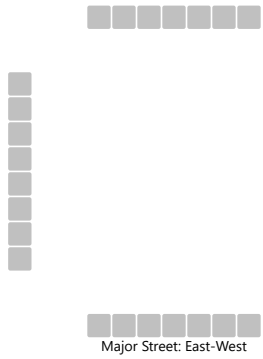
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	1003				1338	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		157														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		27.9														
Level of Service (LOS)		D														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

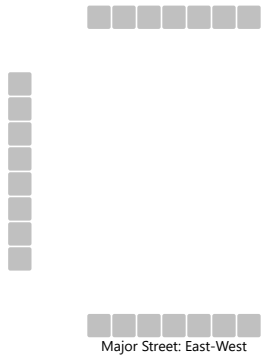
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		139	1003				1412	0						134		72
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

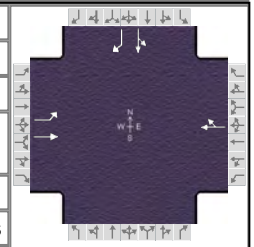
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		158													234	
Capacity, c (veh/h)		138														
v/c Ratio		1.14														
95% Queue Length, Q_{95} (veh)		21.2														
Control Delay (s/veh)		427.7														
Level of Service (LOS)		F														
Approach Delay (s/veh)		52.1														
Approach LOS																

HCS7 Signalized Intersection Results Summary

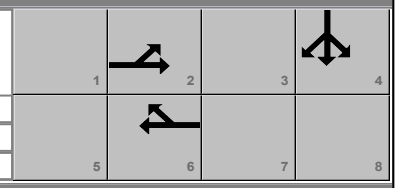
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Proj	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Cedar Ave	File Name	Hwy 65 and Cedar Ave 2045 AM+Proj-Mitigated.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	139	1003			1412	0				134	0	72

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	100.3	11.7	0.0	0.0	0.0	0.0	
Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



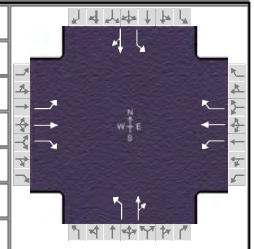
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		8.0				11.0
Phase Duration, s		104.3		104.3				15.7
Change Period, (*Y+R c*), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				3.0
Queue Clearance Time (*g s*), s								11.5
Green Extension Time (*g e*), s		0.0		0.0				0.2
Phase Call Probability								1.00
Max Out Probability								0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h	151	1090			0						146	78
Adjusted Saturation Flow Rate (*s*), veh/h/ln	344	1900			0						1810	1610
Queue Service Time (*g s*), s	17.4	26.5			0.0						9.5	5.5
Cycle Queue Clearance Time (*g c*), s	100.3	26.5			0.0						9.5	5.5
Green Ratio (*g/C*)	0.84	0.84									0.10	0.10
Capacity (*c*), veh/h	110	1588									177	157
Volume-to-Capacity Ratio (*X*)	1.375	0.687			0.000						0.825	0.498
Back of Queue (*Q*), ft/ln (95 th percentile)	441.2	213			0						192.9	98.2
Back of Queue (*Q*), veh/ln (95 th percentile)	17.6	8.5			0.0						7.7	3.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00						0.00	0.00
Uniform Delay (*d 1*), s/veh	56.0	3.8									53.1	51.4
Incremental Delay (*d 2*), s/veh	215.6	2.4			0.0						3.7	0.9
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0						0.0	0.0
Control Delay (*d*), s/veh	271.7	6.2									56.8	52.3
Level of Service (LOS)	F	A									E	D
Approach Delay, s/veh / LOS	38.5	D		24.3	C		0.0			55.2	E	
Intersection Delay, s/veh / LOS	32.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.30	A	1.82	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	2.54	C	3.02	C			0.86	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2023 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	436	90	20	456	147	104	173	12	174	242	34

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.1	1.4	62.6	15.1	21.8	0.0	1	2	3	4		
Yellow	4.0	0.0	4.0	4.0	4.0	0.0	5	6	7	8		
Red	0.0	0.0	0.0	0.0	0.0	0.0						

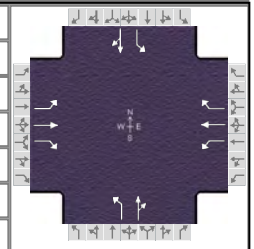
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.5	68.0	7.1	66.6		19.1		25.8
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.1		3.1
Queue Clearance Time (g_s), s	4.7		3.4			14.6		20.9
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0		0.5		0.9
Phase Call Probability	0.75		0.52			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	41	474	98	22	496	160	113	201		189	300	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1900	1610	1810	1900	1610	1810	1878		1810	1859	
Queue Service Time (g_s), s	2.7	18.6	3.6	1.4	20.2	6.3	7.0	12.6		11.5	18.9	
Cycle Queue Clearance Time (g_c), s	2.7	18.6	3.6	1.4	20.2	6.3	7.0	12.6		11.5	18.9	
Green Ratio (*g/C*)	0.04	0.53	0.53	0.03	0.52	0.52	0.13	0.13		0.18	0.18	
Capacity (*c*), veh/h	68	1014	859	47	992	841	227	236		329	338	
Volume-to-Capacity Ratio (*X*)	0.610	0.467	0.114	0.466	0.500	0.190	0.498	0.853		0.575	0.888	
Back of Queue (*Q*), ft/ln (95 th percentile)	57.9	325	61.1	30.6	351.2	107.5	143.1	253.3		222	346.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	13.0	2.4	1.2	14.0	4.3	5.7	10.1		8.9	13.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.9	17.4	13.9	57.6	18.5	15.2	48.9	51.4		44.9	47.9	
Incremental Delay (d_2), s/veh	3.3	1.5	0.3	2.7	1.8	0.5	0.6	3.4		0.6	3.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	18.9	14.2	60.3	20.3	15.7	49.6	54.8		45.5	51.1	
Level of Service (LOS)	E	B	B	E	C	B	D	D		D	D	
Approach Delay, s/veh / LOS	21.0	C		20.5	C		52.9	D		48.9	D	
Intersection Delay, s/veh / LOS	32.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.50	A	1.60	B	1.01	A	1.29	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2023 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	491	90	23	508	164	107	173	13	196	242	34

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.4	1.1	62.5	15.2	21.8	0.0	1	2	3	4		
Yellow	4.0	0.0	4.0	4.0	4.0	0.0	5	6	7	8		
Red	0.0	0.0	0.0	0.0	0.0	0.0						

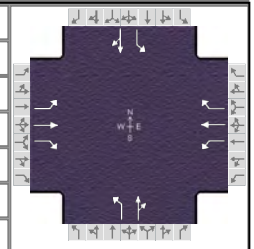
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.5	67.6	7.4	66.5		19.2		25.8
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.1		3.1
Queue Clearance Time (g_s), s	4.7		3.6			14.7		20.9
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0		0.5		1.0
Phase Call Probability	0.75		0.57			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	41	534	98	25	552	178	116	202		213	300	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1900	1610	1810	1900	1610	1810	1876		1810	1859	
Queue Service Time (g_s), s	2.7	22.0	3.6	1.6	23.5	7.2	7.2	12.7		13.1	18.9	
Cycle Queue Clearance Time (g_c), s	2.7	22.0	3.6	1.6	23.5	7.2	7.2	12.7		13.1	18.9	
Green Ratio (*g/C*)	0.04	0.53	0.53	0.03	0.52	0.52	0.13	0.13		0.18	0.18	
Capacity (*c*), veh/h	68	1007	854	51	990	839	229	237		329	338	
Volume-to-Capacity Ratio (*X*)	0.610	0.530	0.115	0.489	0.558	0.213	0.509	0.853		0.647	0.887	
Back of Queue (*Q*), ft/ln (95 th percentile)	57.9	375.5	61.7	35.1	399.2	121.9	147.4	254.4		247.4	346	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	15.0	2.5	1.4	16.0	4.9	5.9	10.2		9.9	13.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.9	18.4	14.1	57.4	19.4	15.5	48.9	51.3		45.5	47.9	
Incremental Delay (d_2), s/veh	3.3	2.0	0.3	2.7	2.3	0.6	0.7	3.4		0.8	3.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	20.4	14.4	60.1	21.7	16.1	49.6	54.7		46.3	51.0	
Level of Service (LOS)	E	C	B	E	C	B	D	D		D	D	
Approach Delay, s/veh / LOS	22.0	C		21.6	C		52.8	D		49.1	D	
Intersection Delay, s/veh / LOS	32.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.60	B	1.73	B	1.01	A	1.33	A

HCS7 Signalized Intersection Results Summary

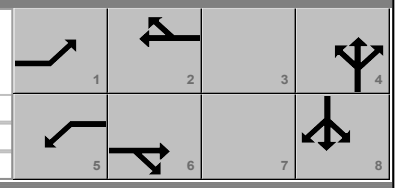
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2025 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	453	94	21	474	153	108	180	12	181	251	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



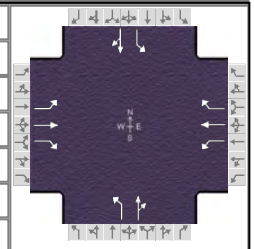
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.5	66.7	7.2	65.4		19.6		26.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.04	0.52	0.52	0.03	0.51	0.51	0.13	0.13		0.19	0.19	
Capacity (*c*), veh/h	68	993	842	48	972	824	235	244		340	349	
Volume-to-Capacity Ratio (*X*)	0.619	0.496	0.121	0.473	0.530	0.202	0.501	0.857		0.579	0.891	
Back of Queue (*Q*), ft/ln (95 th percentile)	59.5	347.8	65.9	32.1	375.7	115.7	148.1	260.7		228.4	356.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.4	13.9	2.6	1.3	15.0	4.6	5.9	10.4		9.1	14.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.9	18.4	14.6	57.6	19.6	16.0	48.6	51.1		44.4	47.5	
Incremental Delay (d_2), s/veh	3.4	1.8	0.3	2.7	2.1	0.6	0.6	3.4		0.6	3.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	20.2	14.9	60.2	21.7	16.5	49.2	54.5		45.0	50.7	
Level of Service (LOS)	E	C	B	E	C	B	D	D		D	D	
Approach Delay, s/veh / LOS	22.0	C		21.7	C		52.6	D		48.5	D	
Intersection Delay, s/veh / LOS	32.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.54	B	1.65	B	1.03	A	1.33	A

HCS7 Signalized Intersection Results Summary

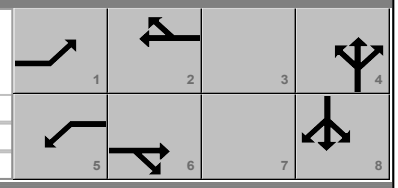
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2025 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	508	94	24	526	170	108	180	13	203	251	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



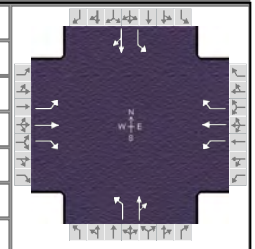
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.5	66.3	7.5	65.3		19.6		26.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.04	0.52	0.52	0.03	0.51	0.51	0.13	0.13		0.19	0.19	
Capacity (*c*), veh/h	68	987	836	53	970	822	236	245		340	349	
Volume-to-Capacity Ratio (*X*)	0.619	0.560	0.122	0.496	0.589	0.225	0.498	0.858		0.649	0.890	
Back of Queue (*Q*), ft/ln (95 th percentile)	59.5	400.8	66.5	36.6	426.8	130.5	147.9	261.8		253.5	356	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.4	16.0	2.7	1.5	17.1	5.2	5.9	10.5		10.1	14.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.9	19.5	14.8	57.4	20.6	16.2	48.5	51.1		45.1	47.5	
Incremental Delay (d_2), s/veh	3.4	2.3	0.3	2.7	2.6	0.6	0.6	3.4		0.8	3.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	21.8	15.1	60.1	23.2	16.9	49.1	54.5		45.8	50.6	
Level of Service (LOS)	E	C	B	E	C	B	D	D		D	D	
Approach Delay, s/veh / LOS	23.2	C		22.9	C		52.6	D		48.6	D	
Intersection Delay, s/veh / LOS	33.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.64	B	1.78	B	1.03	A	1.36	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2035 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	48	549	113	25	575	185	131	218	15	219	305	43

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

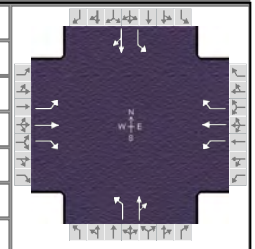
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.9	59.0	7.6	57.6		22.5		30.9
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.04	0.46	0.46	0.03	0.45	0.45	0.15	0.15		0.22	0.22	
Capacity (*c*), veh/h	75	871	738	54	849	720	279	289		406	417	
Volume-to-Capacity Ratio (*X*)	0.699	0.685	0.166	0.504	0.736	0.279	0.511	0.876		0.586	0.906	
Back of Queue (*Q*), ft/ln (95 th percentile)	73.8	505	93.8	38.1	552	167.1	176.5	303.4		260.1	416.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.0	20.2	3.8	1.5	22.1	6.7	7.1	12.1		10.4	16.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.8	25.7	19.0	57.3	27.3	21.0	46.6	49.6		41.5	45.3	
Incremental Delay (d_2), s/veh	4.4	4.4	0.5	2.7	5.6	1.0	0.5	3.3		0.5	3.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	61.2	30.0	19.5	60.0	33.0	21.9	47.2	53.0		42.1	48.4	
Level of Service (LOS)	E	C	B	E	C	C	D	D		D	D	
Approach Delay, s/veh / LOS	30.5	C		31.2	C		50.9	D		46.0	D	
Intersection Delay, s/veh / LOS	37.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.76	B	1.90	B	1.14	A	1.50	B

HCS7 Signalized Intersection Results Summary

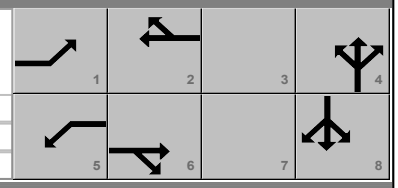
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2035 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	48	604	113	28	627	202	131	218	16	241	305	43

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



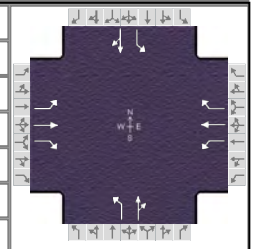
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.9	58.6	7.8	57.5		22.6		31.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.04	0.46	0.46	0.03	0.45	0.45	0.15	0.15		0.22	0.22	
Capacity (*c*), veh/h	75	865	733	58	847	718	280	290		407	418	
Volume-to-Capacity Ratio (*X*)	0.699	0.759	0.168	0.528	0.804	0.306	0.509	0.877		0.644	0.905	
Back of Queue (*Q*), ft/ln (95 th percentile)	73.8	581.7	94.5	42.6	630	185.5	176.3	304.5		284.7	415.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.0	23.3	3.8	1.7	25.2	7.4	7.1	12.2		11.4	16.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.8	27.2	19.3	57.2	28.7	21.3	46.5	49.6		42.2	45.3	
Incremental Delay (d_2), s/veh	4.4	6.2	0.5	2.8	8.0	1.1	0.5	3.3		0.6	3.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	61.2	33.4	19.8	60.0	36.7	22.4	47.1	52.9		42.8	48.3	
Level of Service (LOS)	E	C	B	E	D	C	D	D		D	D	
Approach Delay, s/veh / LOS	33.1	C		34.1	C		50.8	D		46.1	D	
Intersection Delay, s/veh / LOS	38.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.86	B	2.02	B	1.14	A	1.54	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2045 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	58	663	137	30	693	223	158	263	18	264	368	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		

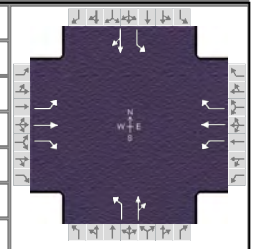
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	9.5	53.9	8.0	52.4		22.0		36.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.05	0.42	0.42	0.03	0.40	0.40	0.15	0.15		0.27	0.27	
Capacity (*c*), veh/h	83	791	670	60	767	650	271	282		484	497	
Volume-to-Capacity Ratio (*X*)	0.764	0.911	0.222	0.544	0.982	0.373	0.633	1.084		0.593	0.919	
Back of Queue (*Q*), ft/ln (95 th percentile)	90	760.2	127.2	45.7	887.3	219.5	218.7	537.3		294.2	482.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.6	30.4	5.1	1.8	35.5	8.8	8.7	21.5		11.8	19.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.6	32.9	22.5	57.1	35.3	25.1	47.9	51.0		38.3	42.7	
Incremental Delay (d_2), s/veh	5.4	16.5	0.8	2.8	28.4	1.6	3.6	77.8		0.4	3.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	62.0	49.5	23.3	60.0	63.7	26.8	51.5	128.8		38.7	45.7	
Level of Service (LOS)	E	D	C	E	E	C	D	F		D	D	
Approach Delay, s/veh / LOS	46.2	D		54.9	D		101.0	F		43.0	D	
Intersection Delay, s/veh / LOS	56.5						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	2.03	B	2.18	B	1.27	A	1.71	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2045 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	58	718	137	33	745	240	158	263	19	286	368	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	9.5	54.7	8.2	53.4		21.0		36.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.05	0.42	0.42	0.03	0.41	0.41	0.14	0.14		0.27	0.27	
Capacity (*c*), veh/h	82	803	680	63	783	663	256	266		484	497	
Volume-to-Capacity Ratio (*X*)	0.765	0.972	0.219	0.568	1.035	0.393	0.670	1.153		0.642	0.918	
Back of Queue (*Q*), ft/ln (95 th percentile)	90	890.9	125.4	50.2	1028.2	232.1	224.2	584.8		318.2	488.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.6	35.6	5.0	2.0	41.1	9.3	9.0	23.4		12.7	19.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	56.6	34.0	22.0	57.0	35.3	24.8	48.8	51.5		38.9	42.7	
Incremental Delay (d_2), s/veh	5.4	25.7	0.7	3.0	41.5	1.7	5.4	102.8		0.5	4.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	62.0	59.6	22.8	60.0	76.8	26.5	54.2	154.3		39.4	47.3	
Level of Service (LOS)	E	E	C	E	F	C	D	F		D	D	
Approach Delay, s/veh / LOS	54.3	D		64.4	E		118.4	F		44.1	D	
Intersection Delay, s/veh / LOS	64.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	2.13	B	2.31	B	1.28	A	1.75	B

HCS7 Two-Way Stop-Control Report

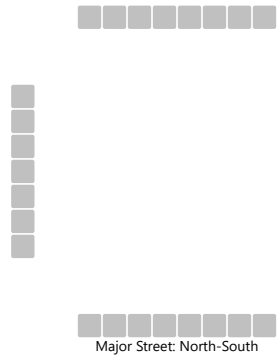
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		8	8	0		8	0	8	0	0	460	20	0	0	344	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		18		0		9		9		0				0		
Capacity, c (veh/h)		369		795		393		719		1122				979		
v/c Ratio		0.05		0.00		0.02		0.01		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.2		0.0		0.1		0.0		0.0				0.0		
Control Delay (s/veh)		15.3		9.5		14.4		10.1		8.2				8.7		
Level of Service (LOS)		C		A		B		B		A				A		
Approach Delay (s/veh)		15.3				12.2				0.0				0.0		
Approach LOS		C				B										

HCS7 Two-Way Stop-Control Report

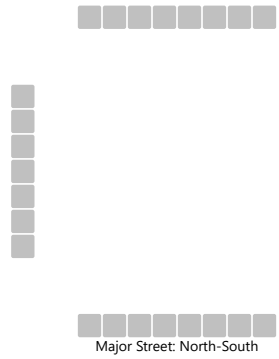
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		9	8	0		8	0	10	0	0	548	20	0	0	422	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19		0		9		11		0				0		
Capacity, c (veh/h)		301		743		335		667		1038				896		
v/c Ratio		0.06		0.00		0.03		0.02		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.2		0.0		0.1		0.1		0.0				0.0		
Control Delay (s/veh)		17.8		9.8		16.1		10.5		8.5				9.0		
Level of Service (LOS)		C		A		C		B		A				A		
Approach Delay (s/veh)	17.8				13.0				0.0				0.0			
Approach LOS	C				B											

HCS7 Two-Way Stop-Control Report

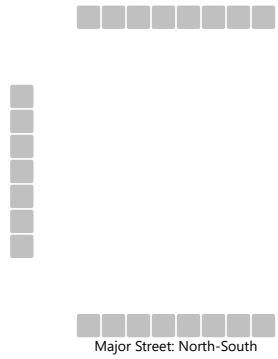
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		8	8	0		8	0	8	0	0	478	21	0	0	357	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		18		0		9		9		0				0		
Capacity, c (veh/h)		353		786		381		708		1108				961		
v/c Ratio		0.05		0.00		0.02		0.01		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.2		0.0		0.1		0.0		0.0				0.0		
Control Delay (s/veh)		15.8		9.6		14.7		10.1		8.2				8.7		
Level of Service (LOS)		C		A		B		B		A				A		
Approach Delay (s/veh)		15.8				12.4				0.0				0.0		
Approach LOS		C				B										

HCS7 Two-Way Stop-Control Report

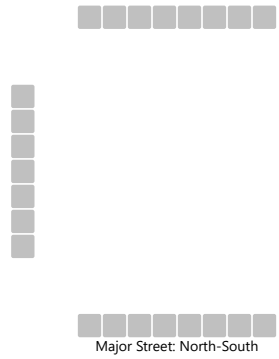
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		9	8	0		8	0	10	0	0	566	21	0	0	435	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19		0		9		11		0				0		
Capacity, c (veh/h)		288		735		324		657		1025				879		
v/c Ratio		0.07		0.00		0.03		0.02		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.2		0.0		0.1		0.1		0.0				0.0		
Control Delay (s/veh)		18.4		9.9		16.4		10.6		8.5				9.1		
Level of Service (LOS)		C		A		C		B		A				A		
Approach Delay (s/veh)		18.4				13.2				0.0				0.0		
Approach LOS		C				B										

HCS7 Two-Way Stop-Control Report

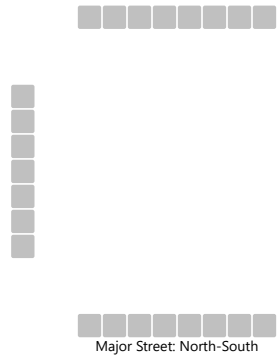
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		10	10	0		10	0	10	0	0	580	25	0	0	433	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23		0		11		11		0				0		
Capacity, c (veh/h)		274		736		316		649		1027				863		
v/c Ratio		0.08		0.00		0.04		0.02		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.3		0.0		0.1		0.1		0.0				0.0		
Control Delay (s/veh)		19.4		9.9		16.8		10.6		8.5				9.2		
Level of Service (LOS)		C		A		C		B		A				A		
Approach Delay (s/veh)		19.4				13.7				0.0				0.0		
Approach LOS		C				B										

HCS7 Two-Way Stop-Control Report

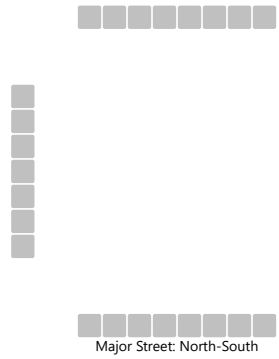
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		11	10	0		10	0	12	0	0	668	25	0	0	511	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24		0		11		14		0				0		
Capacity, c (veh/h)		221		689		270		601		949				790		
v/c Ratio		0.11		0.00		0.04		0.02		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.4		0.0		0.1		0.1		0.0				0.0		
Control Delay (s/veh)		23.3		10.2		18.9		11.1		8.8				9.6		
Level of Service (LOS)		C		B		C		B		A				A		
Approach Delay (s/veh)	23.3				14.7				0.0				0.0			
Approach LOS	C				B											

HCS7 Two-Way Stop-Control Report

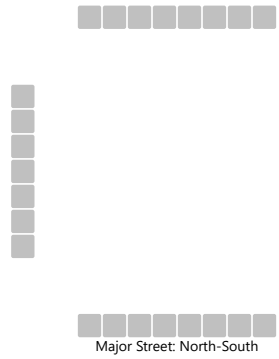
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		12	12	0		12	0	12	0	0	699	30	0	0	523	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		27		0		14		14		0				0		
Capacity, c (veh/h)		201		682		255		586		938				761		
v/c Ratio		0.14		0.00		0.05		0.02		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.5		0.0		0.2		0.1		0.0				0.0		
Control Delay (s/veh)		25.7		10.3		19.9		11.3		8.8				9.7		
Level of Service (LOS)		D		B		C		B		A				A		
Approach Delay (s/veh)	25.7				15.6				0.0				0.0			
Approach LOS	D				C											

HCS7 Two-Way Stop-Control Report

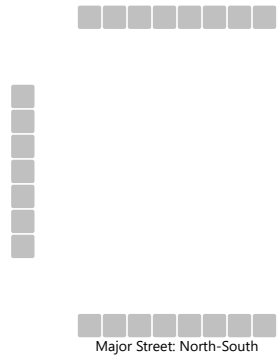
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		13	12	0		12	0	14	0	0	787	30	0	0	601	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

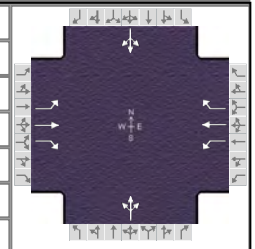
Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28		0		14		16		0				0		
Capacity, c (veh/h)		161		637		217		543		867				696		
v/c Ratio		0.18		0.00		0.06		0.03		0.00				0.00		
95% Queue Length, Q_{95} (veh)		0.6		0.0		0.2		0.1		0.0				0.0		
Control Delay (s/veh)		32.1		10.6		22.7		11.8		9.2				10.2		
Level of Service (LOS)		D		B		C		B		A				B		
Approach Delay (s/veh)	32.1				16.9				0.0				0.0			
Approach LOS	D				C											

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2023 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	607	0	1	598	515	3	7	1	368	8	9

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

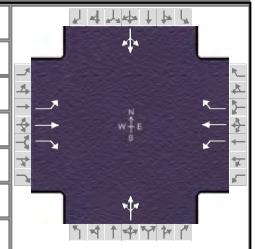
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	6.5	75.8	4.2	73.5		6.0		34.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.60	0.60	0.00	0.58	0.58		0.02			0.25	
Capacity (*c*), veh/h	38	1137	964	3	1101	933		30			451	
Volume-to-Capacity Ratio (*X*)	0.429	0.580	0.000	0.335	0.590	0.600		0.394			0.928	
Back of Queue (*Q*), ft/ln (95 th percentile)	23.2	412.7	0	2.3	426.3	382.8		17.2			454	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	16.5	0.0	0.1	17.1	15.3		0.7			18.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.0	14.8	0.0	59.8	16.1	16.3		58.4			44.0	
Incremental Delay (d_2), s/veh	2.8	2.2	0.0	20.9	2.3	2.8		3.1			3.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.9	17.0	0.0	80.7	18.5	19.1		61.5			47.6	
Level of Service (LOS)	E	B		F	B	B		E			D	
Approach Delay, s/veh / LOS	18.0	B		18.8	B		61.5	E		47.6	D	
Intersection Delay, s/veh / LOS	24.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.60	B	2.49	B	0.51	A	1.18	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2023 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	15	692	0	2	677	582	3	7	2	421	8	9

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

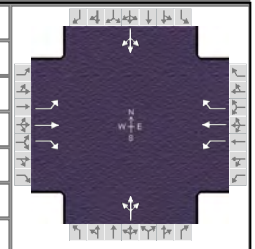
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	6.5	71.7	4.4	69.6		6.1		37.8
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.56	0.56	0.00	0.55	0.55		0.02			0.28	
Capacity (*c*), veh/h	38	1071	908	6	1038	880		32			509	
Volume-to-Capacity Ratio (*X*)	0.430	0.702	0.000	0.343	0.709	0.719		0.406			0.935	
Back of Queue (*Q*), ft/ln (95 th percentile)	23.2	545.1	0	3.9	552.3	496.1		18.7			502.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	21.8	0.0	0.2	22.1	19.8		0.7			20.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.0	18.9	0.0	59.7	20.2	20.3		58.3			42.0	
Incremental Delay (d_2), s/veh	2.8	3.9	0.0	11.5	4.1	5.0		3.0			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.9	22.8	0.0	71.1	24.3	25.4		61.3			45.7	
Level of Service (LOS)	E	C		E	C	C		E			D	
Approach Delay, s/veh / LOS	23.6	C		24.9	C		61.3	E		45.7	D	
Intersection Delay, s/veh / LOS	28.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.76	B	2.75	C	0.51	A	1.27	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2025 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	16	631	0	1	621	535	3	7	1	382	8	9

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						
								5	6	7	8	

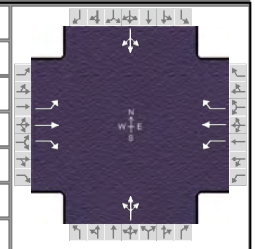
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	6.6	74.8	4.2	72.4		6.0		35.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.59	0.59	0.00	0.57	0.57		0.02			0.26	
Capacity (*c*), veh/h	40	1121	950	3	1083	918		30			466	
Volume-to-Capacity Ratio (*X*)	0.437	0.612	0.000	0.335	0.623	0.634		0.394			0.930	
Back of Queue (*Q*), ft/ln (95 th percentile)	24.7	444.9	0	2.3	460.2	413.2		17.2			467.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	17.8	0.0	0.1	18.4	16.5		0.7			18.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.9	15.8	0.0	59.8	17.2	17.4		58.4			43.4	
Incremental Delay (d_2), s/veh	2.8	2.5	0.0	20.9	2.7	3.3		3.1			3.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.7	18.3	0.0	80.7	19.9	20.7		61.5			47.1	
Level of Service (LOS)	E	B		F	B	C		E			D	
Approach Delay, s/veh / LOS	19.3	B		20.3	C		61.5	E		47.1	D	
Intersection Delay, s/veh / LOS	25.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.65	B	2.56	C	0.51	A	1.20	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2025 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	16	716	0	2	700	602	3	7	2	435	8	9

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						
								5	6	7	8	

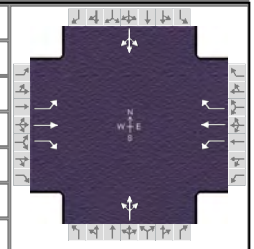
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	6.6	70.6	4.4	68.4		6.1		38.8
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.56	0.56	0.00	0.54	0.54		0.02			0.29	
Capacity (*c*), veh/h	40	1055	894	6	1020	864		32			524	
Volume-to-Capacity Ratio (*X*)	0.437	0.738	0.000	0.343	0.746	0.757		0.406			0.937	
Back of Queue (*Q*), ft/ln (95 th percentile)	24.7	587.7	0	3.9	595.5	535.4		18.7			515.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	23.5	0.0	0.2	23.8	21.4		0.7			20.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.9	20.1	0.0	59.7	21.5	21.7		58.3			41.5	
Incremental Delay (d_2), s/veh	2.8	4.6	0.0	11.4	5.0	6.1		3.0			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.7	24.7	0.0	71.1	26.4	27.8		61.4			45.2	
Level of Service (LOS)	E	C		E	C	C		E			D	
Approach Delay, s/veh / LOS	25.5	C		27.1	C		61.4	E		45.2	D	
Intersection Delay, s/veh / LOS	30.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.80	B	2.83	C	0.51	A	1.30	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2035 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	765	0	1	753	649	4	9	1	464	10	11

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		

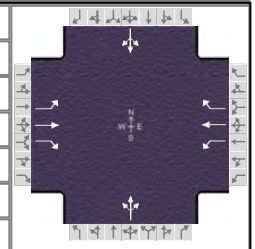
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	7.0	68.2	4.2	65.4		6.4		41.2
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.53	0.53	0.00	0.51	0.51		0.02			0.31	
Capacity (*c*), veh/h	45	1016	861	3	972	824		37			560	
Volume-to-Capacity Ratio (*X*)	0.459	0.818	0.000	0.337	0.842	0.856		0.413			0.941	
Back of Queue (*Q*), ft/ln (95 th percentile)	29.2	695.4	0	2.3	721.3	655.5		21.7			544.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	27.8	0.0	0.1	28.9	26.2		0.9			21.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.7	23.1	0.0	59.8	25.1	25.5		58.1			40.3	
Incremental Delay (d_2), s/veh	2.7	7.3	0.0	21.2	8.8	11.1		2.7			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.4	30.4	0.0	81.0	33.9	36.6		60.9			43.9	
Level of Service (LOS)	E	C		F	C	D		E			D	
Approach Delay, s/veh / LOS	31.1	C		35.2	D		60.9	E		43.9	D	
Intersection Delay, s/veh / LOS	35.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	1.89	B	3.00	C	0.51	A	1.36	A

HCS7 Signalized Intersection Results Summary

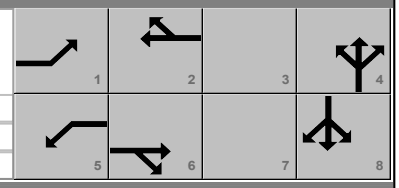
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2035 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	850	0	2	832	716	4	9	2	517	10	11

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



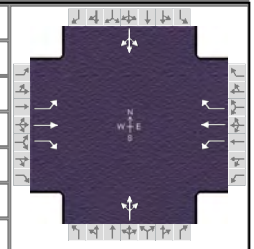
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	7.0	69.6	4.4	67.1		6.5		39.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.02	0.55	0.55	0.00	0.53	0.53		0.02			0.30	
Capacity (*c*), veh/h	45	1040	881	6	999	847		38			533	
Volume-to-Capacity Ratio (*X*)	0.458	0.888	0.000	0.343	0.905	0.919		0.424			1.098	
Back of Queue (*Q*), ft/ln (95 th percentile)	29.2	824.4	0	3.9	845.9	771.9		23.2			897.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	33.0	0.0	0.2	33.8	30.9		0.9			35.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.7	23.9	0.0	59.7	25.7	26.1		58.0			42.3	
Incremental Delay (d_2), s/veh	2.7	11.2	0.0	11.5	13.1	16.6		2.7			68.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.4	35.2	0.0	71.1	38.8	42.7		60.8			110.8	
Level of Service (LOS)	E	D		E	D	D		E			F	
Approach Delay, s/veh / LOS	35.7	D		40.6	D		60.8	E		110.8	F	
Intersection Delay, s/veh / LOS	52.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	2.05	B	3.27	C	0.51	A	1.45	A

HCS7 Signalized Intersection Results Summary

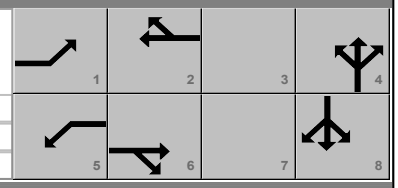
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	23	923	0	2	909	783	5	11	2	559	12	14

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



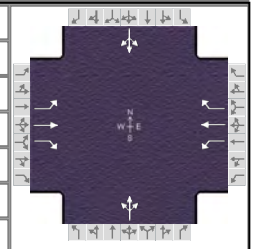
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	7.4	68.9	4.4	65.9		6.9		39.8
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.03	0.54	0.54	0.00	0.52	0.52		0.02			0.30	
Capacity (*c*), veh/h	51	1055	894	6	1008	854		44			513	
Volume-to-Capacity Ratio (*X*)	0.489	0.951	0.000	0.343	0.981	0.997		0.444			1.239	
Back of Queue (*Q*), ft/ln (95 th percentile)	35.1	981.7	0	3.9	1047.9	967.9		27.6			1120.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.4	39.3	0.0	0.2	41.9	38.7		1.1			44.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.4	25.2	0.0	59.7	27.6	28.1		57.8			43.0	
Incremental Delay (d_2), s/veh	2.7	18.2	0.0	11.5	24.1	30.0		2.6			109.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.1	43.4	0.0	71.1	51.6	58.1		60.4			152.6	
Level of Service (LOS)	E	D		E	D	E		E			F	
Approach Delay, s/veh / LOS	43.8	D		54.6	D		60.4	E		152.6	F	
Intersection Delay, s/veh / LOS	69.2						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	2.18	B	3.53	D	0.52	A	1.54	B

HCS7 Signalized Intersection Results Summary

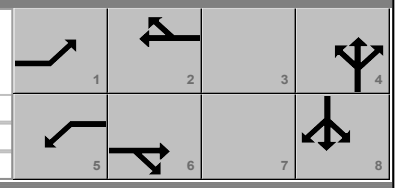
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	23	1008	0	3	988	850	5	11	2	612	12	14

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



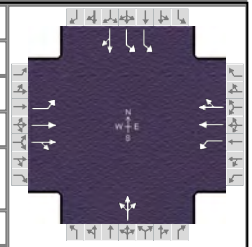
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	7.4	71.5	4.6	68.7		6.9		37.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.03	0.56	0.56	0.01	0.54	0.54		0.02			0.28	
Capacity (*c*), veh/h	51	1097	930	9	1053	892		44			470	
Volume-to-Capacity Ratio (*X*)	0.489	0.999	0.000	0.350	1.020	1.035		0.444			1.476	
Back of Queue (*Q*), ft/ln (95 th percentile)	35.1	1164.4	0	5.4	1203.6	1100.8		27.6			1594.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.4	46.6	0.0	0.2	48.1	44.0		1.1			63.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	57.4	25.3	0.0	59.5	26.7	26.7		57.8			44.4	
Incremental Delay (d_2), s/veh	2.7	26.9	0.0	8.1	32.8	39.6		2.6			215.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	60.1	52.2	0.0	67.6	59.6	66.3		60.4			260.1	
Level of Service (LOS)	E	D		E	F	F		E			F	
Approach Delay, s/veh / LOS	52.4	D		62.7	E		60.4	E		260.1	F	
Intersection Delay, s/veh / LOS	95.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	2.34	B	3.79	D	0.52	A	1.63	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045 + Project - Mitigated	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 AM+Proj-Mitigate…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	23	1008	0	3	988	850	5	11	2	612	12	14

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	1	2	3	4	5	6	7	8
Green	0.0	0.0	0.0	0.0	0.0	0.0		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0		
Red	0.0	0.0	0.0	0.0	0.0	0.0		

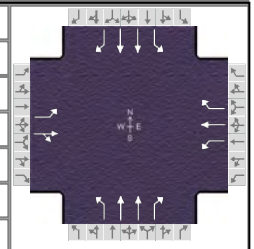
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		12.0		10.0
Phase Duration, s	7.4	79.0	4.6	76.3		6.9		29.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Green Ratio (*g/C*)	0.64	0.63		0.61	0.60	0.60		0.02		0.21	0.21	
Capacity (*c*), veh/h	113	2378		315	1145	982		44		745	367	
Volume-to-Capacity Ratio (*X*)	0.219	0.456	0.000	0.010	0.863	1.007		0.443		0.883	0.076	
Back of Queue (*Q*), ft/ln (95 th percentile)	19.6	293.7	0	1.5	789.8	1075.6		27.3		364.7	29.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.8	11.7	0.0	0.1	31.6	43.0		1.1		14.6	1.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	30.2	11.8		10.4	19.7	23.8		57.8		45.8	37.9	
Incremental Delay (d_2), s/veh	0.4	0.6	0.0	0.0	8.7	30.3		2.6		1.4	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	30.6	12.4		10.4	28.4	54.2		60.4		47.3	37.9	
Level of Service (LOS)	C	B		B	C	F		E		D	D	
Approach Delay, s/veh / LOS	12.8	B		41.2	D		60.4	E		46.9	D	
Intersection Delay, s/veh / LOS	34.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	2.30	B	2.32	B
Bicycle LOS Score / LOS	1.40	A	2.12	B	0.52	A	1.62	B

HCS7 Signalized Intersection Results Summary

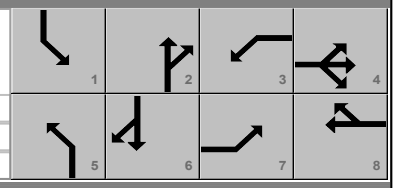
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2023 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	112	79	214	84	100	36	706	109	108	670	23

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



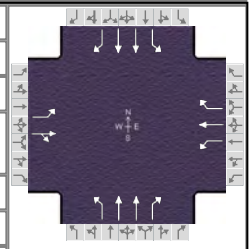
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	7.8	20.4	21.5	34.1	8.4	64.5	13.6	69.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.14		0.15	0.25	0.25	0.04	0.50	0.50	0.08	0.55	0.55
Capacity (*c*), veh/h	299	242		263	476	403	66	1823	811	145	1982	882
Volume-to-Capacity Ratio (*X*)	0.102	0.858		0.883	0.192	0.269	0.593	0.421	0.146	0.808	0.367	0.028
Back of Queue (*Q*), ft/ln (95 th percentile)	33.2	252.2		277.4	90.9	110.6	53.2	259.7	75.8	157.7	223.2	13.3
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	10.1		11.1	3.6	4.4	2.1	10.4	3.0	6.3	8.9	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.2	50.6		50.3	35.4	36.1	56.9	18.7	15.9	54.3	15.4	12.5
Incremental Delay (d_2), s/veh	0.1	3.4		3.9	0.1	0.1	3.1	0.7	0.4	4.0	0.5	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.2	54.1		54.1	35.5	36.3	60.1	19.5	16.3	58.3	15.9	12.5
Level of Service (LOS)	D	D		D	D	D	E	B	B	E	B	B
Approach Delay, s/veh / LOS	52.5	D		45.7	D		20.8	C		21.5	C	
Intersection Delay, s/veh / LOS	28.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.88	A	1.20	A	1.25	A	1.21	A

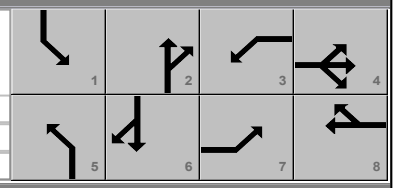
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2023 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	33	112	79	214	84	116	36	815	109	122	759	26

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



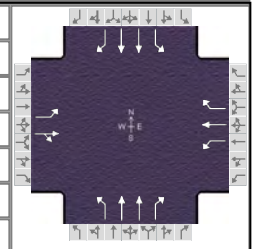
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.2	20.5	21.5	33.7	8.4	63.4	14.7	69.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.14		0.15	0.25	0.25	0.04	0.49	0.49	0.09	0.55	0.55
Capacity (*c*), veh/h	305	243		263	471	399	66	1790	797	162	1981	882
Volume-to-Capacity Ratio (*X*)	0.118	0.856		0.883	0.194	0.316	0.593	0.495	0.149	0.821	0.416	0.032
Back of Queue (*Q*), ft/ln (95 th percentile)	39.1	252.1		277.4	91.3	130.4	53.2	308.7	77.7	177.6	253.4	15.1
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	10.1		11.1	3.7	5.2	2.1	12.3	3.1	7.1	10.1	0.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.0	50.6		50.3	35.7	36.8	56.9	20.3	16.5	53.7	15.9	12.5
Incremental Delay (d_2), s/veh	0.1	3.4		3.9	0.1	0.2	3.1	1.0	0.4	3.9	0.6	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.0	54.0		54.1	35.7	37.0	60.1	21.3	16.9	57.6	16.6	12.6
Level of Service (LOS)	D	D		D	D	D	E	C	B	E	B	B
Approach Delay, s/veh / LOS	52.2	D		45.6	D		22.2	C		22.0	C	
Intersection Delay, s/veh / LOS	28.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.89	A	1.23	A	1.35	A	1.30	A

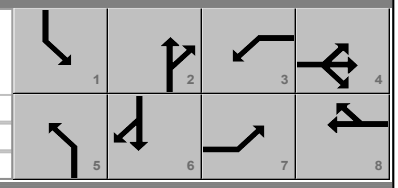
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2025 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	116	82	222	87	104	37	734	113	112	696	23

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



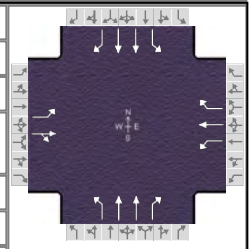
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	7.9	20.9	22.0	35.1	8.4	63.1	13.9	68.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.14		0.15	0.26	0.26	0.04	0.49	0.49	0.08	0.54	0.54
Capacity (*c*), veh/h	306	250		272	492	417	67	1781	793	150	1947	867
Volume-to-Capacity Ratio (*X*)	0.103	0.862		0.887	0.192	0.271	0.602	0.448	0.155	0.811	0.389	0.029
Back of Queue (*Q*), ft/ln (95 th percentile)	34.1	259.4		285.3	93.1	113.9	54.7	277.5	81.3	163.6	237.1	13.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.4	10.4		11.4	3.7	4.6	2.2	11.1	3.3	6.5	9.5	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	41.7	50.4		50.0	34.7	35.4	56.9	19.8	16.7	54.1	16.2	13.0
Incremental Delay (d_2), s/veh	0.1	3.4		3.9	0.1	0.1	3.2	0.8	0.4	4.0	0.6	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	41.7	53.8		53.9	34.7	35.6	60.1	20.7	17.2	58.1	16.8	13.1
Level of Service (LOS)	D	D		D	C	D	E	C	B	E	B	B
Approach Delay, s/veh / LOS	52.3	D		45.2	D		21.9	C		22.2	C	
Intersection Delay, s/veh / LOS	29.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.89	A	1.23	A	1.28	A	1.23	A

HCS7 Signalized Intersection Results Summary

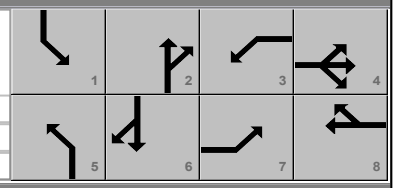
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2025 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	116	82	222	87	120	37	843	113	126	785	26

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



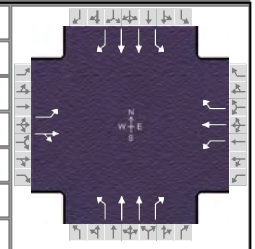
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.2	21.0	22.0	34.8	8.4	62.0	15.0	68.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.18	0.14		0.15	0.26	0.26	0.04	0.48	0.48	0.09	0.54	0.54
Capacity (*c*), veh/h	311	250		272	487	413	67	1747	778	166	1946	866
Volume-to-Capacity Ratio (*X*)	0.119	0.860		0.887	0.194	0.316	0.602	0.524	0.158	0.824	0.438	0.033
Back of Queue (*Q*), ft/ln (95 th percentile)	40	259.3		285.3	93.5	133.4	54.7	328.6	83.3	183	268.6	15.5
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	10.4		11.4	3.7	5.3	2.2	13.1	3.3	7.3	10.7	0.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	41.5	50.4		50.0	34.9	36.1	56.9	21.5	17.4	53.5	16.8	13.0
Incremental Delay (d_2), s/veh	0.1	3.4		3.9	0.1	0.2	3.2	1.1	0.4	3.9	0.7	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	41.6	53.7		53.9	35.0	36.3	60.1	22.6	17.8	57.4	17.5	13.1
Level of Service (LOS)	D	D		D	C	D	E	C	B	E	B	B
Approach Delay, s/veh / LOS	51.9	D		45.1	D		23.5	C		22.7	C	
Intersection Delay, s/veh / LOS	29.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.90	A	1.26	A	1.38	A	1.33	A

HCS7 Signalized Intersection Results Summary

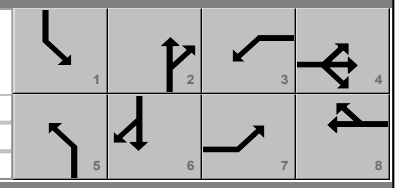
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2035 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	141	100	270	106	126	45	890	137	136	844	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



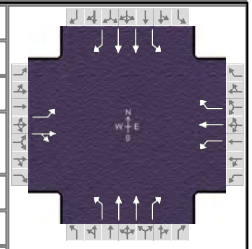
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.3	24.2	25.5	41.4	8.8	54.5	15.8	61.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.20	0.17		0.18	0.31	0.31	0.04	0.42	0.42	0.10	0.48	0.48
Capacity (*c*), veh/h	343	297		324	592	502	73	1523	678	177	1733	771
Volume-to-Capacity Ratio (*X*)	0.111	0.881		0.905	0.195	0.273	0.672	0.635	0.220	0.833	0.529	0.041
Back of Queue (*Q*), ft/ln (95 th percentile)	39.6	302.5		332.9	105.1	128.2	66.9	396.4	119.1	195.5	331.6	20.3
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	12.1		13.3	4.2	5.1	2.7	15.9	4.8	7.8	13.3	0.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	38.8	48.7		48.2	30.3	31.1	56.8	27.4	22.2	53.1	21.8	16.6
Incremental Delay (d_2), s/veh	0.1	3.5		3.9	0.1	0.1	4.0	2.0	0.7	3.9	1.2	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	38.9	52.2		52.1	30.3	31.2	60.8	29.5	22.9	57.0	23.0	16.7
Level of Service (LOS)	D	D		D	C	C	E	C	C	E	C	B
Approach Delay, s/veh / LOS	50.5	D		42.3	D		29.9	C		27.4	C	
Intersection Delay, s/veh / LOS	33.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.11	B	1.91	B
Bicycle LOS Score / LOS	0.98	A	1.39	A	1.45	A	1.39	A

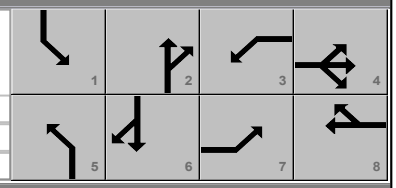
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2035 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	141	100	270	106	142	45	999	137	150	933	32

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



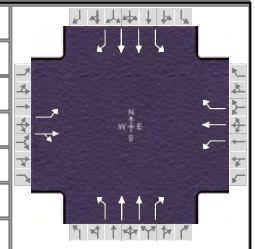
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.6	24.2	25.5	41.1	8.8	53.5	16.8	61.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.21	0.17		0.18	0.31	0.31	0.04	0.41	0.41	0.11	0.48	0.48
Capacity (*c*), veh/h	348	298		324	588	498	73	1491	664	193	1732	771
Volume-to-Capacity Ratio (*X*)	0.125	0.880		0.905	0.196	0.310	0.672	0.728	0.224	0.844	0.586	0.045
Back of Queue (*Q*), ft/ln (95 th percentile)	45.1	302.2		332.9	105.4	0.8	66.9	465.6	121.5	210.4	372.1	22.4
Back of Queue (*Q*), veh/ln (95 th percentile)	1.8	12.1		13.3	4.2	0.0	2.7	18.6	4.9	8.4	14.9	0.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	38.7	48.7		48.2	30.5	31.6	56.8	29.6	22.8	52.6	22.7	16.7
Incremental Delay (d_2), s/veh	0.1	3.4		3.9	0.1	0.1	4.0	3.2	0.8	3.8	1.5	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	38.7	52.1		52.1	30.5	31.8	60.8	32.8	23.6	56.4	24.1	16.8
Level of Service (LOS)	D	D		D	C	C	E	C	C	E	C	B
Approach Delay, s/veh / LOS	50.2	D		42.1	D		32.8	C		28.2	C	
Intersection Delay, s/veh / LOS	34.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.11	B	1.91	B
Bicycle LOS Score / LOS	0.99	A	1.42	A	1.55	B	1.49	A

HCS7 Signalized Intersection Results Summary

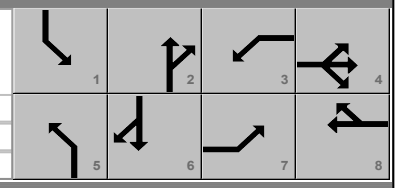
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2045 AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	170	120	325	128	152	54	1073	166	164	1018	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



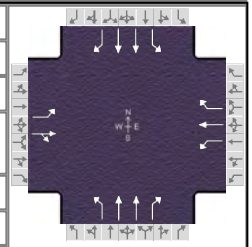
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.8	28.8	30.6	50.5	9.3	42.3	18.4	51.3
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.25	0.21		0.22	0.39	0.39	0.04	0.32	0.32	0.12	0.39	0.39
Capacity (*c*), veh/h	383	363		401	734	622	80	1158	516	217	1432	637
Volume-to-Capacity Ratio (*X*)	0.128	0.908		0.922	0.198	0.278	0.767	1.053	0.366	0.859	0.808	0.062
Back of Queue (*Q*), ft/ln (95 th percentile)	48	363.5		399.5	117	143.8	85.3	918.1	191.6	233.7	526	31.1
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	14.5		16.0	4.7	5.8	3.4	36.7	7.7	9.3	21.0	1.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	35.1	46.6		45.7	24.5	25.3	56.7	40.8	31.4	51.8	32.2	22.5
Incremental Delay (d_2), s/veh	0.1	3.8		4.0	0.0	0.1	5.8	68.8	2.0	3.9	5.1	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	35.2	50.4		49.7	24.5	25.4	62.5	109.6	33.4	55.8	37.3	22.6
Level of Service (LOS)	D	D		D	C	C	E	F	C	E	D	C
Approach Delay, s/veh / LOS	48.4	D		38.3	D		97.8	F		39.4	D	
Intersection Delay, s/veh / LOS	62.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.12	B	1.92	B
Bicycle LOS Score / LOS	1.11	A	1.62	B	1.70	B	1.63	B

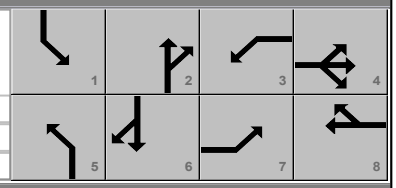
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2045 AM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	48	170	120	325	128	168	54	1187	166	178	1107	26

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.0	28.8	26.0	45.7	9.3	45.8	19.4	55.9
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.25	0.21		0.18	0.35	0.35	0.04	0.35	0.35	0.13	0.43	0.43
Capacity (*c*), veh/h	396	365		332	661	560	80	1260	561	233	1565	697
Volume-to-Capacity Ratio (*X*)	0.138	0.903		1.113	0.220	0.341	0.764	1.071	0.336	0.868	0.804	0.042
Back of Queue (*Q*), ft/ln (95 th percentile)	53.5	396.4		630.9	126	173.6	85.1	878.4	181.6	248.6	544	21.2
Back of Queue (*Q*), veh/ln (95 th percentile)	2.1	15.9		25.2	5.0	6.9	3.4	35.1	7.3	9.9	21.8	0.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	35.0	46.4		49.0	27.6	29.0	56.7	39.1	28.9	51.3	29.6	19.7
Incremental Delay (d_2), s/veh	0.1	14.1		83.5	0.1	0.1	5.6	46.6	1.6	3.8	4.5	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	35.0	60.6		132.5	27.7	29.1	62.3	85.7	30.5	55.1	34.1	19.8
Level of Service (LOS)	D	E		F	C	C	E	F	C	E	C	B
Approach Delay, s/veh / LOS	57.0	E		82.9	F		78.3	E		36.7	D	
Intersection Delay, s/veh / LOS	62.3						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.12	B	1.92	B
Bicycle LOS Score / LOS	1.12	A	1.65	B	1.81	B	1.72	B

HCS7 Two-Way Stop-Control Report

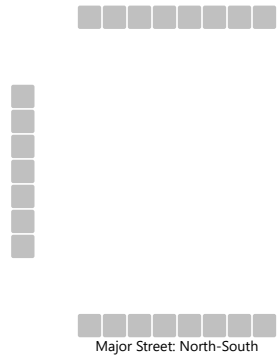
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	12	8		0	12	32	0	4	644	0	0	12	584	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14		9		14		36		5				14		
Capacity, c (veh/h)		123		647		123		614		878				830		
v/c Ratio		0.11		0.01		0.11		0.06		0.01				0.02		
95% Queue Length, Q_{95} (veh)		0.4		0.0		0.4		0.2		0.0				0.1		
Control Delay (s/veh)		37.8		10.6		38.0		11.2		9.1				9.4		
Level of Service (LOS)		E		B		E		B		A				A		
Approach Delay (s/veh)	26.9				18.5				0.1				0.2			
Approach LOS	D				C											

HCS7 Two-Way Stop-Control Report

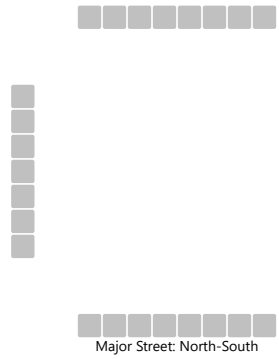
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	12	8		0	12	37	0	4	743	0	0	13	668	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14		9		14		42		5				15		
Capacity, c (veh/h)		91		601		90		564		807				751		
v/c Ratio		0.15		0.02		0.15		0.07		0.01				0.02		
95% Queue Length, Q_{95} (veh)		0.5		0.0		0.5		0.2		0.0				0.1		
Control Delay (s/veh)		51.6		11.1		51.9		11.9		9.5				9.9		
Level of Service (LOS)		F		B		F		B		A				A		
Approach Delay (s/veh)		35.4				21.7				0.1				0.2		
Approach LOS		E				C										

HCS7 Two-Way Stop-Control Report

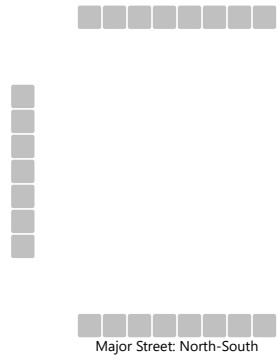
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	12	8		0	12	33	0	4	669	0	0	12	607	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14		9		14		38		5				14		
Capacity, c (veh/h)		114		634		113		601		858				809		
v/c Ratio		0.12		0.01		0.12		0.06		0.01				0.02		
95% Queue Length, Q_{95} (veh)		0.4		0.0		0.4		0.2		0.0				0.1		
Control Delay (s/veh)		40.8		10.8		41.1		11.4		9.2				9.5		
Level of Service (LOS)		E		B		E		B		A				A		
Approach Delay (s/veh)	28.8				19.3				0.1				0.2			
Approach LOS	D				C											

HCS7 Two-Way Stop-Control Report

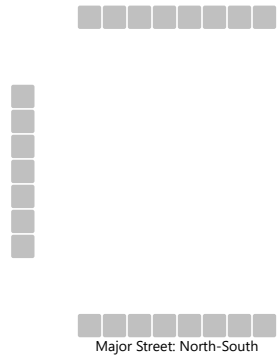
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	12	8		0	12	38	0	4	768	0	0	13	691	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14		9		14		43		5				15		
Capacity, c (veh/h)		84		590		83		552		788				732		
v/c Ratio		0.16		0.02		0.16		0.08		0.01				0.02		
95% Queue Length, Q_{95} (veh)		0.6		0.0		0.6		0.3		0.0				0.1		
Control Delay (s/veh)		56.2		11.2		56.6		12.1		9.6				10.0		
Level of Service (LOS)		F		B		F		B		A				B		
Approach Delay (s/veh)		38.2				22.8				0.0				0.2		
Approach LOS		E				C										

HCS7 Two-Way Stop-Control Report

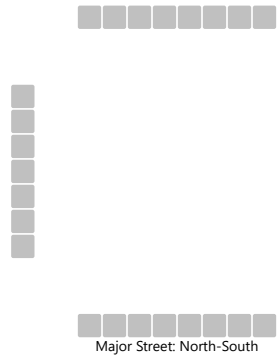
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	15	10		0	15	40	0	5	811	0	0	15	736	5
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17		11		17		45		6				17		
Capacity, c (veh/h)		71		567		71		531		752				700		
v/c Ratio		0.24		0.02		0.24		0.09		0.01				0.02		
95% Queue Length, Q_{95} (veh)		0.9		0.1		0.9		0.3		0.0				0.1		
Control Delay (s/veh)		71.1		11.5		71.8		12.4		9.8				10.3		
Level of Service (LOS)		F		B		F		B		A				B		
Approach Delay (s/veh)		47.3				28.6				0.1				0.2		
Approach LOS		E				D										

HCS7 Two-Way Stop-Control Report

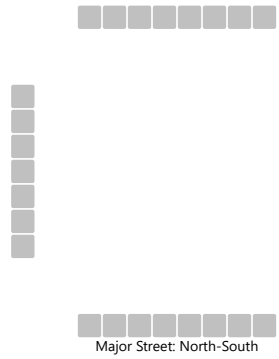
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	15	10		0	15	45	0	5	910	0	0	16	820	5
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17		11		17		51		6				18		
Capacity, c (veh/h)		52		527		52		488		690				633		
v/c Ratio		0.33		0.02		0.33		0.10		0.01				0.03		
95% Queue Length, Q_{95} (veh)		1.4		0.1		1.4		0.4		0.0				0.1		
Control Delay (s/veh)		106.9		12.0		108.1		13.2		10.3				10.9		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)		68.9				37.0				0.1				0.2		
Approach LOS		F				E										

HCS7 Two-Way Stop-Control Report

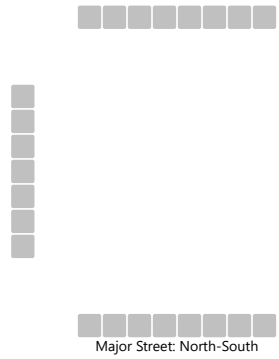
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	18	12		0	18	49	0	6	979	0	0	18	888	6
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20		14		20		56		7				20		
Capacity, c (veh/h)		41		497		40		459		643				590		
v/c Ratio		0.50		0.03		0.51		0.12		0.01				0.03		
95% Queue Length, Q_{95} (veh)		2.5		0.1		2.5		0.4		0.0				0.1		
Control Delay (s/veh)		176.6		12.4		179.8		13.9		10.7				11.3		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)		110.9				58.5				0.1				0.2		
Approach LOS		F				F										

HCS7 Two-Way Stop-Control Report

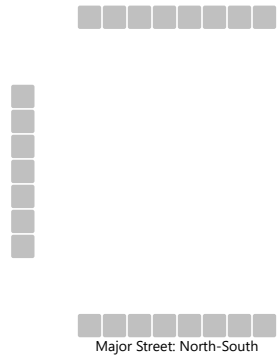
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	18	12		0	18	54	0	6	1078	0	0	19	972	6
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20		14		20		61		7				22		
Capacity, c (veh/h)		29		462		29		421		590				533		
v/c Ratio		0.70		0.03		0.70		0.15		0.01				0.04		
95% Queue Length, Q_{95} (veh)		3.7		0.1		3.8		0.5		0.0				0.1		
Control Delay (s/veh)		332.9		13.0		340.3		15.0		11.2				12.0		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)		204.9				96.3				0.1				0.2		
Approach LOS		F				F										

HCS7 Two-Way Stop-Control Report

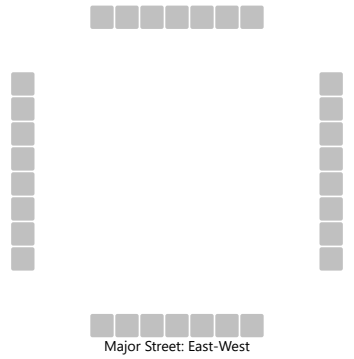
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		108	875				960	55						14		114
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		123												16		130
Capacity, c (veh/h)		274												22		254
v/c Ratio		0.45												0.74		0.51
95% Queue Length, Q_{95} (veh)		2.4												3.7		3.0
Control Delay (s/veh)		28.7												464.0		33.7
Level of Service (LOS)		D												F		D
Approach Delay (s/veh)		3.1												80.7		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

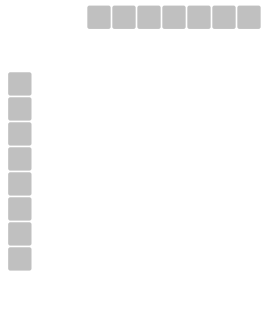
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		130	987				1098	55						14		130
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		148												16		148
Capacity, c (veh/h)		216												7		205
v/c Ratio		0.68												2.12		0.72
95% Queue Length, Q_{95} (veh)		5.6												7.4		6.3
Control Delay (s/veh)		55.6												3183.9		64.1
Level of Service (LOS)		F												F		F
Approach Delay (s/veh)		6.5												367.4		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

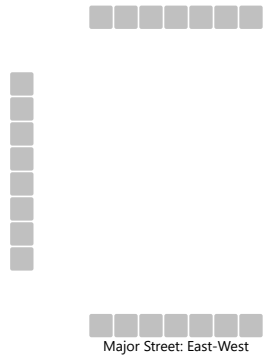
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		112	909				997	57						15		118
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		127												17		134
Capacity, c (veh/h)		256												17		240
v/c Ratio		0.50												0.99		0.56
95% Queue Length, Q_{95} (veh)		2.8												5.0		3.6
Control Delay (s/veh)		32.7												819.0		38.5
Level of Service (LOS)		D												F		E
Approach Delay (s/veh)		3.6												126.6		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

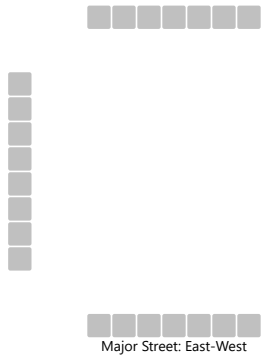
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		134	1021				1135	57						15		134
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		152												17		152
Capacity, c (veh/h)		202												5		194
v/c Ratio		0.75												3.34		0.79
95% Queue Length, Q_{95} (veh)		7.1												8.9		7.9
Control Delay (s/veh)		71.9												5768.5		82.5
Level of Service (LOS)		F												F		F
Approach Delay (s/veh)		8.3												654.9		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

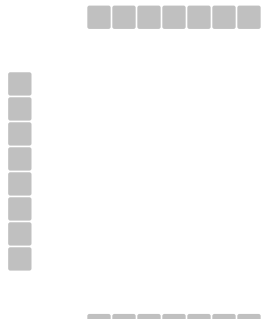
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		136	1103				1210	69						18		144
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		155												20		164
Capacity, c (veh/h)		174												2		172
v/c Ratio		0.89												11.77		0.95
95% Queue Length, Q_{95} (veh)		11.2												11.9		13.6
Control Delay (s/veh)		133.6												23503.2		174.0
Level of Service (LOS)		F												F		F
Approach Delay (s/veh)		14.7												2766.2		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

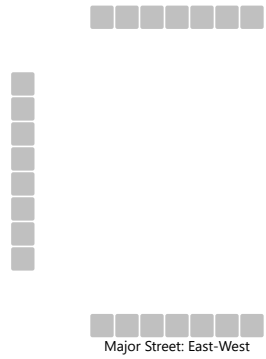
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		158	1215				1348	69						18		160
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		180												20		182
Capacity, c (veh/h)		137														139
v/c Ratio		1.31														1.31
95% Queue Length, Q_{95} (veh)		30.3														30.4
Control Delay (s/veh)		689.1														680.3
Level of Service (LOS)		F														F
Approach Delay (s/veh)		79.3														
Approach LOS																

HCS7 Two-Way Stop-Control Report

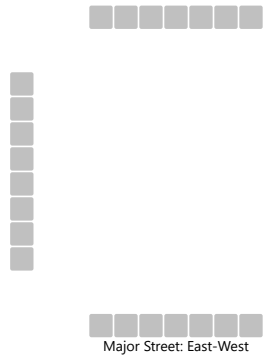
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		164	1330				1459	84						21		173
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		186												24		197
Capacity, c (veh/h)		110														117
v/c Ratio		1.70														1.69
95% Queue Length, Q_{95} (veh)		44.6														46.3
Control Delay (s/veh)		1368.1														1342.0
Level of Service (LOS)		F														F
Approach Delay (s/veh)		150.2														
Approach LOS																

HCS7 Two-Way Stop-Control Report

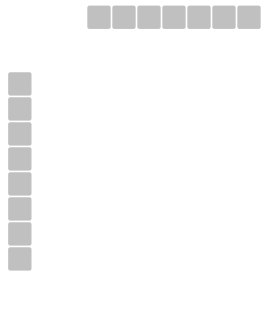
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		186	1442				1597	84						21		189
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

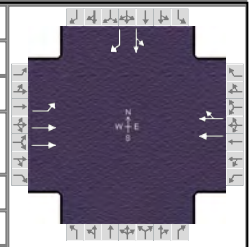
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		211												24		215
Capacity, c (veh/h)		86														94
v/c Ratio		2.45														2.29
95% Queue Length, Q_{95} (veh)		67.3														65.5
Control Delay (s/veh)		2725.3														2437.1
Level of Service (LOS)		F														F
Approach Delay (s/veh)		311.4														
Approach LOS																

HCS7 Signalized Intersection Results Summary

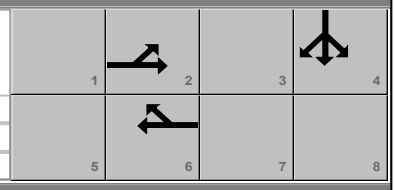
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Proj	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/W Tulare Rd	File Name	Hwy 65 and W Tulare Rd 2045 AM+Proj-Mitigated…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	186	1442			1597	84				21	0	189

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		8.0				11.0
Phase Duration, s		98.8		98.8				21.2
Change Period, (*Y+R c*), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				0.0
Queue Clearance Time (*g s*), s		0.0		0.0				0.0
Green Extension Time (*g e*), s		0.0		0.0				0.0
Phase Call Probability		0.00		0.00				0.00
Max Out Probability		0.00		0.00				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h	0	0			0	0					0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0			0	0					0	0
Queue Service Time (*g s*), s	0.0	0.0			0.0	0.0					0.0	0.0
Cycle Queue Clearance Time (*g c*), s	0.0	0.0			0.0	0.0					0.0	0.0
Green Ratio (*g/C*)	0.79	0.79			0.79	0.79					0.14	0.14
Capacity (*c*), veh/h	204	2857			1501	1474					260	231
Volume-to-Capacity Ratio (*X*)	0.993	0.549			0.610	0.618					0.088	0.889
Back of Queue (*Q*), ft/ln (95 th percentile)	360.3	198.9			254.2	256.9					25.7	284.9
Back of Queue (*Q*), veh/ln (95 th percentile)	14.4	8.0			10.2	10.3					1.0	11.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00	0.00					0.00	0.00
Uniform Delay (*d 1*), s/veh	36.4	4.7			5.1	5.2					44.6	50.5
Incremental Delay (*d 2*), s/veh	61.3	0.8			1.9	2.0					0.1	19.7
Initial Queue Delay (*d 3*), s/veh	0.0	0.0			0.0	0.0					0.0	0.0
Control Delay (*d*), s/veh	97.7	5.4			7.0	7.1					44.6	70.2
Level of Service (LOS)	F	A			A	A					D	E
Approach Delay, s/veh / LOS	16.0	B		7.1	A		0.0			67.6	E	
Intersection Delay, s/veh / LOS	14.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.32	A	1.84	B	2.16	B	2.32	B
Bicycle LOS Score / LOS	1.95	B	2.00	B			0.86	A

HCS7 Two-Way Stop-Control Report

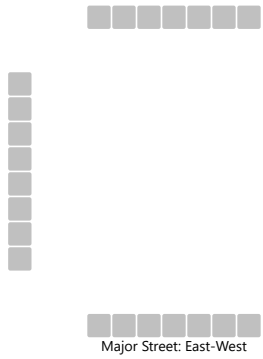
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	156	0		0	148	0		12	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					16				3	
Capacity, c (veh/h)		1200				1393					595				655	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.0				7.6					11.2				10.5	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				11.2				10.5		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

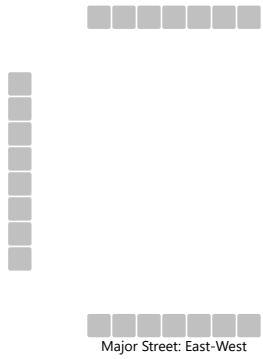
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	199	0		0	189	0		12	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					16				3	
Capacity, c (veh/h)		1120				1336					516				583	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.2				7.7					12.2				11.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				12.2				11.2		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

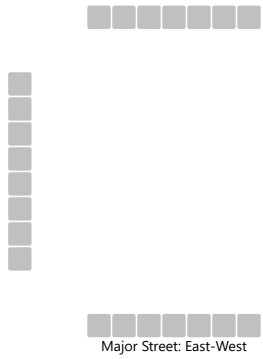
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	162	0		0	154	0		12	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					16				3	
Capacity, c (veh/h)		1188				1385					583				644	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.0				7.6					11.3				10.6	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				11.3				10.6		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

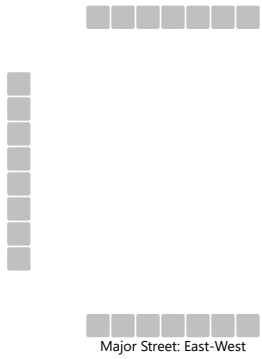
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	205	0		0	195	0		12	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					16				3	
Capacity, c (veh/h)		1109				1329					506				573	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.2				7.7					12.3				11.3	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				12.3				11.3		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

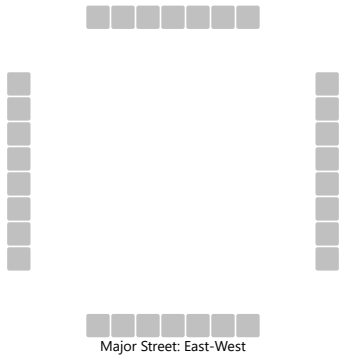
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	197	0		0	186	0		15	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					19				3	
Capacity, c (veh/h)		1126				1339					519				587	
v/c Ratio		0.00				0.00					0.04				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.2				7.7					12.2				11.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				12.2				11.2			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

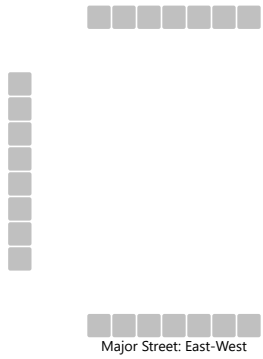
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	240	0		0	227	0		15	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					19				3	
Capacity, c (veh/h)		1050				1285					449				522	
v/c Ratio		0.00				0.00					0.04				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.4				7.8					13.4				11.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				13.4				11.9		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

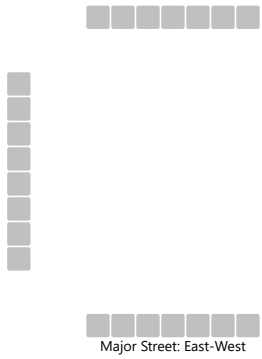
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	237	0		0	225	0		18	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					23				3	
Capacity, c (veh/h)		1054				1288					451				525	
v/c Ratio		0.00				0.00					0.05				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.0	
Control Delay (s/veh)		8.4				7.8					13.4				11.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				13.4				11.9		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

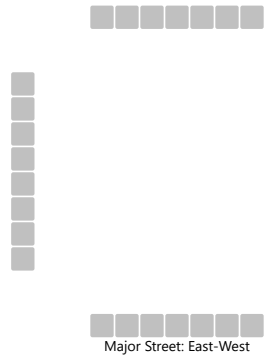
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	280	0		0	268	0		18	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					23				3	
Capacity, c (veh/h)		980				1236					389				465	
v/c Ratio		0.00				0.00					0.06				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.0	
Control Delay (s/veh)		8.7				7.9					14.8				12.8	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				14.8				12.8			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

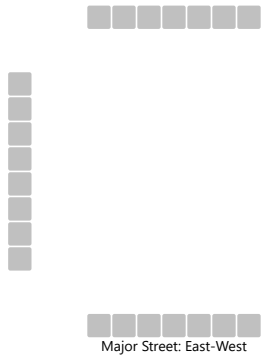
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	224	4		0	332	20		0	8	0		16	4	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					9				23	
Capacity, c (veh/h)		850				1300					350				350	
v/c Ratio		0.02				0.00					0.03				0.06	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		9.3				7.8					15.6				16.0	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.6				0.0				15.6				16.0		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

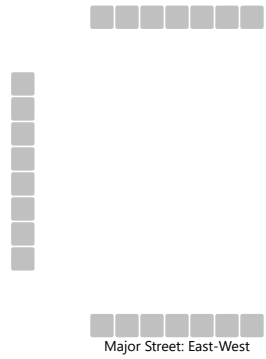
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	271	4		0	377	23		0	8	0		19	4	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					9				26	
Capacity, c (veh/h)		784				1242					302				296	
v/c Ratio		0.02				0.00					0.03				0.09	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.3	
Control Delay (s/veh)		9.7				7.9					17.3				18.3	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.6				0.0				17.3				18.3		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

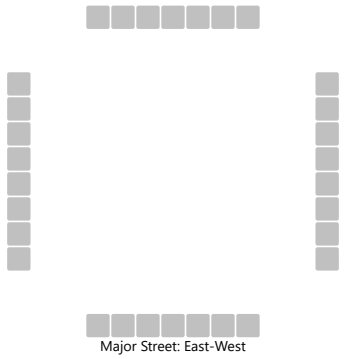
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	233	4		0	345	21		0	8	0		17	4	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					9				24	
Capacity, c (veh/h)		831				1288					337				337	
v/c Ratio		0.02				0.00					0.03				0.07	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.2	
Control Delay (s/veh)		9.4				7.8					16.0				16.5	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.6				0.0				16.0				16.5		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

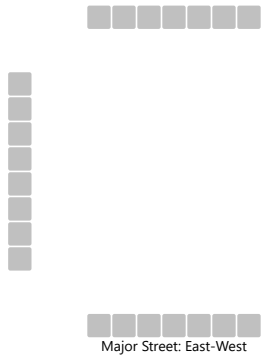
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	280	4		0	390	24		0	8	0		20	4	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					9				27	
Capacity, c (veh/h)		766				1231					291				284	
v/c Ratio		0.02				0.00					0.03				0.10	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.3	
Control Delay (s/veh)		9.8				7.9					17.8				19.0	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.6				0.0				17.8				19.0		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

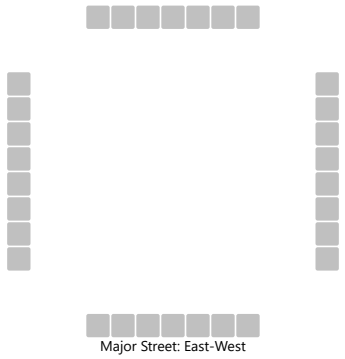
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		15	282	5		0	418	25		0	10	0		20	5	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17				0					11				28	
Capacity, c (veh/h)		729				1228					273				264	
v/c Ratio		0.02				0.00					0.04				0.11	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.4	
Control Delay (s/veh)		10.1				7.9					18.8				20.3	
Level of Service (LOS)		B				A					C				C	
Approach Delay (s/veh)		0.8				0.0				18.8				20.3		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

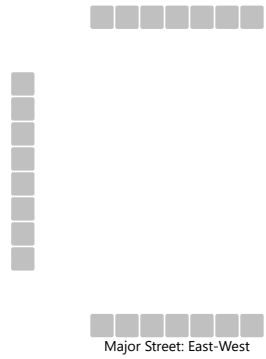
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		15	329	5		0	463	28		0	10	0		23	5	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17				0					11				32	
Capacity, c (veh/h)		672				1173					234				222	
v/c Ratio		0.03				0.00					0.05				0.14	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				0.5	
Control Delay (s/veh)		10.5				8.1					21.2				23.9	
Level of Service (LOS)		B				A					C				C	
Approach Delay (s/veh)	0.8				0.0				21.2				23.9			
Approach LOS									C				C			

HCS7 Two-Way Stop-Control Report

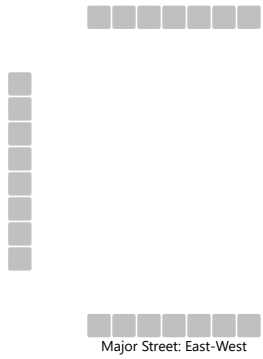
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		18	340	6		0	505	30		0	12	0		24	6	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20				0					14				34	
Capacity, c (veh/h)		623				1160					211				196	
v/c Ratio		0.03				0.00					0.06				0.17	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				0.6	
Control Delay (s/veh)		11.0				8.1					23.3				27.2	
Level of Service (LOS)		B				A					C				D	
Approach Delay (s/veh)		1.0				0.0				23.3				27.2		
Approach LOS										C				D		

HCS7 Two-Way Stop-Control Report

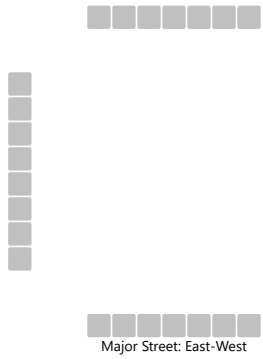
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		18	387	6		0	550	33		0	12	0		27	6	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20				0					14				38	
Capacity, c (veh/h)		575				1108					180				164	
v/c Ratio		0.04				0.00					0.08				0.23	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				0.9	
Control Delay (s/veh)		11.5				8.2					26.6				33.4	
Level of Service (LOS)		B				A					D				D	
Approach Delay (s/veh)	1.0				0.0				26.6				33.4			
Approach LOS									D				D			

HCS7 Two-Way Stop-Control Report

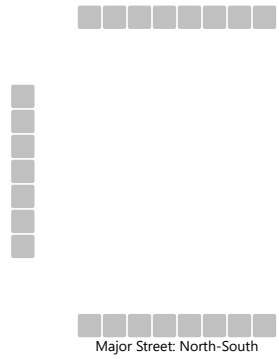
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	9		2	2	2		21	507	1		0	412	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				7			24				0		
Capacity, c (veh/h)			490				292			1063				967		
v/c Ratio			0.02				0.02			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.1				0.0		
Control Delay (s/veh)			12.5				17.6			8.5				8.7		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	12.5				17.6				0.6				0.0			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

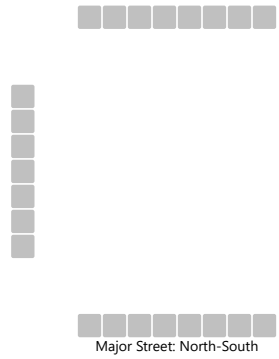
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	10		2	2	2		24	562	1		0	458	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			13				7			27				0		
Capacity, c (veh/h)			453				254			1016				916		
v/c Ratio			0.03				0.03			0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.1				0.0		
Control Delay (s/veh)			13.2				19.6			8.6				8.9		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	13.2				19.6				0.7				0.0			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

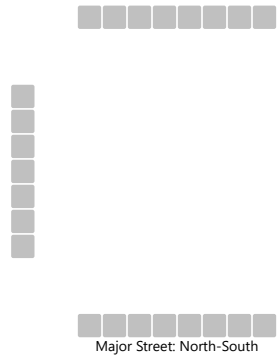
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	9		2	2	2		22	527	1		0	428	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				7			25				0		
Capacity, c (veh/h)			474				278			1046				948		
v/c Ratio			0.02				0.02			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.1				0.0		
Control Delay (s/veh)			12.8				18.3			8.5				8.8		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	12.8				18.3				0.6				0.0			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

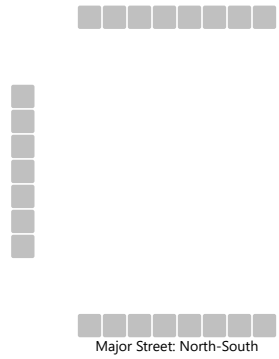
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	10		2	2	2		25	582	1		0	474	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			13				7			28				0		
Capacity, c (veh/h)			438				241			1000				898		
v/c Ratio			0.03				0.03			0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.1				0.0		
Control Delay (s/veh)			13.5				20.3			8.7				9.0		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	13.5				20.3				0.7				0.0			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

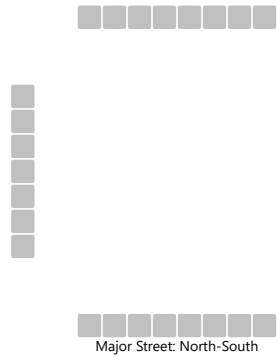
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	11		3	3	3		26	639	1		0	519	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			14				10			30				0		
Capacity, c (veh/h)			405				210			957				849		
v/c Ratio			0.03				0.05			0.03				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.2			0.1				0.0		
Control Delay (s/veh)			14.2				23.0			8.9				9.2		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	14.2				23.0				0.8				0.0			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

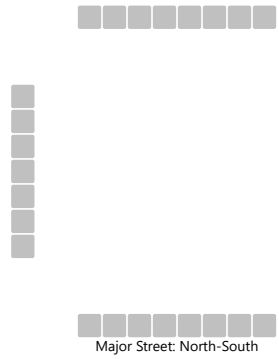
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	1	12		3	3	3		29	694	1		0	565	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			15				10			33				0		
Capacity, c (veh/h)			373				181			914				804		
v/c Ratio			0.04				0.06			0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.2			0.1				0.0		
Control Delay (s/veh)			15.1				26.1			9.1				9.5		
Level of Service (LOS)			C				D			A				A		
Approach Delay (s/veh)	15.1				26.1				0.9				0.0			
Approach LOS	C				D											

HCS7 Two-Way Stop-Control Report

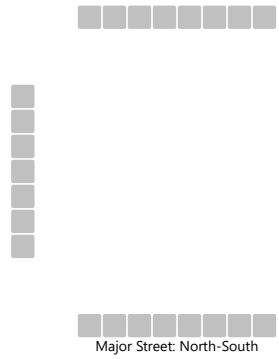
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	2	14		3	3	3		32	771	2		0	626	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			18				10			36				0		
Capacity, c (veh/h)			284				147			861				744		
v/c Ratio			0.06				0.07			0.04				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.2			0.1				0.0		
Control Delay (s/veh)			18.5				31.3			9.4				9.8		
Level of Service (LOS)			C				D			A				A		
Approach Delay (s/veh)	18.5				31.3				1.1				0.0			
Approach LOS	C				D											

HCS7 Two-Way Stop-Control Report

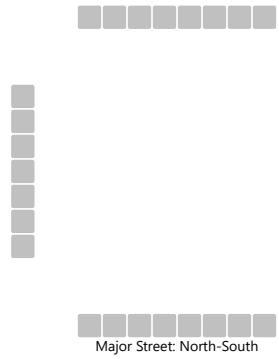
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	AM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	2	15		3	3	3		35	826	2		0	672	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			19				10			40				0		
Capacity, c (veh/h)			257				125			823				705		
v/c Ratio			0.08				0.08			0.05				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.3			0.2				0.0		
Control Delay (s/veh)			20.2				36.3			9.6				10.1		
Level of Service (LOS)			C				E			A				B		
Approach Delay (s/veh)	20.2				36.3				1.3				0.0			
Approach LOS	C				E											

HCS7 All-Way Stop Control Report

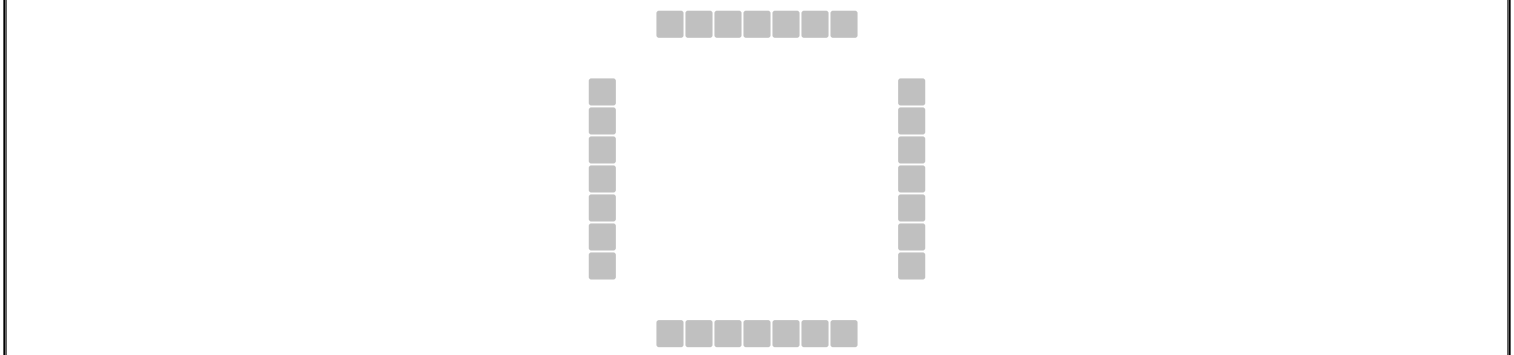
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	16	128	92	4	164	52	32	420	0	44	400	4
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	257			239			491			487		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.228			0.213			0.437			0.433		
Final Departure Headway, hd (s)	8.26			8.42			7.52			7.53		
Final Degree of Utilization, x	0.589			0.559			1.027			1.018		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.26			6.42			5.52			5.53		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	257			239			491			487		
Capacity	436			428			478			478		
95% Queue Length, Q_{95} (veh)	3.7			3.3			14.4			14.1		
Control Delay (s/veh)	22.4			21.6			75.9			73.4		
Level of Service, LOS	C			C			F			F		
Approach Delay (s/veh)	22.4			21.6			75.9			73.4		
Approach LOS	C			C			F			F		
Intersection Delay, s/veh | LOS	56.9						F					

HCS7 All-Way Stop Control Report

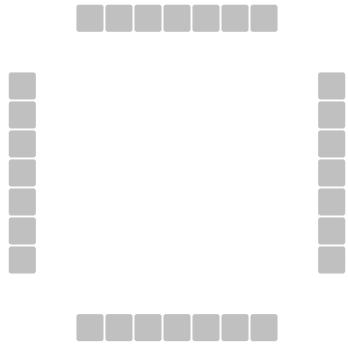
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	16	128	99	5	164	52	35	464	0	44	432	4
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	264			240			542			522		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.235			0.214			0.482			0.464		
Final Departure Headway, hd (s)	8.24			8.44			7.53			7.53		
Final Degree of Utilization, x	0.604			0.563			1.134			1.091		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.24			6.44			5.53			5.53		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	264			240			542			522		
Capacity	437			427			478			478		
95% Queue Length, Q_{95} (veh)	3.9			3.4			18.8			17.0		
Control Delay (s/veh)	23.0			21.8			109.7			95.1		
Level of Service, LOS	C			C			F			F		
Approach Delay (s/veh)	23.0			21.8			109.7			95.1		
Approach LOS	C			C			F			F		
Intersection Delay, s/veh | LOS	76.8						F					

HCS7 All-Way Stop Control Report

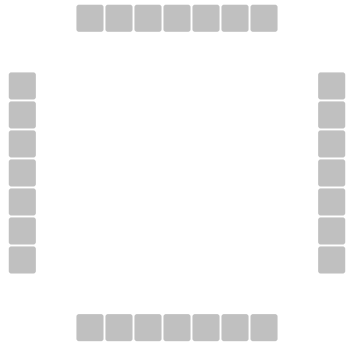
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	17	133	96	4	170	54	33	436	0	46	416	4
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	267			248			510			507		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.238			0.220			0.453			0.450		
Final Departure Headway, hd (s)	8.29			8.46			7.59			7.59		
Final Degree of Utilization, x	0.616			0.582			1.075			1.068		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.29			6.46			5.59			5.59		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	267			248			510			507		
Capacity	434			426			474			474		
95% Queue Length, Q_{95} (veh)	4.0			3.6			16.2			16.0		
Control Delay (s/veh)	23.7			22.6			90.4			88.3		
Level of Service, LOS	C			C			F			F		
Approach Delay (s/veh)	23.7			22.6			90.4			88.3		
Approach LOS	C			C			F			F		
Intersection Delay, s/veh | LOS	67.1						F					

HCS7 All-Way Stop Control Report

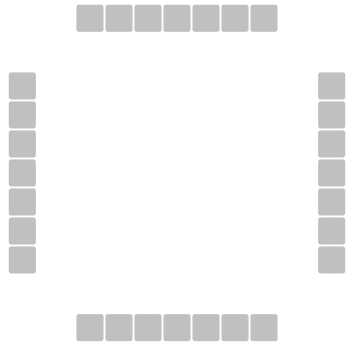
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	17	133	103	5	170	54	36	480	0	46	448	4
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	275			249			561			541		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.244			0.221			0.499			0.481		
Final Departure Headway, hd (s)	8.30			8.51			7.67			7.67		
Final Degree of Utilization, x	0.634			0.589			1.194			1.153		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.30			6.51			5.67			5.67		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	275			249			561			541		
Capacity	434			423			470			470		
95% Queue Length, Q_{95} (veh)	4.3			3.7			21.3			19.4		
Control Delay (s/veh)	24.6			23.0			132.1			116.9		
Level of Service, LOS	C			C			F			F		
Approach Delay (s/veh)	24.6			23.0			132.1			116.9		
Approach LOS	C			C			F			F		
Intersection Delay, s/veh | LOS	92.1						F					

HCS7 All-Way Stop Control Report

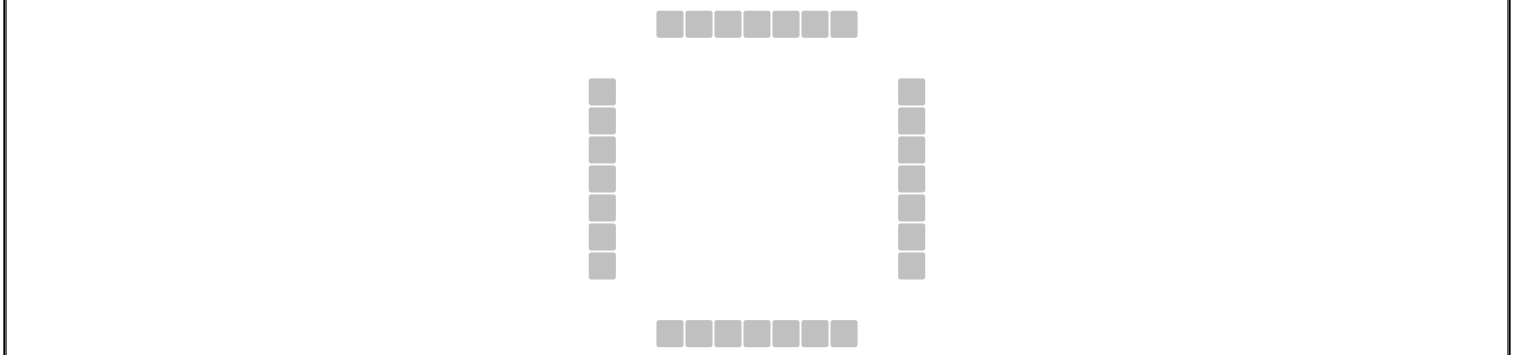
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	20	161	116	5	207	66	40	529	0	55	504	5
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	323			302			618			613		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.287			0.269			0.550			0.545		
Final Departure Headway, hd (s)	8.70			8.87			8.39			8.39		
Final Degree of Utilization, x	0.780			0.745			1.442			1.429		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.70			6.87			6.39			6.39		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	323			302			618			613		
Capacity	414			406			429			429		
95% Queue Length, Q_{95} (veh)	6.7			6.0			31.1			30.5		
Control Delay (s/veh)	36.4			33.6			234.7			229.4		
Level of Service, LOS	E			D			F			F		
Approach Delay (s/veh)	36.4			33.6			234.7			229.4		
Approach LOS	E			D			F			F		
Intersection Delay, s/veh | LOS	165.7						F					

HCS7 All-Way Stop Control Report

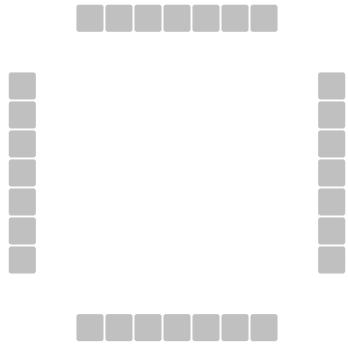
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	20	161	123	6	207	66	43	573	0	55	536	5
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	330			303			670			648		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.294			0.270			0.595			0.576		
Final Departure Headway, hd (s)	8.71			8.92			8.46			8.46		
Final Degree of Utilization, x	0.799			0.752			1.573			1.522		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.71			6.92			6.46			6.46		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	330			303			670			648		
Capacity	413			404			426			426		
95% Queue Length, Q_{95} (veh)	7.1			6.1			37.2			34.8		
Control Delay (s/veh)	38.5			34.4			290.8			268.9		
Level of Service, LOS	E			D			F			F		
Approach Delay (s/veh)	38.5			34.4			290.8			268.9		
Approach LOS	E			D			F			F		
Intersection Delay, s/veh | LOS	200.9						F					

HCS7 All-Way Stop Control Report

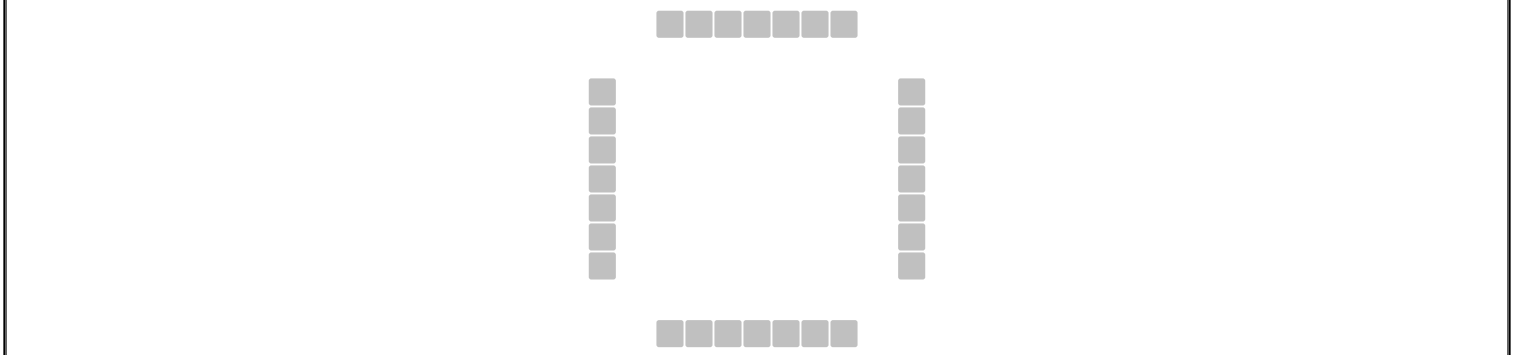
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Analysis Time Period (hrs)	1.00
Time Analyzed	AM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	24	195	140	6	249	79	49	636	0	57	608	6
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	390			363			745			729		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.347			0.323			0.662			0.648		
Final Departure Headway, hd (s)	9.25			9.46			9.53			9.53		
Final Degree of Utilization, x	1.003			0.954			1.971			1.930		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	7.25			7.46			7.53			7.53		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	390			363			745			729		
Capacity	389			381			378			378		
95% Queue Length, Q_{95} (veh)	24.5			19.4			189.3			181.8		
Control Delay (s/veh)	144.0			105.0			1779.7			1706.6		
Level of Service, LOS	F			F			F			F		
Approach Delay (s/veh)	144.0			105.0			1779.7			1706.6		
Approach LOS	F			F			F			F		
Intersection Delay, s/veh | LOS	1196.2						F					

HCS7 All-Way Stop Control Report

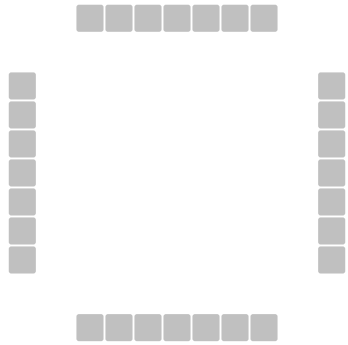
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Analysis Time Period (hrs)	1.00
Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	24	195	147	7	249	79	52	682	0	67	640	6
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	398			364			798			775		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

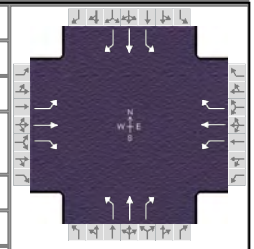
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.354			0.324			0.709			0.689		
Final Departure Headway, hd (s)	9.26			9.46			9.50			9.50		
Final Degree of Utilization, x	1.024			0.957			2.106			2.046		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	7.26			7.46			7.50			7.50		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	398			364			798			775		
Capacity	389			380			379			379		
95% Queue Length, Q_{95} (veh)	26.8			19.6			215.1			203.8		
Control Delay (s/veh)	165.9			107.2			2021.7			1913.6		
Level of Service, LOS	F			F			F			F		
Approach Delay (s/veh)	165.9			107.2			2021.7			1913.6		
Approach LOS	F			F			F			F		
Intersection Delay, s/veh | LOS	1371.0						F					

HCS7 Signalized Intersection Results Summary

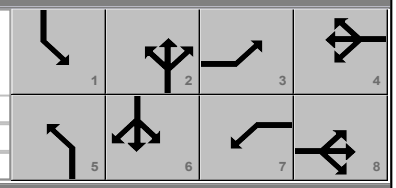
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	AM Peak Hour + Project	PHF	0.88
Urban Street	N Spruce Ave	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	N Spruce Ave/Sycamore…	File Name	N Spruce Ave & Sycamore Ave 2045 AM+Proj-mit…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	24	195	147	7	249	79	52	682	0	67	640	6

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	5	2	1	6
Case Number		9.0		9.0	1.1	3.0	1.1	3.0
Phase Duration, s		19.8		23.3	9.1	67.4	9.5	67.8
Change Period, ($Y+R_c$), s		4.0		4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s		0.0		0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s		0.0		0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s		0.0		0.0	0.0	0.0	0.0	0.0
Phase Call Probability		0.00		0.00	0.00	0.00	0.00	0.00
Max Out Probability		0.00		0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.13	0.13	0.13	0.16	0.16	0.16	0.57	0.53	0.53	0.57	0.53	0.53
Capacity (*c*), veh/h	238	250	212	292	306	259	323	1004	851	308	1010	856
Volume-to-Capacity Ratio (*X*)	0.110	0.848	0.754	0.026	0.884	0.331	0.175	0.738	0.000	0.237	0.689	0.008
Back of Queue (*Q*), ft/ln (95 th percentile)	30.5	259.3	203.7	8.4	315.5	100.4	28.5	568.2	0	36.8	513.6	3.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	10.4	8.1	0.3	12.6	4.0	1.1	22.7	0.0	1.5	20.5	0.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	45.9	50.9	50.2	42.4	49.2	44.6	16.6	21.9	0.0	17.4	20.8	13.2
Incremental Delay (d_2), s/veh	0.1	3.1	2.1	0.0	3.4	0.3	0.1	4.9	0.0	0.1	3.8	0.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	46.0	54.0	52.3	42.4	52.6	44.9	16.7	26.7	0.0	17.6	24.6	13.2
Level of Service (LOS)	D	D	D	D	D	D	B	C		B	C	B
Approach Delay, s/veh / LOS	52.8	D		50.6	D		26.0	C		23.9	C	
Intersection Delay, s/veh / LOS	33.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.16	B	2.14	B	2.09	B	2.09	B
Bicycle LOS Score / LOS	1.14	A	1.09	A	1.80	B	1.77	B

HCS7 Two-Way Stop-Control Report

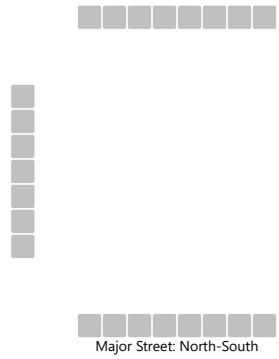
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	4	20		24	0	0	0	0	864	10	0	20	768	8
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		23		27		0		0				23		
Capacity, c (veh/h)		61		552		179		508		726				657		
v/c Ratio		0.07		0.04		0.15		0.00		0.00				0.03		
95% Queue Length, Q_{95} (veh)		0.2		0.1		0.5		0.0		0.0				0.1		
Control Delay (s/veh)		69.1		11.8		28.7		12.1		10.0				10.7		
Level of Service (LOS)		F		B		D		B		A				B		
Approach Delay (s/veh)		21.4				28.7				0.0				0.3		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

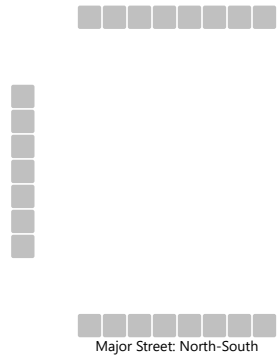
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	4	20		24	0	0	0	0	933	10	0	22	834	8
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		23		27		0		0				25		
Capacity, c (veh/h)		48		521		158		478		679				612		
v/c Ratio		0.10		0.04		0.17		0.00		0.00				0.04		
95% Queue Length, Q_{95} (veh)		0.3		0.1		0.6		0.0		0.0				0.1		
Control Delay (s/veh)		88.3		12.2		32.6		12.5		10.3				11.1		
Level of Service (LOS)		F		B		D		B		B				B		
Approach Delay (s/veh)		24.9				32.6				0.0				0.3		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

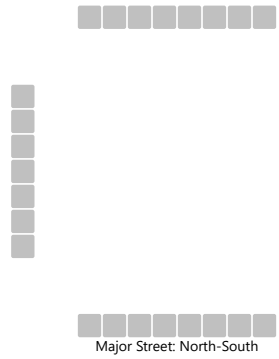
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	4	21		25	0	0	0	0	898	10	0	21	798	8
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		24		28		0		0				24		
Capacity, c (veh/h)		54		538		168		493		704				634		
v/c Ratio		0.08		0.04		0.17		0.00		0.00				0.04		
95% Queue Length, Q_{95} (veh)		0.3		0.1		0.6		0.0		0.0				0.1		
Control Delay (s/veh)		77.5		12.0		30.7		12.3		10.1				10.9		
Level of Service (LOS)		F		B		D		B		B				B		
Approach Delay (s/veh)		22.5				30.7				0.0				0.3		
Approach LOS		C				D										

HCS7 Two-Way Stop-Control Report

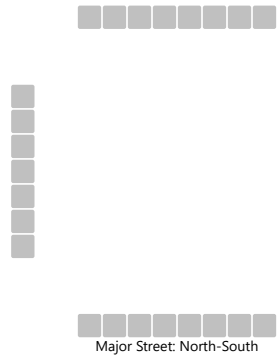
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	4	21		25	0	0	0	0	967	10	0	23	864	8
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5		24		28		0		0				26		
Capacity, c (veh/h)		43		508		148		464		658				591		
v/c Ratio		0.11		0.05		0.19		0.00		0.00				0.04		
95% Queue Length, Q_{95} (veh)		0.4		0.1		0.7		0.0		0.0				0.1		
Control Delay (s/veh)		99.7		12.4		35.0		12.8		10.5				11.4		
Level of Service (LOS)		F		B		E		B		B				B		
Approach Delay (s/veh)		26.4				35.0				0.0				0.3		
Approach LOS		D				E										

HCS7 Two-Way Stop-Control Report

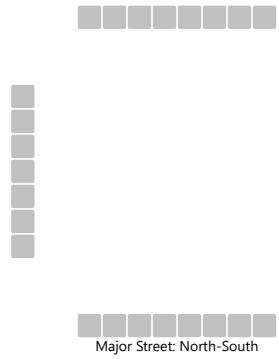
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	5	25		30	0	0	0	0	1089	13	0	25	968	10
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		6		28		34		0		0				28		
Capacity, c (veh/h)		28		464		116		417		590				520		
v/c Ratio		0.20		0.06		0.29		0.00		0.00				0.05		
95% Queue Length, Q_{95} (veh)		0.7		0.2		1.2		0.0		0.0				0.2		
Control Delay (s/veh)		163.8		13.3		48.6		13.6		11.1				12.3		
Level of Service (LOS)		F		B		E		B		B				B		
Approach Delay (s/veh)	38.4				48.6				0.0				0.3			
Approach LOS	E				E											

HCS7 Two-Way Stop-Control Report

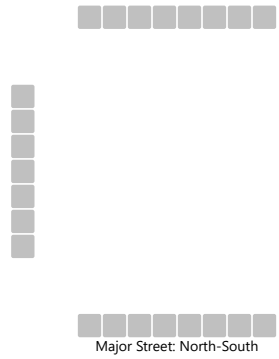
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	5	25		30	0	0	0	0	1158	13	0	27	1034	10
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		6		28		34		0		0				31		
Capacity, c (veh/h)		22		438		101		393		552				484		
v/c Ratio		0.26		0.06		0.34		0.00		0.00				0.06		
95% Queue Length, Q_{95} (veh)		0.9		0.2		1.5		0.0		0.0				0.2		
Control Delay (s/veh)		223.1		13.8		58.5		14.2		11.5				12.9		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)	48.7				58.5				0.0				0.3			
Approach LOS	E				F											

HCS7 Two-Way Stop-Control Report

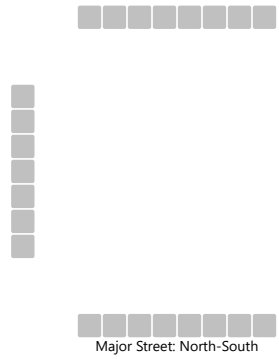
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	6	30		36	0	0	0	0	1313	15	0	30	1167	12
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7		34		41		0		0				34		
Capacity, c (veh/h)		13		390		65		343		480				411		
v/c Ratio		0.53		0.09		0.63		0.00		0.00				0.08		
95% Queue Length, Q_{95} (veh)		2.0		0.3		3.8		0.0		0.0				0.3		
Control Delay (s/veh)		530.2		15.1		143.5		15.5		12.5				14.5		
Level of Service (LOS)		F		C		F		C		B				B		
Approach Delay (s/veh)	101.0				143.5				0.0				0.4			
Approach LOS	F				F											

HCS7 Two-Way Stop-Control Report

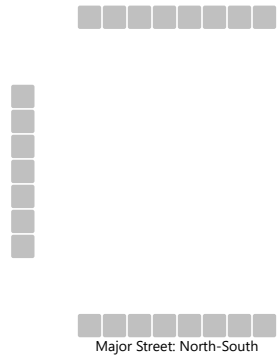
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Ave 208
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	6	30		36	0	0	0	0	1382	15	0	32	1233	12
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7		34		41		0		0				36		
Capacity, c (veh/h)		10		368		47		323		448				383		
v/c Ratio		0.69		0.09		0.86		0.00		0.00				0.10		
95% Queue Length, Q_{95} (veh)		2.5		0.3		6.4		0.0		0.0				0.3		
Control Delay (s/veh)		812.8		15.8		321.8		16.2		13.0				15.4		
Level of Service (LOS)		F		C		F		C		B				C		
Approach Delay (s/veh)	148.6				321.8				0.0				0.4			
Approach LOS	F				F											

HCS7 Two-Way Stop-Control Report

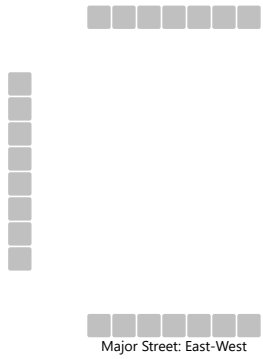
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	636				600	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		558														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		11.4														
Level of Service (LOS)		B														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

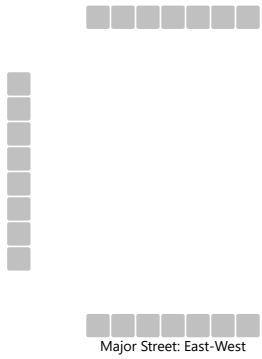
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		121	636				656	0						130		56
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		138													211	
Capacity, c (veh/h)		507													89	
v/c Ratio		0.27													2.36	
95% Queue Length, Q_{95} (veh)		1.1													65.8	
Control Delay (s/veh)		14.7													2564.7	
Level of Service (LOS)		B													F	
Approach Delay (s/veh)		2.4												2564.7		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

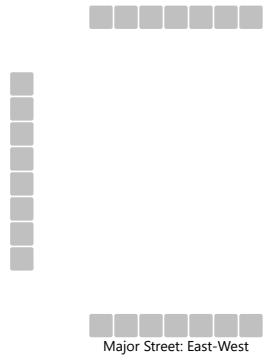
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	661				623	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		537														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		11.7														
Level of Service (LOS)		B														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

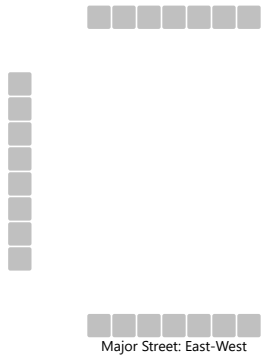
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		121	661				679	0						130		56
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		138													211	
Capacity, c (veh/h)		488													82	
v/c Ratio		0.28													2.58	
95% Queue Length, Q_{95} (veh)		1.2													69.4	
Control Delay (s/veh)		15.3													2970.2	
Level of Service (LOS)		C													F	
Approach Delay (s/veh)		2.4												2970.2		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

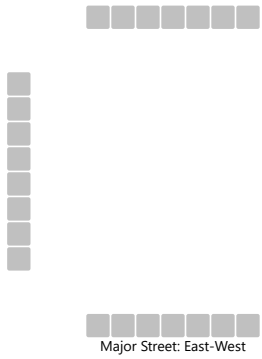
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	801				756	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		428														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		13.4														
Level of Service (LOS)		B														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

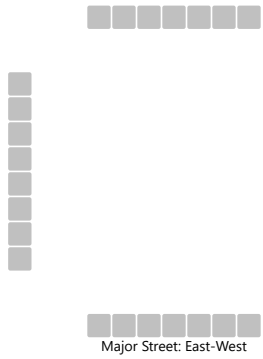
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		121	801				812	0						130		56
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		138													211	
Capacity, c (veh/h)		389													48	
v/c Ratio		0.35													4.42	
95% Queue Length, Q_{95} (veh)		1.6													85.5	
Control Delay (s/veh)		19.3													6341.0	
Level of Service (LOS)		C													F	
Approach Delay (s/veh)		2.5												6341.0		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

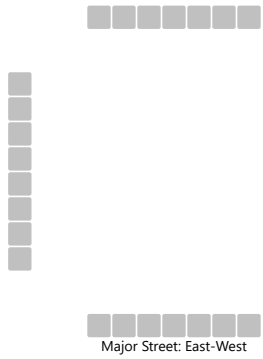
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		0	967				912	0						0		0
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													0	
Capacity, c (veh/h)		327														
v/c Ratio		0.00														
95% Queue Length, Q_{95} (veh)		0.0														
Control Delay (s/veh)		16.0														
Level of Service (LOS)		C														
Approach Delay (s/veh)		0.0														
Approach LOS																

HCS7 Two-Way Stop-Control Report

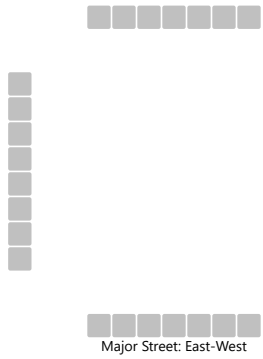
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Cedar Ave
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	Cedar Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		L	T					TR							LR	
Volume (veh/h)		121	967				968	0						130		56
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

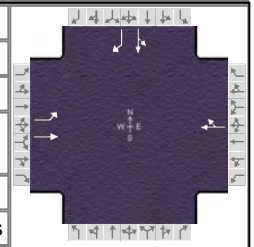
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		138													211	
Capacity, c (veh/h)		297													24	
v/c Ratio		0.46													8.97	
95% Queue Length, Q_{95} (veh)		2.5													97.2	
Control Delay (s/veh)		27.4													14681.7	
Level of Service (LOS)		D													F	
Approach Delay (s/veh)		3.0												14681.7		
Approach LOS														F		

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour + Proj	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Cedar Ave	File Name	Hwy 65 and Cedar Ave 2045 PM+Proj-Mitigated.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	967			968	0				130	0	56

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

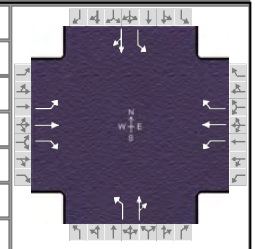
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		8.0				11.0
Phase Duration, s		104.6		104.6				15.4
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				0.0
Queue Clearance Time (g_s), s		0.0		0.0				0.0
Green Extension Time (g_e), s		0.0		0.0				0.0
Phase Call Probability		0.00		0.00				0.00
Max Out Probability		0.00		0.00				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h	0	0			0						0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0			0						0	0
Queue Service Time (g_s), s	0.0	0.0			0.0						0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0			0.0						0.0	0.0
Green Ratio (*g/C*)	0.84	0.84									0.09	0.09
Capacity (*c*), veh/h	407	1593									172	153
Volume-to-Capacity Ratio (*X*)	0.323	0.660			0.000						0.822	0.398
Back of Queue (*Q*), ft/ln (95 th percentile)	73.6	188.9			0						188.5	75.8
Back of Queue (*Q*), veh/ln (95 th percentile)	2.9	7.6			0.0						7.5	3.0
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00						0.00	0.00
Uniform Delay (d_1), s/veh	10.4	3.5									53.3	51.1
Incremental Delay (d_2), s/veh	2.1	2.2			0.0						3.7	0.6
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0						0.0	0.0
Control Delay (*d*), s/veh	12.5	5.7									57.0	51.7
Level of Service (LOS)	B	A									E	D
Approach Delay, s/veh / LOS	6.4	A		5.7	A		0.0			55.4	E	
Intersection Delay, s/veh / LOS	10.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.30	A	1.82	B	1.74	B	1.96	B
Bicycle LOS Score / LOS	2.44	B	2.22	B			0.82	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2023 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	21	427	58	11	451	129	75	137	19	264	247	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		

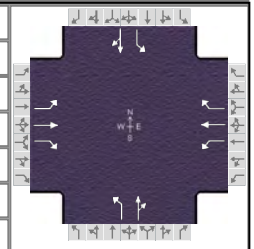
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.2	71.3	6.0	70.1		17.1		25.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.56	0.56	0.02	0.55	0.55	0.11	0.11		0.18	0.18	
Capacity (*c*), veh/h	48	1066	903	30	1046	887	198	203		326	339	
Volume-to-Capacity Ratio (*X*)	0.473	0.436	0.070	0.402	0.469	0.158	0.412	0.835		0.881	0.841	
Back of Queue (*Q*), ft/ln (95 th percentile)	32.1	298.5	35.7	17.3	325	86.2	103.4	221.9		333.2	326.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	11.9	1.4	0.7	13.0	3.4	4.1	8.9		13.3	13.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.6	15.3	12.0	58.4	16.3	13.3	49.8	52.4		47.9	47.5	
Incremental Delay (d_2), s/veh	2.7	1.3	0.1	3.2	1.5	0.4	0.5	3.4		3.1	2.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	16.6	12.2	61.7	17.8	13.7	50.4	55.8		51.0	49.7	
Level of Service (LOS)	E	B	B	E	B	B	D	E		D	D	
Approach Delay, s/veh / LOS	17.9	B		17.7	B		54.0	D		50.4	D	
Intersection Delay, s/veh / LOS	31.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.40	A	1.55	B	0.90	A	1.43	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2023 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	21	468	58	12	498	143	75	137	21	288	247	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

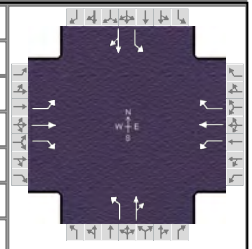
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.2	69.3	6.1	68.2		17.3		27.3
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.54	0.54	0.02	0.53	0.53	0.11	0.11		0.19	0.19	
Capacity (*c*), veh/h	48	1033	876	32	1016	861	200	205		352	366	
Volume-to-Capacity Ratio (*X*)	0.473	0.492	0.072	0.409	0.533	0.180	0.407	0.837		0.889	0.779	
Back of Queue (*Q*), ft/ln (95 th percentile)	32.1	344.5	37.4	18.7	378.5	100.9	103.2	224.2		357.1	319.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	13.8	1.5	0.7	15.1	4.0	4.1	9.0		14.3	12.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.6	17.0	13.0	58.3	18.2	14.4	49.7	52.3		47.1	45.9	
Incremental Delay (d_2), s/veh	2.7	1.7	0.2	3.1	2.0	0.5	0.5	3.4		3.1	1.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	18.7	13.2	61.4	20.2	14.8	50.2	55.7		50.2	47.2	
Level of Service (LOS)	E	B	B	E	C	B	D	E		D	D	
Approach Delay, s/veh / LOS	19.7	B		19.7	B		54.0	D		48.8	D	
Intersection Delay, s/veh / LOS	31.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.47	A	1.66	B	0.91	A	1.47	A

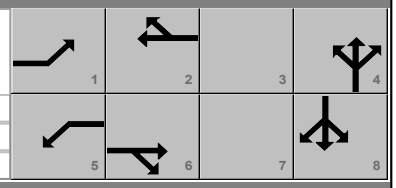
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2025 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	22	444	60	11	469	134	78	142	20	274	257	16

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



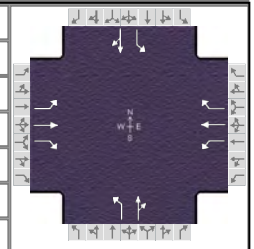
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.3	70.1	6.0	68.8		17.5		26.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.55	0.55	0.02	0.54	0.54	0.11	0.11		0.19	0.19	
Capacity (*c*), veh/h	50	1047	887	30	1026	870	204	210		337	350	
Volume-to-Capacity Ratio (*X*)	0.481	0.461	0.073	0.402	0.497	0.167	0.415	0.839		0.884	0.847	
Back of Queue (*Q*), ft/ln (95 th percentile)	33.6	319	38.1	17.3	348	92.5	107.2	228.4		343.2	337.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	12.8	1.5	0.7	13.9	3.7	4.3	9.1		13.7	13.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.5	16.2	12.6	58.4	17.3	14.0	49.5	52.2		47.6	47.2	
Incremental Delay (d_2), s/veh	2.7	1.5	0.2	3.2	1.7	0.4	0.5	3.4		3.1	2.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	17.7	12.8	61.7	19.1	14.4	50.0	55.6		50.6	49.4	
Level of Service (LOS)	E	B	B	E	B	B	D	E		D	D	
Approach Delay, s/veh / LOS	18.9	B		18.8	B		53.8	D		50.0	D	
Intersection Delay, s/veh / LOS	32.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.14	B	2.16	B
Bicycle LOS Score / LOS	1.43	A	1.59	B	0.92	A	1.47	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2025 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	22	483	60	12	516	148	78	142	22	298	257	16

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0		5	6	7	8	
Red	0.0	0.0	0.0	0.0	0.0	0.0						

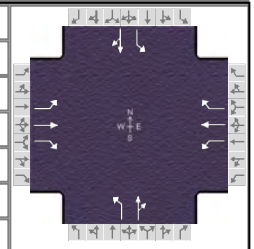
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.3	68.1	6.1	66.9		17.7		28.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.53	0.53	0.02	0.52	0.52	0.11	0.11		0.20	0.20	
Capacity (*c*), veh/h	50	1015	860	32	996	844	207	212		363	377	
Volume-to-Capacity Ratio (*X*)	0.481	0.517	0.076	0.409	0.563	0.191	0.410	0.841		0.892	0.786	
Back of Queue (*Q*), ft/ln (95 th percentile)	33.6	365.7	39.8	18.7	404.1	107.6	106.9	230.7		366.9	330	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.3	14.6	1.6	0.7	16.2	4.3	4.3	9.2		14.7	13.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.5	18.0	13.6	58.3	19.3	15.1	49.4	52.1		46.7	45.5	
Incremental Delay (d_2), s/veh	2.7	1.9	0.2	3.1	2.3	0.5	0.5	3.4		3.1	1.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.2	19.9	13.7	61.4	21.6	15.6	49.9	55.5		49.8	46.9	
Level of Service (LOS)	E	B	B	E	C	B	D	E		D	D	
Approach Delay, s/veh / LOS	20.8	C		21.0	C		53.7	D		48.4	D	
Intersection Delay, s/veh / LOS	32.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.90	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.50	B	1.70	B	0.92	A	1.51	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2035 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	26	538	73	14	568	163	95	173	24	333	311	19

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		

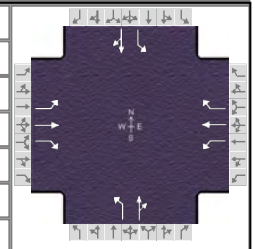
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.7	62.9	6.4	61.6		20.0		30.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.49	0.49	0.02	0.48	0.48	0.13	0.13		0.22	0.22	
Capacity (*c*), veh/h	55	933	790	36	912	773	241	248		403	418	
Volume-to-Capacity Ratio (*X*)	0.512	0.627	0.100	0.423	0.677	0.229	0.428	0.863		0.899	0.857	
Back of Queue (*Q*), ft/ln (95 th percentile)	39.6	459.1	54.6	21.7	504	134	128.4	266.2		400.1	390.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	18.4	2.2	0.9	20.2	5.4	5.1	10.6		16.0	15.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.3	22.5	16.4	58.1	24.0	18.2	47.8	50.9		45.3	44.8	
Incremental Delay (d_2), s/veh	2.7	3.2	0.3	2.9	4.0	0.7	0.4	3.5		3.0	2.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.0	25.7	16.6	61.0	28.0	18.9	48.2	54.4		48.3	46.8	
Level of Service (LOS)	E	C	B	E	C	B	D	D		D	D	
Approach Delay, s/veh / LOS	26.0	C		26.7	C		52.4	D		47.6	D	
Intersection Delay, s/veh / LOS	35.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.63	B	1.82	B	1.01	A	1.68	B

HCS7 Signalized Intersection Results Summary

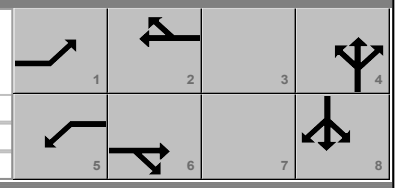
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2035 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	26	538	73	15	615	177	95	173	26	357	311	19

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



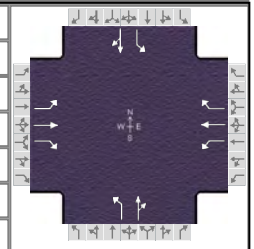
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	7.7	60.8	6.5	59.7		20.2		32.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.47	0.47	0.02	0.46	0.46	0.14	0.14		0.24	0.24	
Capacity (*c*), veh/h	55	900	763	38	882	747	244	251		429	446	
Volume-to-Capacity Ratio (*X*)	0.512	0.650	0.104	0.430	0.758	0.257	0.423	0.863		0.905	0.805	
Back of Queue (*Q*), ft/ln (95 th percentile)	39.6	476.1	56.8	23.2	585.4	153	128.1	268.2		422.9	381.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	19.0	2.3	0.9	23.4	6.1	5.1	10.7		16.9	15.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.3	24.0	17.5	58.0	26.6	19.6	47.6	50.8		44.5	43.2	
Incremental Delay (d_2), s/veh	2.7	3.6	0.3	2.8	6.1	0.8	0.4	3.4		3.0	1.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.0	27.6	17.8	60.9	32.6	20.4	48.0	54.2		47.5	44.5	
Level of Service (LOS)	E	C	B	E	C	C	D	D		D	D	
Approach Delay, s/veh / LOS	27.8	C		30.5	C		52.2	D		46.0	D	
Intersection Delay, s/veh / LOS	36.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.63	B	1.93	B	1.01	A	1.72	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2045 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	32	649	88	17	686	195	114	208	29	401	375	23

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

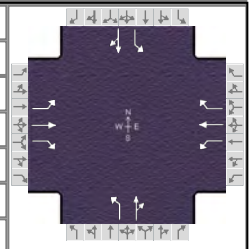
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.1	54.7	6.8	53.3		22.8		35.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.42	0.42	0.02	0.41	0.41	0.16	0.16		0.26	0.26	
Capacity (*c*), veh/h	62	803	680	42	781	662	284	292		478	497	
Volume-to-Capacity Ratio (*X*)	0.560	0.879	0.141	0.444	0.955	0.320	0.436	0.883		0.912	0.871	
Back of Queue (*Q*), ft/ln (95 th percentile)	48.7	714.3	77.6	26.2	836.9	191.4	151	321.4		478.1	457.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	28.6	3.1	1.0	33.5	7.7	6.0	12.9		19.1	18.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.0	31.8	21.3	57.9	34.2	24.0	45.8	49.5		42.8	42.2	
Incremental Delay (d_2), s/veh	2.9	13.1	0.4	2.7	22.8	1.3	0.4	8.6		6.6	3.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.0	44.9	21.7	60.6	57.1	25.2	46.2	58.1		49.4	45.7	
Level of Service (LOS)	E	D	C	E	E	C	D	E		D	D	
Approach Delay, s/veh / LOS	42.9	D		50.2	D		54.2	D		47.6	D	
Intersection Delay, s/veh / LOS	48.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.87	B	2.10	B	1.12	A	1.92	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Hwy 137	File Name	Hwy 65 and Hwy 137 2045 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	32	688	88	18	733	210	114	208	31	425	375	23

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		10.0		10.0
Phase Duration, s	8.1	57.0	6.9	55.8		19.0		37.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)	0.03	0.44	0.44	0.02	0.43	0.43	0.12	0.12		0.28	0.28	
Capacity (*c*), veh/h	62	840	711	43	820	695	226	232		499	519	
Volume-to-Capacity Ratio (*X*)	0.557	0.881	0.133	0.450	0.961	0.325	0.542	1.107		0.915	0.824	
Back of Queue (*Q*), ft/ln (95 th percentile)	48.2	735	73.5	27.4	878.1	196.2	158.3	486.6		480.4	436.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	29.4	2.9	1.1	35.1	7.8	6.3	19.5		19.2	17.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	57.1	30.6	19.9	57.8	33.1	22.6	49.3	52.5		42.1	40.7	
Incremental Delay (d_2), s/veh	2.9	12.8	0.4	2.7	23.3	1.2	1.5	90.8		2.9	1.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	60.0	43.4	20.2	60.5	56.5	23.8	50.7	143.3		45.0	42.0	
Level of Service (LOS)	E	D	C	E	E	C	D	F		D	D	
Approach Delay, s/veh / LOS	41.6	D		49.4	D		113.4	F		43.5	D	
Intersection Delay, s/veh / LOS	53.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.92	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.92	B	2.19	B	1.11	A	1.95	B

HCS7 Two-Way Stop-Control Report

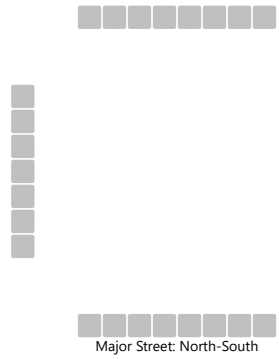
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		28	4	8	0	0	792	36	0	4	1008	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		36		9		0				5		
Capacity, c (veh/h)				448		144		540		572				688		
v/c Ratio				0.00		0.25		0.02		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		1.0		0.1		0.0				0.0		
Control Delay (s/veh)				13.0		38.5		11.8		11.3				10.3		
Level of Service (LOS)				B		E		B		B				B		
Approach Delay (s/veh)					33.1				0.0				0.0			
Approach LOS					D											

HCS7 Two-Way Stop-Control Report

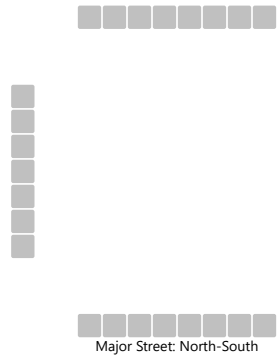
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		28	4	9	0	0	869	36	0	4	1084	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		36		10		0				5		
Capacity, c (veh/h)				419		121		505		529				636		
v/c Ratio				0.00		0.30		0.02		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		1.3		0.1		0.0				0.0		
Control Delay (s/veh)				13.6		47.6		12.3		11.8				10.7		
Level of Service (LOS)				B		E		B		B				B		
Approach Delay (s/veh)					39.8				0.0				0.0			
Approach LOS					E											

HCS7 Two-Way Stop-Control Report

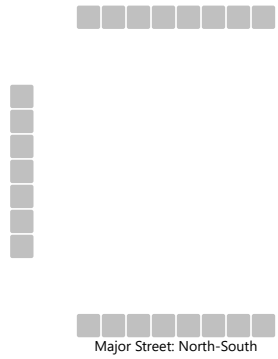
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		29	4	8	0	0	823	37	0	4	1047	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		38		9		0				5		
Capacity, c (veh/h)				433		134		526		550				666		
v/c Ratio				0.00		0.28		0.02		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		1.1		0.1		0.0				0.0		
Control Delay (s/veh)				13.3		42.2		12.0		11.5				10.4		
Level of Service (LOS)				B		E		B		B				B		
Approach Delay (s/veh)						36.3				0.0				0.0		
Approach LOS						E										

HCS7 Two-Way Stop-Control Report

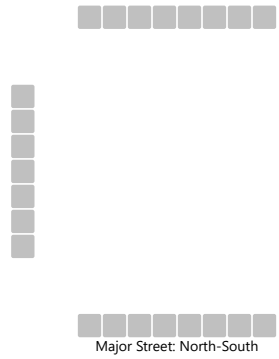
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		29	4	9	0	0	900	37	0	4	1123	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		38		10		0				5		
Capacity, c (veh/h)				405		112		492		508				616		
v/c Ratio				0.00		0.33		0.02		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		1.4		0.1		0.0				0.0		
Control Delay (s/veh)				13.9		52.8		12.5		12.1				10.9		
Level of Service (LOS)				B		F		B		B				B		
Approach Delay (s/veh)						44.2				0.0				0.0		
Approach LOS						E										

HCS7 Two-Way Stop-Control Report

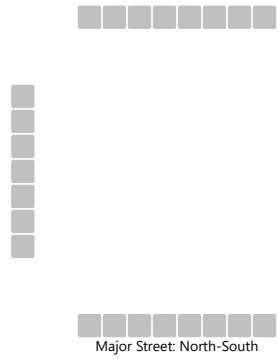
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		35	5	10	0	0	998	45	0	5	1270	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		45		11		0				6		
Capacity, c (veh/h)				356		84		452		437				552		
v/c Ratio				0.00		0.54		0.03		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		3.1		0.1		0.0				0.0		
Control Delay (s/veh)				15.1		96.3		13.2		13.2				11.6		
Level of Service (LOS)				C		F		B		B				B		
Approach Delay (s/veh)					79.6				0.0				0.0			
Approach LOS					F											

HCS7 Two-Way Stop-Control Report

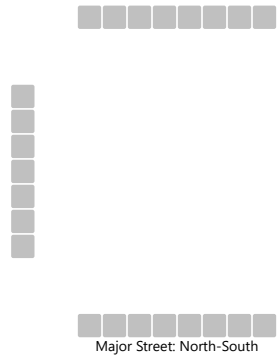
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		35	5	11	0	0	1075	45	0	5	1346	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		45		13		0				6		
Capacity, c (veh/h)				333		69		422		403				510		
v/c Ratio				0.00		0.66		0.03		0.00				0.01		
95% Queue Length, Q_{95} (veh)				0.0		4.2		0.1		0.0				0.0		
Control Delay (s/veh)				15.8		144.8		13.8		13.9				12.1		
Level of Service (LOS)				C		F		B		B				B		
Approach Delay (s/veh)					116.5				0.0				0.0			
Approach LOS					F											

HCS7 Two-Way Stop-Control Report

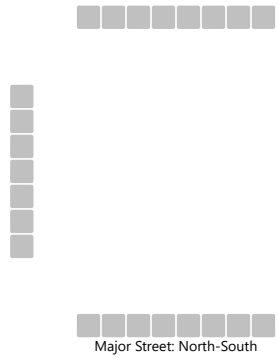
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		43	6	12	0	0	1204	55	0	6	1532	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		56		14		0				7		
Capacity, c (veh/h)				283		46		377		332				442		
v/c Ratio				0.00		1.20		0.04		0.00				0.02		
95% Queue Length, Q_{95} (veh)				0.0		11.7		0.1		0.0				0.0		
Control Delay (s/veh)				17.7		706.9		14.9		15.8				13.3		
Level of Service (LOS)				C		F		B		C				B		
Approach Delay (s/veh)					570.8				0.0				0.1			
Approach LOS					F											

HCS7 Two-Way Stop-Control Report

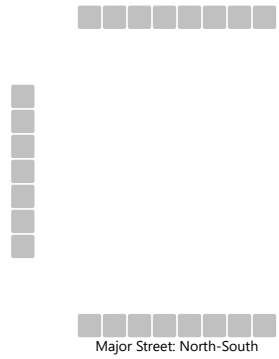
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/Marigold St
Jurisdiction	County
East/West Street	Marigold St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	0	0		43	6	13	0	0	1281	55	0	6	1608	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

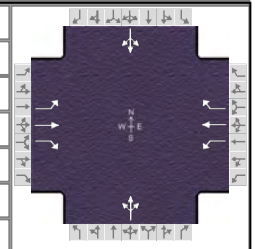
Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0		0		56		15		0				7		
Capacity, c (veh/h)				264		38		353		307				408		
v/c Ratio				0.00		1.48		0.04		0.00				0.02		
95% Queue Length, Q_{95} (veh)				0.0		14.7		0.1		0.0				0.1		
Control Delay (s/veh)				18.6		1199.0		15.7		16.7				14.0		
Level of Service (LOS)				C		F		C		C				B		
Approach Delay (s/veh)						950.9				0.0				0.1		
Approach LOS						F										

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2023 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	6	657	5	3	670	456	1	2	0	424	6	10

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

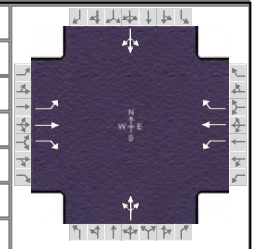
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.2	72.8	4.6	72.2		4.6		38.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.57	0.57	0.01	0.57	0.57		0.01			0.28	
Capacity (*c*), veh/h	18	1089	923	9	1080	916		10			511	
Volume-to-Capacity Ratio (*X*)	0.369	0.656	0.006	0.350	0.674	0.541		0.338			0.936	
Back of Queue (*Q*), ft/ln (95 th percentile)	9.8	493.3	2.9	5.4	513.2	336.9		5.3			504.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	19.7	0.1	0.2	20.5	13.5		0.2			20.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	59.0	17.5	11.0	59.5	18.1	16.1		59.5			41.9	
Incremental Delay (d_2), s/veh	4.7	3.1	0.0	8.1	3.4	2.3		7.5			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	63.7	20.6	11.0	67.6	21.5	18.4		67.0			45.6	
Level of Service (LOS)	E	C	B	E	C	B		E			D	
Approach Delay, s/veh / LOS	20.9	C		20.4	C		67.0	E		45.6	D	
Intersection Delay, s/veh / LOS	25.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	1.69	B	2.51	C	0.49	A	1.28	A

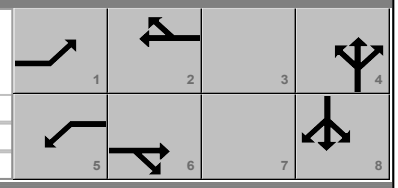
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2023 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	6	728	5	4	738	500	1	2	1	473	6	10

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0		0.0	0.0		0.0			0.0		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0		0.0	0.0		0.0			0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0		0.0	0.0		0.0			0.0		



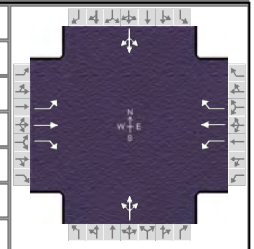
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.2	68.9	4.8	68.5		4.8		41.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.54	0.54	0.01	0.54	0.54		0.01			0.31	
Capacity (*c*), veh/h	18	1027	870	12	1021	866		12			565	
Volume-to-Capacity Ratio (*X*)	0.369	0.770	0.006	0.356	0.785	0.628		0.358			0.941	
Back of Queue (*Q*), ft/ln (95 th percentile)	9.8	628.9	3.1	6.9	647.5	408.2		6.9			548.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	25.2	0.1	0.3	25.9	16.3		0.3			21.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	59.0	21.7	12.7	59.3	22.2	19.4		59.3			40.2	
Incremental Delay (d_2), s/veh	4.7	5.6	0.0	6.4	6.1	3.4		6.5			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	63.7	27.3	12.7	65.7	28.3	22.8		65.8			43.8	
Level of Service (LOS)	E	C	B	E	C	C		E			D	
Approach Delay, s/veh / LOS	27.5	C		26.2	C		65.8	E		43.8	D	
Intersection Delay, s/veh / LOS	30.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	1.81	B	2.72	C	0.49	A	1.36	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2025 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	6	683	5	3	696	474	1	2	0	441	6	10

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	1	2	3	4	5	6	7	8
Green	0.0	0.0	0.0	0.0	0.0	0.0		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0		
Red	0.0	0.0	0.0	0.0	0.0	0.0		

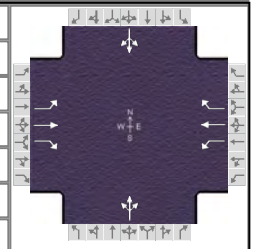
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.2	71.6	4.6	71.0		4.6		39.2
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.56	0.56	0.01	0.56	0.56		0.01			0.29	
Capacity (*c*), veh/h	18	1070	907	9	1061	899		10			530	
Volume-to-Capacity Ratio (*X*)	0.368	0.694	0.006	0.350	0.713	0.573		0.338			0.938	
Back of Queue (*Q*), ft/ln (95 th percentile)	9.8	535.8	2.9	5.4	557.6	362.3		5.3			519.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	21.4	0.1	0.2	22.3	14.5		0.2			20.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	59.0	18.8	11.5	59.5	19.4	17.2		59.5			41.3	
Incremental Delay (d_2), s/veh	4.7	3.7	0.0	8.1	4.1	2.7		7.5			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	63.7	22.5	11.5	67.6	23.5	19.9		67.0			45.0	
Level of Service (LOS)	E	C	B	E	C	B		E			D	
Approach Delay, s/veh / LOS	22.8	C		22.2	C		67.0	E		45.0	D	
Intersection Delay, s/veh / LOS	26.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	1.73	B	2.59	C	0.49	A	1.31	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2025 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	6	754	5	4	764	518	1	2	1	490	6	10

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

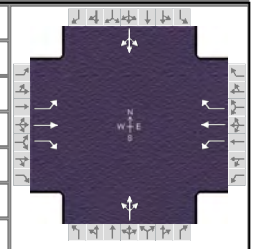
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.2	67.6	4.8	67.3		4.8		42.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.53	0.53	0.01	0.53	0.53		0.01			0.32	
Capacity (*c*), veh/h	18	1008	854	12	1002	849		12			583	
Volume-to-Capacity Ratio (*X*)	0.369	0.813	0.006	0.356	0.829	0.663		0.358			0.943	
Back of Queue (*Q*), ft/ln (95 th percentile)	9.8	685.8	3.2	6.9	709.4	439.6		6.9			563.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	27.4	0.1	0.3	28.4	17.6		0.3			22.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	59.0	23.3	13.3	59.3	23.8	20.6		59.3			39.6	
Incremental Delay (d_2), s/veh	4.7	7.2	0.0	6.4	7.9	4.1		6.5			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	63.7	30.4	13.3	65.7	31.7	24.7		65.8			43.2	
Level of Service (LOS)	E	C	B	E	C	C		E			D	
Approach Delay, s/veh / LOS	30.6	C		29.0	C		65.8	E		43.2	D	
Intersection Delay, s/veh / LOS	32.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.68	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	1.86	B	2.79	C	0.49	A	1.40	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2035 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	828	6	4	844	575	1	3	0	534	8	13

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

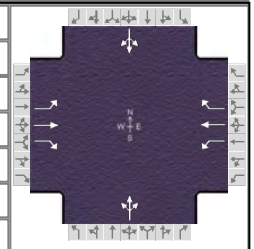
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.5	64.1	4.8	63.4		4.8		46.3
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.50	0.50	0.01	0.49	0.49		0.01			0.35	
Capacity (*c*), veh/h	23	951	806	12	940	797		13			636	
Volume-to-Capacity Ratio (*X*)	0.382	0.946	0.008	0.356	0.976	0.784		0.343			0.948	
Back of Queue (*Q*), ft/ln (95 th percentile)	12.8	920.5	4.2	6.9	993.7	555.9		6.8			605.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	36.8	0.2	0.3	39.7	22.2		0.3			24.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.8	28.4	15.0	59.3	29.6	25.0		59.3			37.8	
Incremental Delay (d_2), s/veh	3.9	18.7	0.0	6.4	24.0	7.6		5.8			3.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	62.6	47.1	15.0	65.7	53.6	32.6		65.2			41.4	
Level of Service (LOS)	E	D	B	E	D	C		E			D	
Approach Delay, s/veh / LOS	47.1	D		45.2	D		65.2	E		41.4	D	
Intersection Delay, s/veh / LOS	45.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.68	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	2.00	B	3.04	C	0.49	A	1.48	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2035 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	8	899	6	5	912	619	1	3	1	583	8	13

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

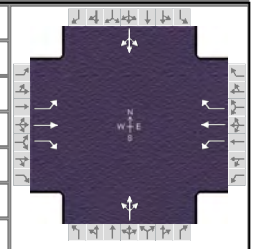
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.5	66.9	5.0	66.4		5.0		43.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.52	0.52	0.01	0.52	0.52		0.01			0.33	
Capacity (*c*), veh/h	23	1020	864	15	1012	858		15			566	
Volume-to-Capacity Ratio (*X*)	0.381	0.958	0.008	0.362	0.980	0.785		0.360			1.161	
Back of Queue (*Q*), ft/ln (95 th percentile)	12.8	985.8	3.8	8.4	1046.8	567.2		8.3			1081.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	39.4	0.2	0.3	41.9	22.7		0.3			43.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.8	26.5	12.9	59.2	27.4	22.5		59.2			41.2	
Incremental Delay (d_2), s/veh	3.8	19.7	0.0	5.4	23.8	7.1		5.3			89.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	62.6	46.2	12.9	64.6	51.2	29.6		64.5			130.4	
Level of Service (LOS)	E	D	B	E	D	C		E			F	
Approach Delay, s/veh / LOS	46.1	D		42.6	D		64.5	E		130.4	F	
Intersection Delay, s/veh / LOS	61.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.68	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	2.13	B	3.24	C	0.50	A	1.57	B

HCS7 Signalized Intersection Results Summary

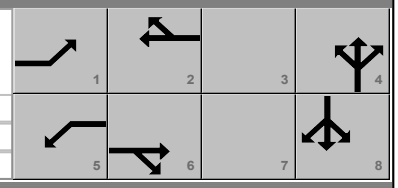
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	999	8	5	1018	693	2	3	0	644	9	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



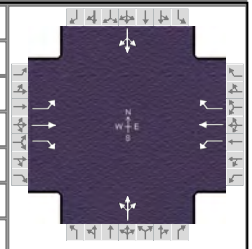
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.7	68.3	5.0	67.6		5.0		41.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.54	0.54	0.01	0.53	0.53		0.01			0.31	
Capacity (*c*), veh/h	25	1047	887	15	1036	878		16			540	
Volume-to-Capacity Ratio (*X*)	0.388	1.037	0.010	0.362	1.068	0.858		0.351			1.344	
Back of Queue (*Q*), ft/ln (95 th percentile)	14.3	1259.7	4.9	8.4	1367	672.8		8.3			1464.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.6	50.4	0.2	0.3	54.7	26.9		0.3			58.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.7	26.9	12.2	59.2	27.3	23.3		59.2			42.1	
Incremental Delay (d_2), s/veh	3.6	38.0	0.0	5.4	48.0	10.6		4.9			157.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	62.3	64.9	12.2	64.6	75.3	33.9		64.1			199.8	
Level of Service (LOS)	E	F	B	E	F	C		E			F	
Approach Delay, s/veh / LOS	64.5	E		58.5	E		64.1	E		199.8	F	
Intersection Delay, s/veh / LOS	88.0						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.12	B	2.16	B
Bicycle LOS Score / LOS	2.31	B	3.57	D	0.50	A	1.69	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045 + Project	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1070	8	6	1086	737	2	3	1	693	9	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4		
Green	0.0	0.0	0.0	0.0	0.0	0.0	5	6	7	8		
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

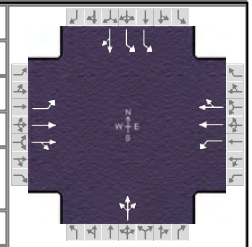
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	2.0	3.0	2.0	3.0		12.0		12.0
Phase Duration, s	5.7	71.7	5.2	71.2		5.2		38.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0			0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0			0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Green Ratio (*g/C*)	0.01	0.56	0.56	0.01	0.56	0.56		0.01			0.28	
Capacity (*c*), veh/h	25	1102	934	18	1094	927		18			483	
Volume-to-Capacity Ratio (*X*)	0.388	1.056	0.009	0.369	1.079	0.864		0.366			1.615	
Back of Queue (*Q*), ft/ln (95 th percentile)	14.3	1371.2	4.5	9.8	1463.5	693.3		9.8			1989.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.6	54.8	0.2	0.4	58.5	27.7		0.4			79.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	58.7	25.2	10.6	59.0	25.5	21.5		59.0			44.0	
Incremental Delay (d_2), s/veh	3.6	43.0	0.0	4.7	51.2	10.5		4.6			279.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	62.3	68.2	10.7	63.7	76.6	32.0		63.7			323.7	
Level of Service (LOS)	E	F	B	E	F	C		E			F	
Approach Delay, s/veh / LOS	67.8	E		58.6	E		63.7	E		323.7	F	
Intersection Delay, s/veh / LOS	113.6						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.13	B	2.16	B
Bicycle LOS Score / LOS	2.44	B	3.77	D	0.50	A	1.77	B

HCS7 Signalized Intersection Results Summary

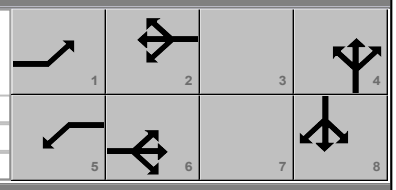
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045 + Project - Mitigated	Analysis Period	1> 7:00
Intersection	Hwy 65/N Spruce Ave	File Name	Hwy 65 and N Spruce Ave 2045 PM+Proj-Mitigate…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1070	8	6	1086	737	2	3	1	693	9	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



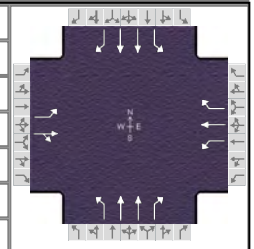
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		12.0		10.0
Phase Duration, s	5.7	76.8	5.2	76.3		5.2		32.9
Change Period, (*Y+R c*), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (*g s*), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0		0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0		0		0	0	
Queue Service Time (*g s*), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Cycle Queue Clearance Time (*g c*), s	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Green Ratio (*g/C*)	0.62	0.61	0.61	0.61	0.60	0.60		0.01		0.24	0.24	
Capacity (*c*), veh/h	92	1153	1150	284	1145	1000		18		844	410	
Volume-to-Capacity Ratio (*X*)	0.106	0.509	0.509	0.023	0.865	0.991		0.367		0.893	0.064	
Back of Queue (*Q*), ft/ln (95 th percentile)	7.6	347.6	346.9	2.9	794.1	1039.1		9.8		405.1	26.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	13.9	13.9	0.1	31.8	41.6		0.4		16.2	1.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh	29.4	13.4	13.4	11.0	19.8	23.5		59.0		44.1	35.2	
Incremental Delay (*d 2*), s/veh	0.2	1.6	1.6	0.0	8.8	26.3		4.6		1.4	0.0	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	29.6	15.0	15.0	11.0	28.6	49.9		63.7		45.5	35.2	
Level of Service (LOS)	C	B	B	B	C	D		E		D	D	
Approach Delay, s/veh / LOS	15.1	B		39.1	D		63.7	E		45.1	D	
Intersection Delay, s/veh / LOS	33.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.66	B	2.08	B	2.30	B	2.32	B
Bicycle LOS Score / LOS	1.46	A	2.13	B	0.50	A	1.77	B

HCS7 Signalized Intersection Results Summary

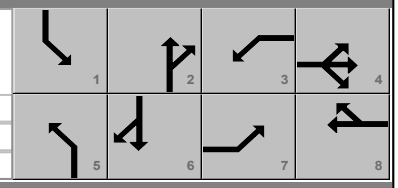
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2023 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	115	61	184	75	102	39	673	138	103	706	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



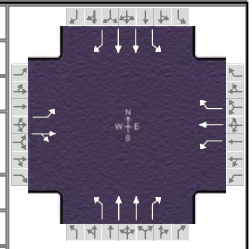
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.5	19.2	19.3	29.9	8.5	68.3	13.2	73.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.16	0.13		0.13	0.22	0.22	0.04	0.54	0.54	0.08	0.58	0.58
Capacity (*c*), veh/h	298	226		230	410	348	68	1938	863	139	2080	926
Volume-to-Capacity Ratio (*X*)	0.142	0.846		0.868	0.199	0.319	0.619	0.377	0.174	0.803	0.369	0.041
Back of Queue (*Q*), ft/ln (95 th percentile)	46.8	236.8		246.6	85.1	119.2	57.7	230.4	90	150.8	219.8	18.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	9.5		9.9	3.4	4.8	2.3	9.2	3.6	6.0	8.8	0.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.9	51.3		51.4	38.5	39.6	56.9	16.2	14.3	54.5	13.8	11.1
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	3.4	0.6	0.4	4.0	0.5	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	43.0	54.6		55.2	38.6	39.8	60.2	16.8	14.7	58.5	14.3	11.2
Level of Service (LOS)	D	D		E	D	D	E	B	B	E	B	B
Approach Delay, s/veh / LOS	52.5	D		47.4	D		18.4	B		19.5	B	
Intersection Delay, s/veh / LOS	26.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.09	B	1.89	B
Bicycle LOS Score / LOS	0.87	A	1.14	A	1.25	A	1.24	A

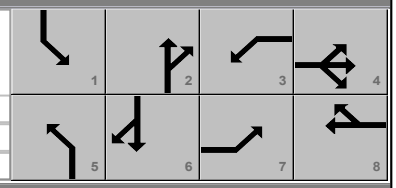
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour + Project	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2023 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	44	115	61	184	75	116	39	764	138	116	796	40

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



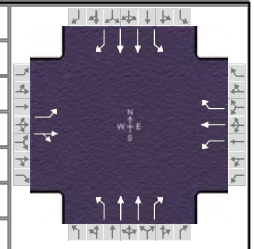
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.8	19.2	19.3	29.7	8.5	67.3	14.3	73.0
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.13		0.13	0.21	0.21	0.04	0.53	0.53	0.09	0.57	0.57
Capacity (*c*), veh/h	302	227		230	407	345	68	1907	849	155	2079	925
Volume-to-Capacity Ratio (*X*)	0.159	0.844		0.868	0.200	0.366	0.619	0.435	0.177	0.815	0.416	0.047
Back of Queue (*Q*), ft/ln (95 th percentile)	52.9	236.7		246.6	85.3	137.4	57.7	268.2	92.2	169	249	21.5
Back of Queue (*Q*), veh/ln (95 th percentile)	2.1	9.5		9.9	3.4	5.5	2.3	10.7	3.7	6.8	10.0	0.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.8	51.2		51.4	38.7	40.2	56.9	17.4	14.8	53.9	14.3	11.2
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	3.4	0.7	0.5	3.9	0.6	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.9	54.5		55.2	38.8	40.4	60.2	18.1	15.2	57.9	14.9	11.2
Level of Service (LOS)	D	D		E	D	D	E	B	B	E	B	B
Approach Delay, s/veh / LOS	52.2	D		47.4	D		19.5	B		20.0	B	
Intersection Delay, s/veh / LOS	26.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.46	B	2.09	B	1.89	B
Bicycle LOS Score / LOS	0.88	A	1.16	A	1.33	A	1.34	A

HCS7 Signalized Intersection Results Summary

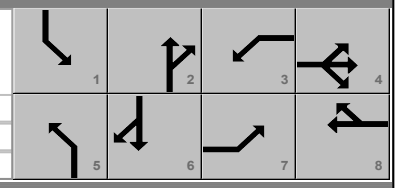
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2025 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	41	119	63	191	78	106	41	699	143	107	734	36

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



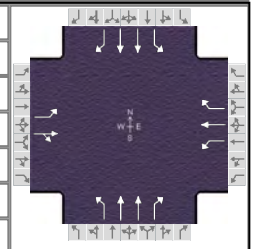
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.6	19.6	19.8	30.8	8.6	67.0	13.6	71.9
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.13		0.13	0.22	0.22	0.04	0.53	0.53	0.08	0.57	0.57
Capacity (*c*), veh/h	304	233		238	424	359	70	1900	846	144	2048	912
Volume-to-Capacity Ratio (*X*)	0.147	0.850		0.872	0.200	0.321	0.636	0.400	0.184	0.807	0.390	0.043
Back of Queue (*Q*), ft/ln (95 th percentile)	48.9	242.8		254.1	87.8	123	60.7	245.6	96.4	156.4	234	19.8
Back of Queue (*Q*), veh/ln (95 th percentile)	2.0	9.7		10.2	3.5	4.9	2.4	9.8	3.9	6.3	9.4	0.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.5	51.0		51.1	37.9	39.0	56.8	17.1	15.0	54.3	14.5	11.6
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	3.5	0.6	0.5	4.0	0.6	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.6	54.4		55.0	38.0	39.2	60.4	17.8	15.4	58.3	15.0	11.7
Level of Service (LOS)	D	D		D	D	D	E	B	B	E	B	B
Approach Delay, s/veh / LOS	52.2	D		47.0	D		19.4	B		20.2	C	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.09	B	1.89	B
Bicycle LOS Score / LOS	0.89	A	1.16	A	1.28	A	1.27	A

HCS7 Signalized Intersection Results Summary

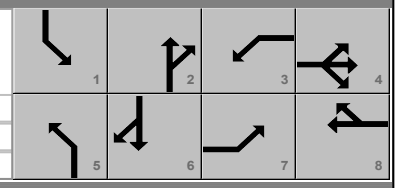
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2025 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	119	63	191	78	120	41	790	143	120	824	41

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



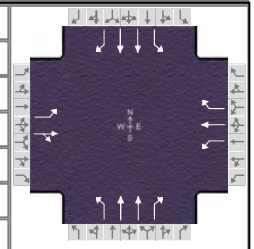
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	8.9	19.6	19.8	30.6	8.6	66.0	14.6	71.9
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.17	0.13		0.13	0.22	0.22	0.04	0.52	0.52	0.09	0.57	0.57
Capacity (*c*), veh/h	307	233		238	421	357	70	1869	832	159	2047	911
Volume-to-Capacity Ratio (*X*)	0.163	0.848		0.872	0.202	0.366	0.636	0.459	0.187	0.819	0.437	0.049
Back of Queue (*Q*), ft/ln (95 th percentile)	55	242.7		254.1	88	141.1	60.7	284.6	98.8	174.6	264.6	22.7
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	9.7		10.2	3.5	5.6	2.4	11.4	4.0	7.0	10.6	0.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	42.4	51.0		51.1	38.1	39.6	56.8	18.4	15.5	53.8	15.0	11.6
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	3.5	0.8	0.5	3.9	0.7	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.5	54.3		55.0	38.2	39.8	60.4	19.2	16.0	57.7	15.7	11.7
Level of Service (LOS)	D	D		D	D	D	E	B	B	E	B	B
Approach Delay, s/veh / LOS	51.9	D		46.9	D		20.5	C		20.7	C	
Intersection Delay, s/veh / LOS	27.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.09	B	1.89	B
Bicycle LOS Score / LOS	0.90	A	1.19	A	1.36	A	1.37	A

HCS7 Signalized Intersection Results Summary

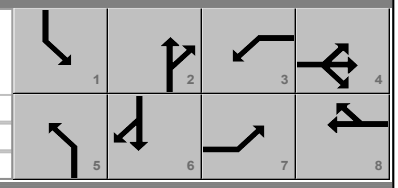
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2035 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	49	145	77	232	95	129	49	848	174	130	890	44

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



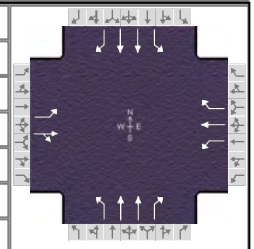
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.0	22.6	22.8	36.4	9.0	59.3	15.3	65.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.20	0.15		0.16	0.27	0.27	0.04	0.46	0.46	0.09	0.51	0.51
Capacity (*c*), veh/h	338	277		283	512	434	75	1668	743	171	1859	828
Volume-to-Capacity Ratio (*X*)	0.158	0.872		0.891	0.202	0.323	0.708	0.552	0.255	0.828	0.520	0.058
Back of Queue (*Q*), ft/ln (95 th percentile)	56.5	283.5		295.4	100.4	141.3	73.2	345.9	142	188.8	326.6	28.4
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	11.3		11.8	4.0	5.7	2.9	13.8	5.7	7.6	13.1	1.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.9	49.5		49.6	33.8	35.1	56.8	23.4	19.7	53.4	19.3	14.6
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	4.5	1.3	0.8	3.9	1.0	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	40.0	52.9		53.5	33.9	35.2	61.3	24.7	20.6	57.3	20.4	14.7
Level of Service (LOS)	D	D		D	C	D	E	C	C	E	C	B
Approach Delay, s/veh / LOS	50.6	D		44.3	D		25.7	C		24.7	C	
Intersection Delay, s/veh / LOS	30.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.97	A	1.31	A	1.45	A	1.44	A

HCS7 Signalized Intersection Results Summary

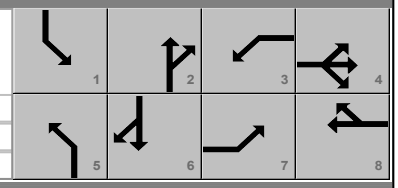
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2035	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2035 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	54	145	77	232	95	143	49	939	174	143	980	49

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



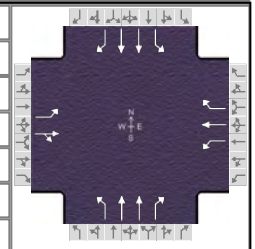
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.2	22.6	22.8	36.2	9.0	58.3	16.3	65.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.20	0.16		0.16	0.27	0.27	0.04	0.45	0.45	0.10	0.51	0.51
Capacity (*c*), veh/h	341	277		283	510	432	75	1638	729	185	1859	827
Volume-to-Capacity Ratio (*X*)	0.172	0.870		0.891	0.202	0.360	0.708	0.623	0.259	0.839	0.573	0.064
Back of Queue (*Q*), ft/ln (95 th percentile)	62.3	283.2		295.4	100.5	158.8	73.2	396.3	145	203.2	365.5	31.8
Back of Queue (*Q*), veh/ln (95 th percentile)	2.5	11.3		11.8	4.0	6.4	2.9	15.9	5.8	8.1	14.6	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.9	49.5		49.6	34.0	35.5	56.8	25.0	20.4	52.9	20.1	14.7
Incremental Delay (d_2), s/veh	0.1	3.3		3.9	0.1	0.2	4.5	1.8	0.9	3.8	1.3	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	40.0	52.8		53.5	34.0	35.7	61.3	26.8	21.2	56.7	21.4	14.8
Level of Service (LOS)	D	D		D	C	D	E	C	C	E	C	B
Approach Delay, s/veh / LOS	50.3	D		44.2	D		27.4	C		25.4	C	
Intersection Delay, s/veh / LOS	31.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.45	B	2.10	B	1.90	B
Bicycle LOS Score / LOS	0.98	A	1.33	A	1.53	B	1.54	B

HCS7 Signalized Intersection Results Summary

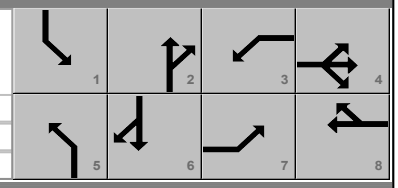
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2045 PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	59	175	93	280	114	155	59	1023	210	157	1073	53

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



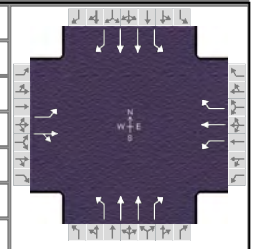
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.3	26.0	26.2	43.0	9.6	50.4	17.3	58.2
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.23	0.18		0.19	0.32	0.32	0.05	0.39	0.39	0.11	0.45	0.45
Capacity (*c*), veh/h	376	329		335	617	523	84	1399	623	201	1633	727
Volume-to-Capacity Ratio (*X*)	0.170	0.887		0.908	0.201	0.322	0.766	0.795	0.367	0.849	0.714	0.079
Back of Queue (*Q*), ft/ln (95 th percentile)	65.3	327.9		342.7	110.7	157.4	88.7	507.7	204.9	218.2	470	40.3
Back of Queue (*Q*), veh/ln (95 th percentile)	2.6	13.1		13.7	4.4	6.3	3.5	20.3	8.2	8.7	18.8	1.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	37.1	47.8		47.9	29.3	30.5	56.6	32.6	26.3	52.4	26.7	18.7
Incremental Delay (d_2), s/veh	0.1	3.2		3.9	0.1	0.1	5.4	4.7	1.7	3.8	2.7	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	37.2	51.0		51.8	29.3	30.7	61.9	37.3	28.0	56.2	29.4	18.9
Level of Service (LOS)	D	D		D	C	C	E	D	C	E	C	B
Approach Delay, s/veh / LOS	48.5	D		41.1	D		36.9	D		32.2	C	
Intersection Delay, s/veh / LOS	36.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.11	B	1.91	B
Bicycle LOS Score / LOS	1.07	A	1.47	A	1.65	B	1.64	B

HCS7 Signalized Intersection Results Summary

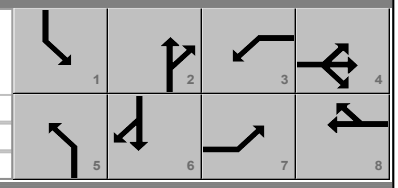
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/W Hermosa St	File Name	Hwy 65 and W Hermosa St 2045 PM+Proj.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	64	175	93	280	114	169	59	1114	210	170	1163	58

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0						
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	2.0	3.0	2.0	3.0	2.0	3.0
Phase Duration, s	9.4	26.1	26.2	42.9	9.6	49.4	18.3	58.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max Out Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0		0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0		0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.23	0.18		0.19	0.32	0.32	0.05	0.38	0.38	0.12	0.45	0.45
Capacity (*c*), veh/h	378	329		335	616	522	84	1369	609	215	1632	726
Volume-to-Capacity Ratio (*X*)	0.184	0.886		0.908	0.201	0.352	0.766	0.884	0.375	0.858	0.775	0.087
Back of Queue (*Q*), ft/ln (95 th percentile)	70.9	327.8		342.7	110.9	173.7	88.7	588.9	207.8	231.9	525.2	44.2
Back of Queue (*Q*), veh/ln (95 th percentile)	2.8	13.1		13.7	4.4	6.9	3.5	23.6	8.3	9.3	21.0	1.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	37.1	47.7		47.9	29.3	30.9	56.6	34.8	27.0	51.9	27.8	18.8
Incremental Delay (d_2), s/veh	0.1	3.2		3.9	0.1	0.2	5.4	8.6	1.8	3.8	3.7	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	37.2	50.9		51.8	29.4	31.1	61.9	43.5	28.8	55.7	31.4	19.0
Level of Service (LOS)	D	D		D	C	C	E	D	C	E	C	B
Approach Delay, s/veh / LOS	48.3	D		41.0	D		42.0	D		33.9	C	
Intersection Delay, s/veh / LOS	39.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.46	B	2.44	B	2.11	B	1.91	B
Bicycle LOS Score / LOS	1.08	A	1.50	A	1.73	B	1.73	B

HCS7 Two-Way Stop-Control Report

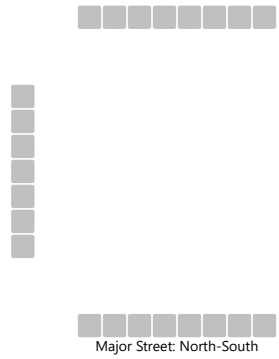
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	20	16		8	4	16	0	40	828	8	0	24	684	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23		18		14		18		45				27		
Capacity, c (veh/h)		60		593		96		524		794				683		
v/c Ratio		0.38		0.03		0.14		0.03		0.06				0.04		
95% Queue Length, Q_{95} (veh)		1.7		0.1		0.5		0.1		0.2				0.1		
Control Delay (s/veh)		99.9		11.3		48.8		12.1		9.8				10.5		
Level of Service (LOS)		F		B		E		B		A				B		
Approach Delay (s/veh)		60.5				27.8				0.4				0.4		
Approach LOS		F				D										

HCS7 Two-Way Stop-Control Report

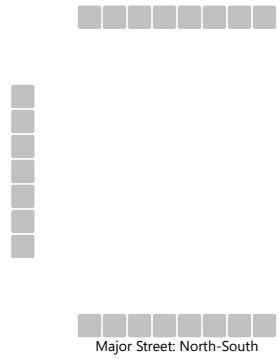
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	20	16		8	4	18	0	40	913	8	0	27	767	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23		18		14		20		45				31		
Capacity, c (veh/h)		44		552		71		486		730				626		
v/c Ratio		0.51		0.03		0.19		0.04		0.06				0.05		
95% Queue Length, Q_{95} (veh)		2.6		0.1		0.7		0.1		0.2				0.2		
Control Delay (s/veh)		164.8		11.7		67.9		12.7		10.3				11.0		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)		96.8				34.8				0.4				0.4		
Approach LOS		F				D										

HCS7 Two-Way Stop-Control Report

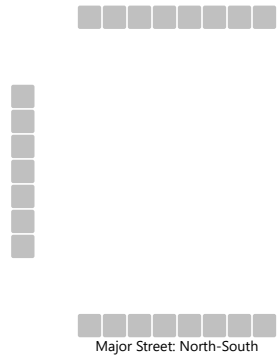
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	21	17		8	4	17	0	42	860	8	0	25	711	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24		19		14		19		48				28		
Capacity, c (veh/h)		54		580		85		509		772				661		
v/c Ratio		0.45		0.03		0.16		0.04		0.06				0.04		
95% Queue Length, Q_{95} (veh)		2.1		0.1		0.6		0.1		0.2				0.1		
Control Delay (s/veh)		123.4		11.4		55.6		12.3		10.0				10.7		
Level of Service (LOS)		F		B		F		B		A				B		
Approach Delay (s/veh)		73.3				30.3				0.5				0.4		
Approach LOS		F				D										

HCS7 Two-Way Stop-Control Report

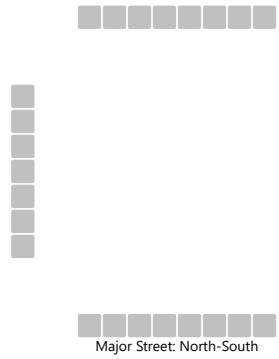
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	21	17		8	4	19	0	42	945	8	0	28	794	4
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24		19		14		22		48				32		
Capacity, c (veh/h)		39		539		60		473		710				606		
v/c Ratio		0.61		0.04		0.23		0.05		0.07				0.05		
95% Queue Length, Q_{95} (veh)		3.3		0.1		0.9		0.1		0.2				0.2		
Control Delay (s/veh)		217.1		11.9		83.0		13.0		10.4				11.3		
Level of Service (LOS)		F		B		F		B		B				B		
Approach Delay (s/veh)		125.3				40.1				0.4				0.4		
Approach LOS		F				E										

HCS7 Two-Way Stop-Control Report

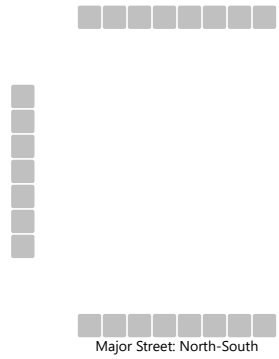
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	25	20		10	5	20	0	50	1043	10	0	30	862	5
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type | Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28		23		17		23		57				34		
Capacity, c (veh/h)		28		508				434		661				547		
v/c Ratio		1.03		0.04				0.05		0.09				0.06		
95% Queue Length, Q_{95} (veh)		6.7		0.1				0.2		0.3				0.2		
Control Delay (s/veh)		649.5		12.4				13.7		11.0				12.0		
Level of Service (LOS)		F		B				B		B				B		
Approach Delay (s/veh)		366.4								0.5				0.4		
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

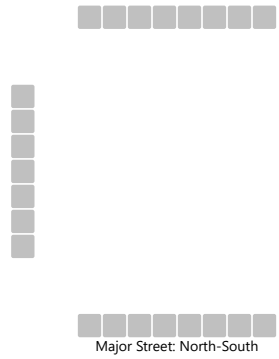
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	25	20		10	5	22	0	50	1128	10	0	33	945	5
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28		23		17		25		57				38		
Capacity, c (veh/h)		20		473				403		608				501		
v/c Ratio		1.42		0.05				0.06		0.09				0.07		
95% Queue Length, Q_{95} (veh)		8.9		0.2				0.2		0.3				0.2		
Control Delay (s/veh)		1331.9		13.0				14.5		11.5				12.8		
Level of Service (LOS)		F		B				B		B				B		
Approach Delay (s/veh)	745.7								0.5				0.4			
Approach LOS	F															

HCS7 Two-Way Stop-Control Report

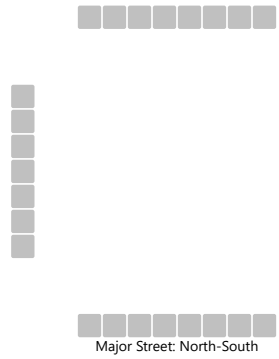
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	30	24		12	6	24	0	61	1259	12	0	36	1040	6
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		34		27		20		27		69				41		
Capacity, c (veh/h)		12		436				360		551				436		
v/c Ratio		2.81		0.06				0.08		0.13				0.09		
95% Queue Length, Q_{95} (veh)		14.5		0.2				0.2		0.4				0.3		
Control Delay (s/veh)		3972.9		13.8				15.8		12.5				14.1		
Level of Service (LOS)		F		B				C		B				B		
Approach Delay (s/veh)	2213.3								0.6				0.5			
Approach LOS	F															

HCS7 Two-Way Stop-Control Report

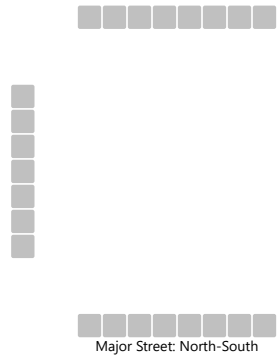
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Lindmore St
Jurisdiction	County
East/West Street	W Lindmore St
North/South Street	Hwy 65
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	2	1	0	1	2	1
Configuration		LT		R		LT		R		L	T	R		L	T	R
Volume (veh/h)		0	30	24		12	6	26	0	61	1344	12	0	61	1344	12
Percent Heavy Vehicles (%)		8	8	8		8	8	8	8	8			8	8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		6.48	6.66	7.06		7.66	6.66	7.06		4.26				4.26		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.08	3.38		3.58	4.08	3.38		2.28				2.28		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		34		27		20		30		69				69		
Capacity, c (veh/h)				334				334		399				399		
v/c Ratio				0.08				0.09		0.17				0.17		
95% Queue Length, Q_{95} (veh)				0.3				0.3		0.6				0.6		
Control Delay (s/veh)				16.7				16.8		15.9				15.9		
Level of Service (LOS)				C				C		C				C		
Approach Delay (s/veh)									0.7				0.7			
Approach LOS																

HCS7 Two-Way Stop-Control Report

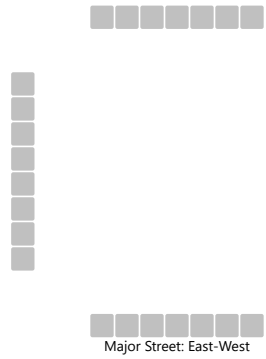
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		117	1135				1046	46						19		96
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		133												22		109
Capacity, c (veh/h)		240												9		215
v/c Ratio		0.55												2.39		0.51
95% Queue Length, Q_{95} (veh)		3.5												9.6		2.9
Control Delay (s/veh)		38.2												3473.1		38.7
Level of Service (LOS)		E												F		E
Approach Delay (s/veh)		3.6												606.1		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

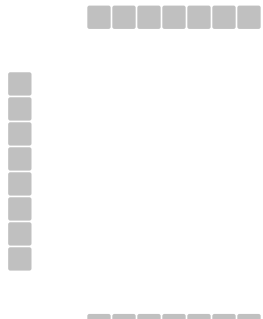
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		133	1249				1162	46						19		108
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		151												22		123
Capacity, c (veh/h)		197												3		179
v/c Ratio		0.77												7.26		0.68
95% Queue Length, Q_{95} (veh)		7.5												12.0		5.5
Control Delay (s/veh)		77.3												13752.7		65.7
Level of Service (LOS)		F												F		F
Approach Delay (s/veh)		7.4												2113.3		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

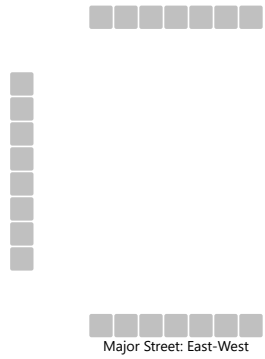
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		122	1179				1087	48						20		100
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		139												23		114
Capacity, c (veh/h)		223												6		201
v/c Ratio		0.62												3.51		0.56
95% Queue Length, Q_{95} (veh)		4.5												11.2		3.6
Control Delay (s/veh)		46.7												5747.2		45.4
Level of Service (LOS)		E												F		E
Approach Delay (s/veh)		4.4												995.7		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

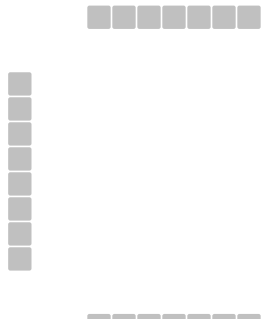
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		138	1293				1203	48						20		112
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		157												23		127
Capacity, c (veh/h)		182												2		168
v/c Ratio		0.86												14.86		0.76
95% Queue Length, Q_{95} (veh)		10.2												13.2		7.0
Control Delay (s/veh)		114.0												29611.8		85.5
Level of Service (LOS)		F												F		F
Approach Delay (s/veh)	11.0												4559.2			
Approach LOS													F			

HCS7 Two-Way Stop-Control Report

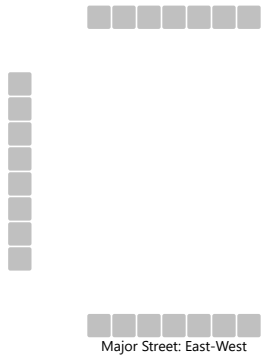
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		147	1430				1318	58						24		121
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		167												27		138
Capacity, c (veh/h)		147														139
v/c Ratio		1.14														0.99
95% Queue Length, Q_{95} (veh)		21.7														14.0
Control Delay (s/veh)		409.1														234.9
Level of Service (LOS)		F														F
Approach Delay (s/veh)		38.1														
Approach LOS																

HCS7 Two-Way Stop-Control Report

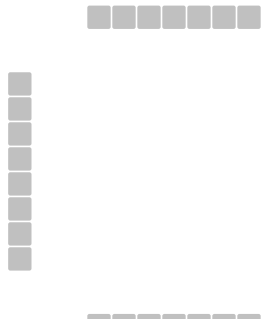
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		163	1544				1434	58						24		133
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		185												27		151
Capacity, c (veh/h)		120														116
v/c Ratio		1.54														1.30
95% Queue Length, Q_{95} (veh)		39.6														26.3
Control Delay (s/veh)		1091.8														694.4
Level of Service (LOS)		F														F
Approach Delay (s/veh)		104.3														
Approach LOS																

HCS7 Two-Way Stop-Control Report

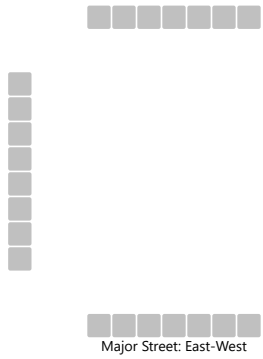
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		178	1725				1590	70						29		146
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		202												33		166
Capacity, c (veh/h)		90														90
v/c Ratio		2.26														1.85
95% Queue Length, Q_{95} (veh)		61.3														43.8
Control Delay (s/veh)		2383.1														1662.1
Level of Service (LOS)		F														F
Approach Delay (s/veh)		222.9														
Approach LOS																

HCS7 Two-Way Stop-Control Report

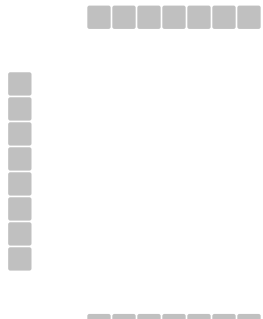
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 65/W Tulare Rd
Jurisdiction	County
East/West Street	Hwy 65
North/South Street	W Tulare Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		194	1839				1706	70						29		158
Percent Heavy Vehicles (%)		8												8		8
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

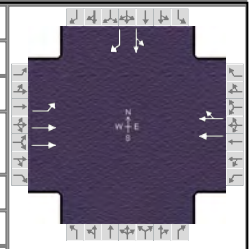
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		6.48												6.48		6.28
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.57		3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		220												33		180
Capacity, c (veh/h)		73														74
v/c Ratio		3.02														2.41
95% Queue Length, Q_{95} (veh)		77.9														57.3
Control Delay (s/veh)		3759.4														2678.0
Level of Service (LOS)		F														F
Approach Delay (s/veh)		358.7														
Approach LOS																

HCS7 Signalized Intersection Results Summary

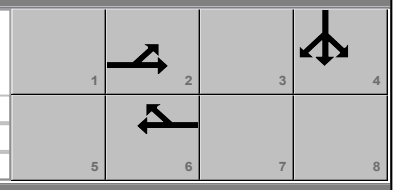
General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour + Proj	PHF	0.88
Urban Street	Hwy 65	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Hwy 65/Cedar Ave	File Name	Hwy 65 and W Tulare Rd 2045 PM+Proj-Mitigated…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	194	1839			1706	70				29	0	158

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6				4
Case Number		6.0		8.0				11.0
Phase Duration, s		101.4		101.4				18.6
Change Period, ($Y+R_c$), s		4.0		4.0				4.0
Max Allow Headway (*MAH*), s		0.0		0.0				0.0
Queue Clearance Time (g_s), s		0.0		0.0				0.0
Green Extension Time (g_e), s		0.0		0.0				0.0
Phase Call Probability		0.00		0.00				0.00
Max Out Probability		0.00		0.00				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16				7	4	14
Adjusted Flow Rate (*v*), veh/h	0	0			0	0					0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0			0	0					0	0
Queue Service Time (g_s), s	0.0	0.0			0.0	0.0					0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0			0.0	0.0					0.0	0.0
Green Ratio (*g/C*)	0.81	0.81			0.81	0.81					0.12	0.12
Capacity (*c*), veh/h	203	2937			1542	1521					220	196
Volume-to-Capacity Ratio (*X*)	1.038	0.681			0.626	0.635					0.143	0.877
Back of Queue (*Q*), ft/ln (95 th percentile)	394.4	236.4			226.2	229.9					36.8	268.3
Back of Queue (*Q*), veh/ln (95 th percentile)	15.8	9.5			9.0	9.2					1.5	10.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00			0.00	0.00					0.00	0.00
Uniform Delay (d_1), s/veh	34.2	4.8			4.3	4.4					47.1	51.8
Incremental Delay (d_2), s/veh	73.6	1.3			1.9	2.0					0.1	30.8
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0					0.0	0.0
Control Delay (*d*), s/veh	107.7	6.0			6.3	6.4					47.2	82.7
Level of Service (LOS)	F	A			A	A					D	F
Approach Delay, s/veh / LOS	15.7	B		6.3	A		0.0			77.2	E	
Intersection Delay, s/veh / LOS	14.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.31	A	1.83	B	2.16	B	2.32	B
Bicycle LOS Score / LOS	2.31	B	2.08	B			0.82	A

HCS7 Two-Way Stop-Control Report

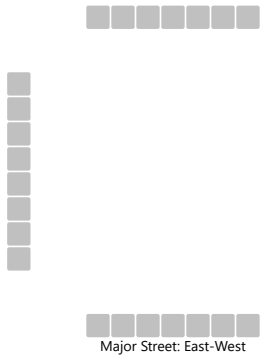
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	176	12		0	196	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		1107				1351					578				587	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.3				7.7					11.3				11.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				11.3				11.2			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

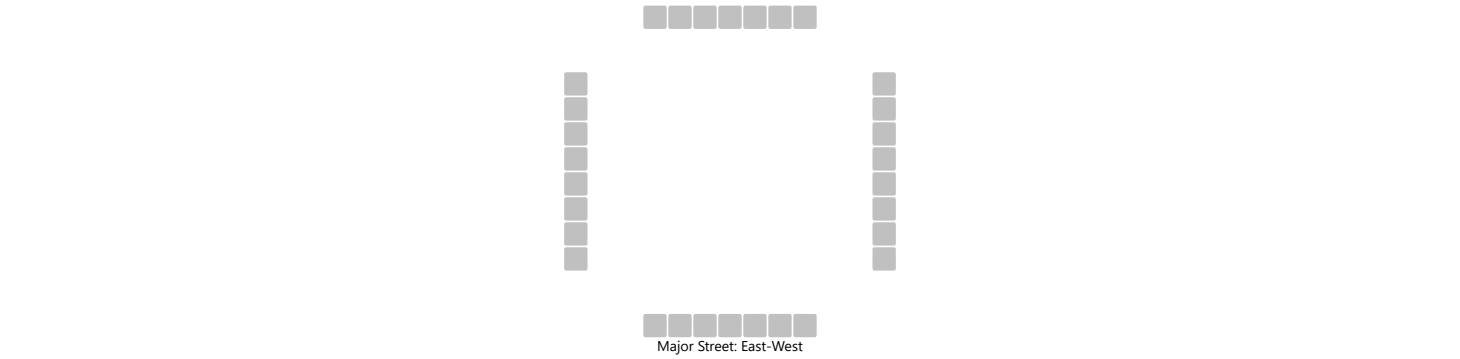
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	206	12		0	233	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		1040				1312					526				533	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.5				7.7					11.9				11.8	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				11.9				11.8		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

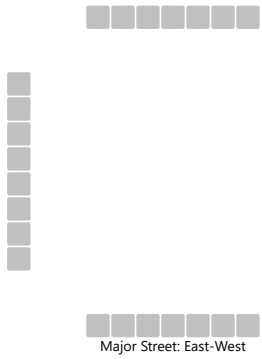
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	183	12		0	204	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		1092				1342					566				575	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.3				7.7					11.4				11.3	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				11.4				11.3		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

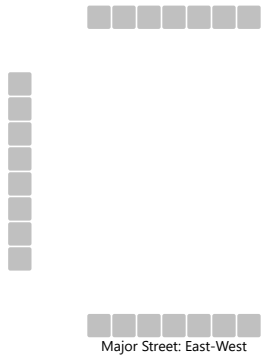
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	213	12		0	241	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		1026				1303					515				522	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.5				7.8					12.0				11.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				12.0				11.9			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

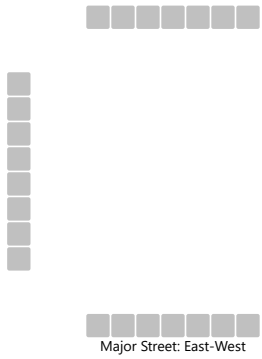
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	222	15		0	247	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		1016				1288					502				510	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.5				7.8					12.2				12.1	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.0				0.0				12.2				12.1		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

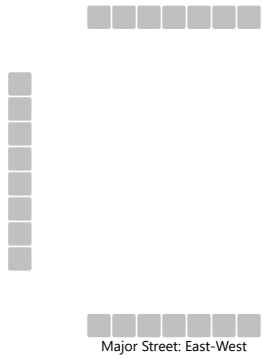
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	252	15		0	284	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		954				1252					456				463	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.8				7.9					12.9				12.8	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				12.9				12.8			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

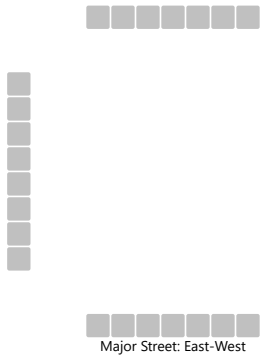
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	268	18		0	298	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		932				1229					436				442	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.9				7.9					13.3				13.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				13.3				13.2			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

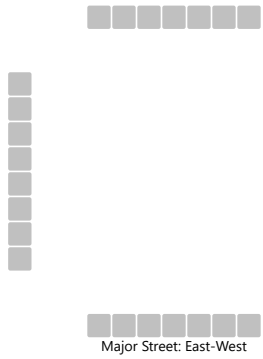
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 180
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 180
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	298	18		0	335	0		1	1	1		1	1	1
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					3				3	
Capacity, c (veh/h)		875				1194					395				401	
v/c Ratio		0.00				0.00					0.01				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		9.1				8.0					14.2				14.1	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.0				0.0				14.2				14.1			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

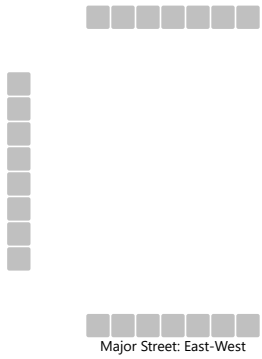
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	296	8		0	388	28		4	12	0		16	8	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				0					18				27	
Capacity, c (veh/h)		763				1208					283				282	
v/c Ratio		0.01				0.00					0.06				0.10	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.3	
Control Delay (s/veh)		9.8				8.0					18.6				19.1	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.4				0.0				18.6				19.1			
Approach LOS									C				C			

HCS7 Two-Way Stop-Control Report

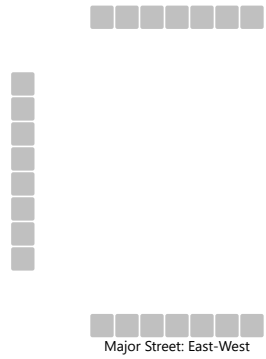
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	329	8		0	428	31		4	12	0		18	8	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				0					18				30	
Capacity, c (veh/h)		709				1170					250				247	
v/c Ratio		0.01				0.00					0.07				0.12	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.4	
Control Delay (s/veh)		10.1				8.1					20.5				21.6	
Level of Service (LOS)		B				A					C				C	
Approach Delay (s/veh)		0.4				0.0				20.5				21.6		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

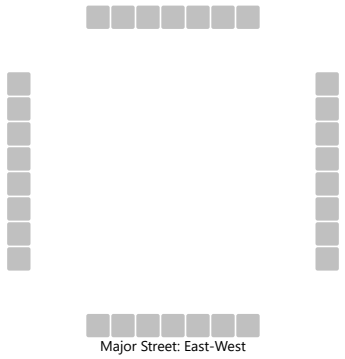
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	308	8		0	403	29		4	12	0		17	8	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				0					18				28	
Capacity, c (veh/h)		743				1194					270				268	
v/c Ratio		0.01				0.00					0.07				0.11	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.4	
Control Delay (s/veh)		9.9				8.0					19.3				20.0	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		0.4				0.0				19.3				20.0		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

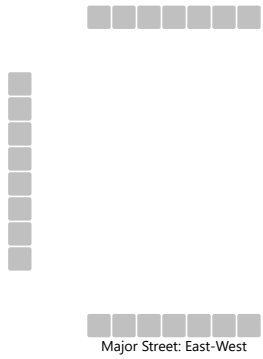
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		8	341	8		0	443	32		4	12	0		19	8	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				0					18				31	
Capacity, c (veh/h)		690				1157					239				234	
v/c Ratio		0.01				0.00					0.08				0.13	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.4	
Control Delay (s/veh)		10.3				8.1					21.3				22.7	
Level of Service (LOS)		B				A					C				C	
Approach Delay (s/veh)		0.4				0.0				21.3				22.7		
Approach LOS										C				C		

HCS7 Two-Way Stop-Control Report

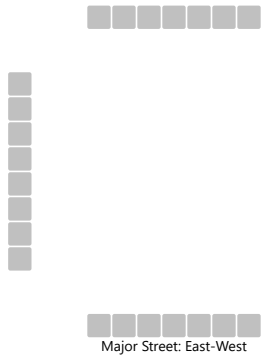
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	373	10		0	489	35		5	15	0		20	10	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11				0					23				34	
Capacity, c (veh/h)		635				1119					206				199	
v/c Ratio		0.02				0.00					0.11				0.17	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.4				0.6	
Control Delay (s/veh)		10.8				8.2					24.7				26.8	
Level of Service (LOS)		B				A					C				D	
Approach Delay (s/veh)	0.5				0.0				24.7				26.8			
Approach LOS									C				D			

HCS7 Two-Way Stop-Control Report

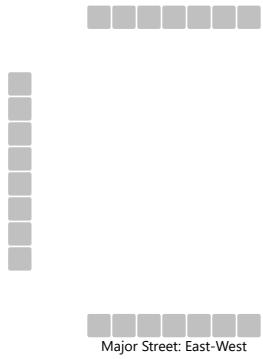
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		10	406	10		0	529	38		5	15	0		22	10	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11				0					23				36	
Capacity, c (veh/h)		590				1084					181				173	
v/c Ratio		0.02				0.00					0.13				0.21	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.4				0.8	
Control Delay (s/veh)		11.2				8.3					27.8				31.3	
Level of Service (LOS)		B				A					D				D	
Approach Delay (s/veh)	0.5				0.0				27.8				31.3			
Approach LOS									D				D			

HCS7 Two-Way Stop-Control Report

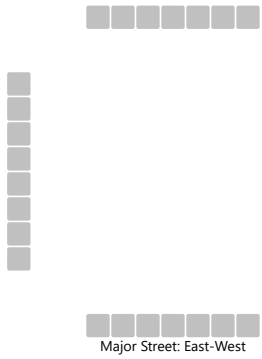
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	450	12		0	590	43		6	18	0		24	12	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					27				41	
Capacity, c (veh/h)		528				1037					147				138	
v/c Ratio		0.03				0.00					0.19				0.30	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.7				1.2	
Control Delay (s/veh)		12.0				8.5					35.0				42.1	
Level of Service (LOS)		B				A					D				E	
Approach Delay (s/veh)		0.7				0.0				35.0				42.1		
Approach LOS										D				E		

HCS7 Two-Way Stop-Control Report

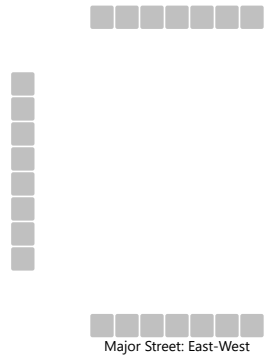
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	East-West
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	Hwy 137/Road 188
Jurisdiction	County
East/West Street	Hwy 137
North/South Street	Road 188
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		12	483	12		0	630	46		6	18	0		25	12	0
Percent Heavy Vehicles (%)		8				3				14	14	14		8	3	8
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		6.48				4.13				7.24	6.64	6.34		7.18	6.53	6.28
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.34				2.23				3.63	4.13	3.43		3.57	4.03	3.37

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0					27				42	
Capacity, c (veh/h)		490				1004					129				119	
v/c Ratio		0.03				0.00					0.21				0.35	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.8				1.6	
Control Delay (s/veh)		12.6				8.6					40.3				51.6	
Level of Service (LOS)		B				A					E				F	
Approach Delay (s/veh)	0.8				0.0				40.3				51.6			
Approach LOS									E				F			

HCS7 Two-Way Stop-Control Report

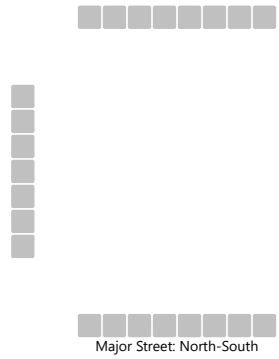
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	19		2	3	0		9	398	0		2	439	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			22				6			10				2		
Capacity, c (veh/h)			560				272			1035				1077		
v/c Ratio			0.04				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			11.7				18.5			8.5				8.3		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	11.7				18.5				0.3				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

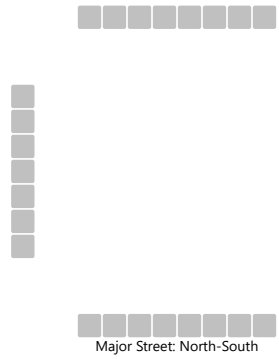
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	21		2	3	0		10	435	0		2	479	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			24				6			11				2		
Capacity, c (veh/h)			527				242			995				1039		
v/c Ratio			0.05				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			12.2				20.2			8.7				8.5		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	12.2				20.2				0.3				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

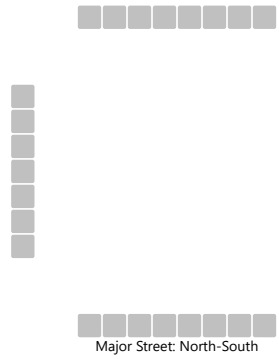
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	20		2	3	0		9	414	0		2	456	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23				6			10				2		
Capacity, c (veh/h)			546				259			1018				1061		
v/c Ratio			0.04				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			11.9				19.2			8.6				8.4		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	11.9				19.2				0.3				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

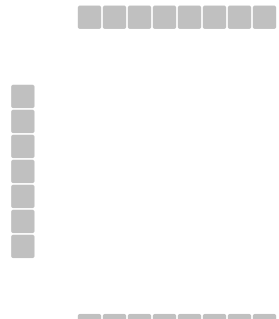
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	22		2	3	0		10	451	0		2	496	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			25				6			11				2		
Capacity, c (veh/h)			514				231			979				1023		
v/c Ratio			0.05				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.1			0.0				0.0		
Control Delay (s/veh)			12.4				21.0			8.7				8.5		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	12.4				21.0				0.3				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

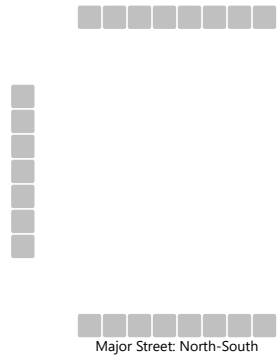
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	24		3	4	0		11	501	0		3	553	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			27				8			13				3		
Capacity, c (veh/h)			472				199			925				974		
v/c Ratio			0.06				0.04			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.1			0.0				0.0		
Control Delay (s/veh)			13.1				23.9			8.9				8.7		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	13.1				23.9				0.4				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report

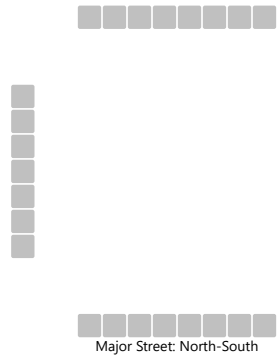
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	26		3	4	0		12	538	0		3	593	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			30				8			14				3		
Capacity, c (veh/h)			444				177			890				939		
v/c Ratio			0.07				0.04			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.1			0.0				0.0		
Control Delay (s/veh)			13.7				26.3			9.1				8.8		
Level of Service (LOS)			B				D			A				A		
Approach Delay (s/veh)	13.7				26.3				0.4				0.1			
Approach LOS	B				D											

HCS7 Two-Way Stop-Control Report

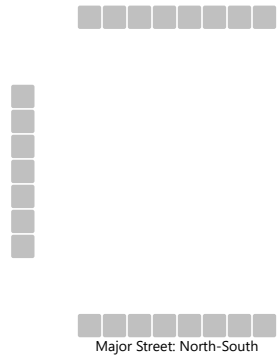
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	29		3	5	0		14	605	0		3	667	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33				9			16				3		
Capacity, c (veh/h)			397				139			827				879		
v/c Ratio			0.08				0.07			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.3				0.2			0.1				0.0		
Control Delay (s/veh)			14.9				32.8			9.4				9.1		
Level of Service (LOS)			B				D			A				A		
Approach Delay (s/veh)	14.9				32.8				0.5				0.1			
Approach LOS	B				D											

HCS7 Two-Way Stop-Control Report

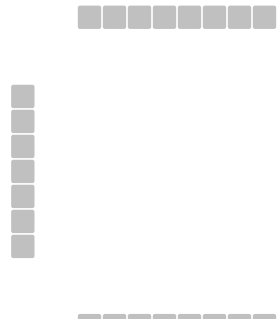
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Time Analyzed	PM Peak Hour + Project
Intersection Orientation	North-South
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/Acacia Ave
Jurisdiction	County
East/West Street	Acacia Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.88
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	31		3	5	0		15	642	0		3	707	0
Percent Heavy Vehicles (%)		8	8	8		8	8	8		8				8		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.48	6.58	6.28		7.18	6.58	6.28		4.18				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		2.34	4.07	3.37		3.57	4.07	3.37		2.27				2.27		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			35				9			17				3		
Capacity, c (veh/h)			374				123			795				848		
v/c Ratio			0.09				0.07			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.3				0.2			0.1				0.0		
Control Delay (s/veh)			15.6				36.7			9.6				9.3		
Level of Service (LOS)			C				E			A				A		
Approach Delay (s/veh)	15.6				36.7				0.6				0.1			
Approach LOS	C				E											

HCS7 All-Way Stop Control Report

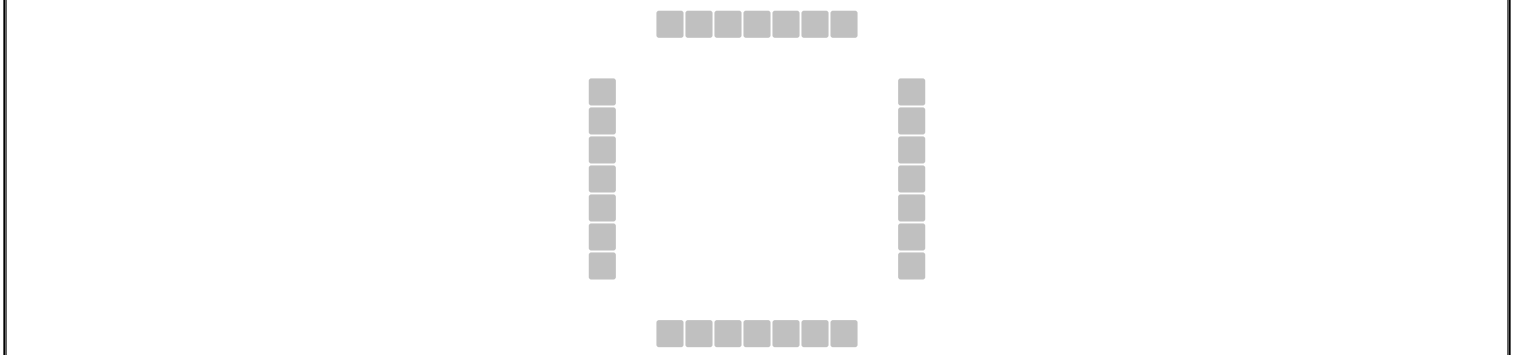
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	152	56	0	60	8	72	408	0	12	296	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	226			74			522			348		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.201			0.066			0.464			0.309		
Final Departure Headway, hd (s)	6.36			6.92			5.59			5.81		
Final Degree of Utilization, x	0.400			0.142			0.809			0.562		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.36			4.92			3.59			3.81		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	226			74			522			348		
Capacity	566			520			645			619		
95% Queue Length, Q_{95} (veh)	2.0			0.5			10.8			3.7		
Control Delay (s/veh)	13.6			11.1			30.9			16.2		
Level of Service, LOS	B			B			D			C		
Approach Delay (s/veh)	13.6			11.1			30.9			16.2		
Approach LOS	B			B			D			C		
Intersection Delay, s/veh | LOS	21.9						C					

HCS7 All-Way Stop Control Report

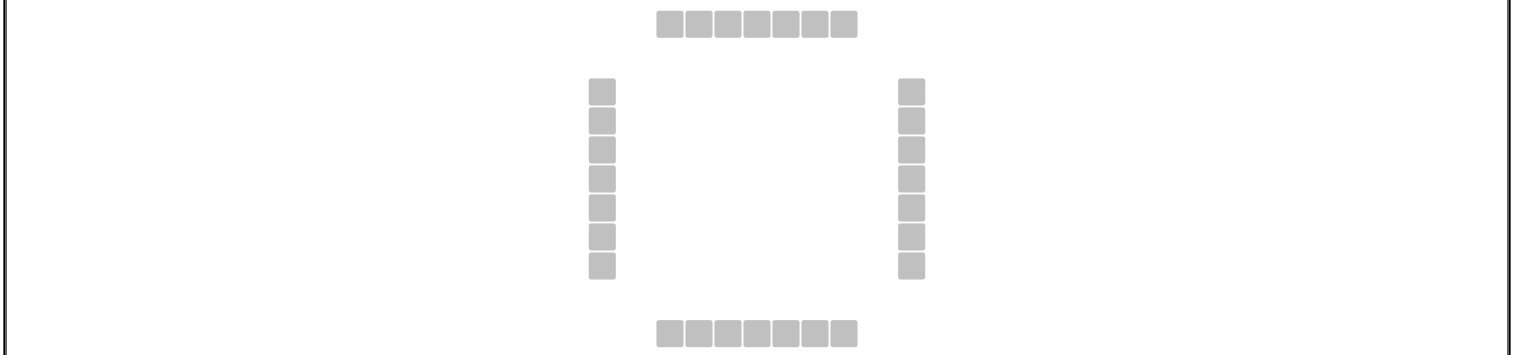
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2023
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.96

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	152	62	0	60	8	77	435	0	12	325	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	223			71			533			364		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.198			0.063			0.474			0.323		
Final Departure Headway, hd (s)	6.41			7.00			5.60			5.82		
Final Degree of Utilization, x	0.397			0.138			0.830			0.588		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.41			5.00			3.60			3.82		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	223			71			533			364		
Capacity	561			514			643			618		
95% Queue Length, Q_{95} (veh)	2.0			0.5			12.0			4.1		
Control Delay (s/veh)	13.6			11.1			33.8			17.0		
Level of Service, LOS	B			B			D			C		
Approach Delay (s/veh)	13.6			11.1			33.8			17.0		
Approach LOS	B			B			D			C		
Intersection Delay, s/veh | LOS	23.5						C					

HCS7 All-Way Stop Control Report

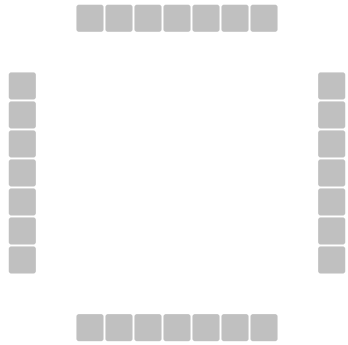
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	158	58	0	62	8	75	424	0	12	308	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	235			76			542			361		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.209			0.068			0.482			0.321		
Final Departure Headway, hd (s)	6.55			7.19			5.72			5.98		
Final Degree of Utilization, x	0.427			0.152			0.862			0.599		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.55			5.19			3.72			3.98		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	235			76			542			361		
Capacity	549			501			629			602		
95% Queue Length, Q_{95} (veh)	2.2			0.5			14.1			4.3		
Control Delay (s/veh)	14.4			11.5			40.4			17.8		
Level of Service, LOS	B			B			E			C		
Approach Delay (s/veh)	14.4			11.5			40.4			17.8		
Approach LOS	B			B			E			C		
Intersection Delay, s/veh | LOS	26.9						D					

HCS7 All-Way Stop Control Report

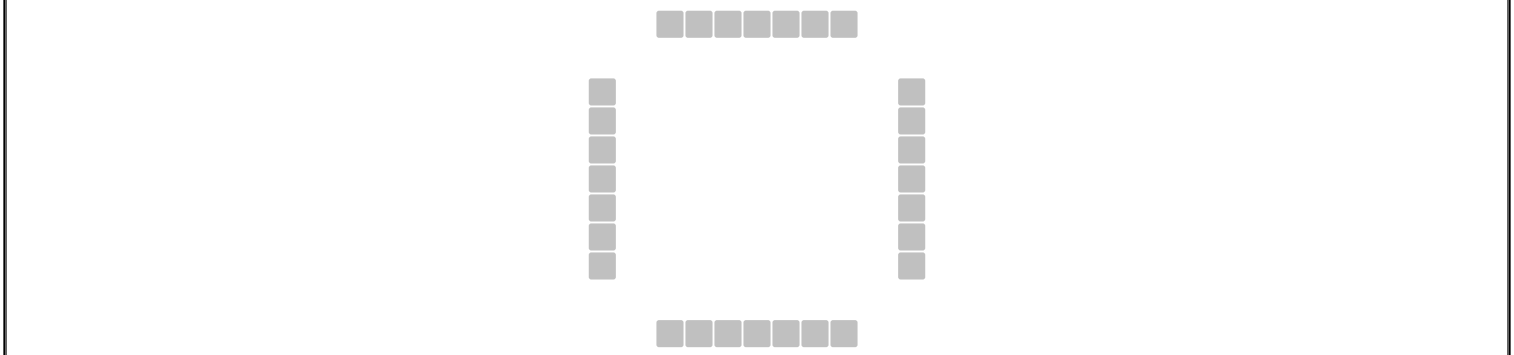
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2025
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.94

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	158	64	0	62	8	80	451	0	12	337	12
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	236			74			565			384		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.210			0.066			0.502			0.341		
Final Departure Headway, hd (s)	6.70			7.40			5.80			6.07		
Final Degree of Utilization, x	0.439			0.153			0.910			0.647		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.70			5.40			3.80			4.07		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	236			74			565			384		
Capacity	538			487			621			593		
95% Queue Length, Q_{95} (veh)	2.3			0.5			18.3			5.2		
Control Delay (s/veh)	14.9			11.7			54.5			20.0		
Level of Service, LOS	B			B			F			C		
Approach Delay (s/veh)	14.9			11.7			54.5			20.0		
Approach LOS	B			B			F			C		
Intersection Delay, s/veh | LOS	34.0						D					

HCS7 All-Way Stop Control Report

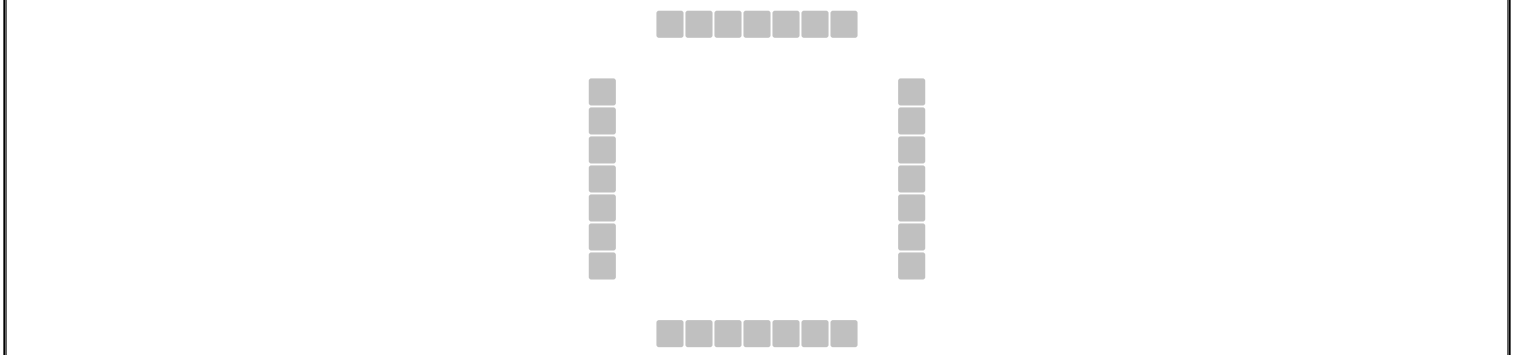
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	192	71	0	76	10	91	514	0	15	373	15
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	286			93			658			438		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.254			0.083			0.585			0.389		
Final Departure Headway, hd (s)	7.06			7.95			6.36			6.50		
Final Degree of Utilization, x	0.561			0.206			1.162			0.791		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.06			5.95			4.36			4.50		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	286			93			658			438		
Capacity	510			453			566			554		
95% Queue Length, Q_{95} (veh)	3.7			0.8			61.9			9.7		
Control Delay (s/veh)	19.0			13.0			341.6			32.6		
Level of Service, LOS	C			B			F			D		
Approach Delay (s/veh)	19.0			13.0			341.6			32.6		
Approach LOS	C			B			F			D		
Intersection Delay, s/veh | LOS	166.5						F					

HCS7 All-Way Stop Control Report

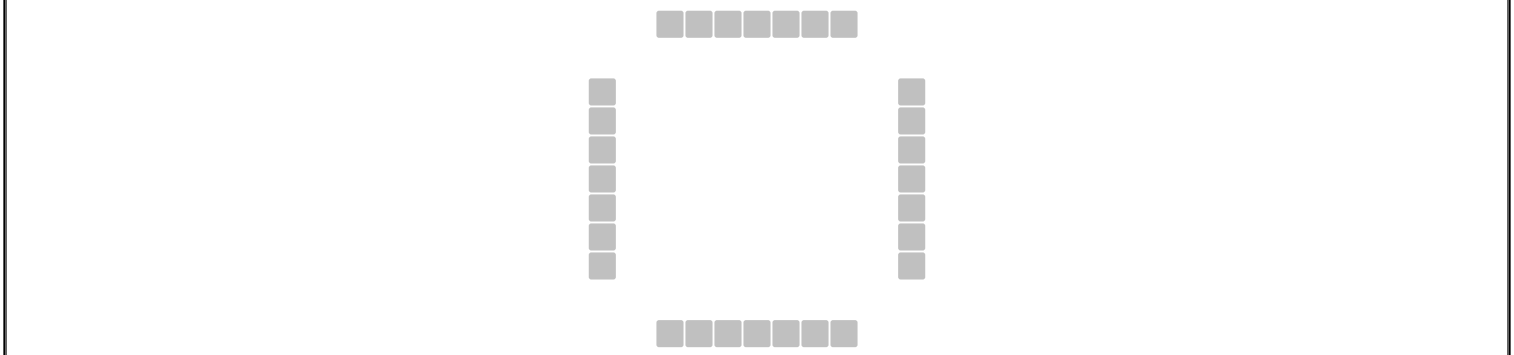
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2035
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.94

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	192	77	0	76	10	96	544	0	15	402	15
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	286			91			681			460		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.254			0.081			0.605			0.409		
Final Departure Headway, hd (s)	7.11			8.04			6.42			6.51		
Final Degree of Utilization, x	0.565			0.204			1.214			0.830		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.11			6.04			4.42			4.51		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	286			91			681			460		
Capacity	507			448			561			553		
95% Queue Length, Q_{95} (veh)	3.8			0.8			73.9			11.8		
Control Delay (s/veh)	19.2			13.1			429.0			38.6		
Level of Service, LOS	C			B			F			E		
Approach Delay (s/veh)	19.2			13.1			429.0			38.6		
Approach LOS	C			B			F			E		
Intersection Delay, s/veh | LOS	208.5						F					

HCS7 All-Way Stop Control Report

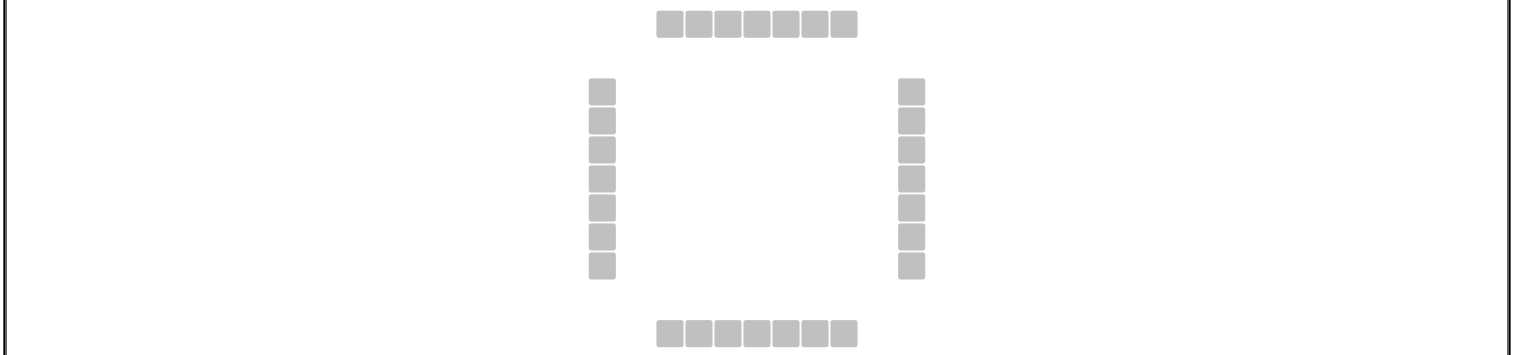
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/23
Analysis Year	2045
Analysis Time Period (hrs)	1.00
Time Analyzed	PM Peak Hour
Project Description	TIS for Lindsay Gas Station C-Store

Site Information

Intersection	N Spruce Ave/SycamoreAve
Jurisdiction	County
East/West Street	Sycamore Ave
North/South Street	N Spruce Ave
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	231	85	0	91	12	109	617	0	18	450	18
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	343			112			789			528		
Percent Heavy Vehicles	2			2			2			2		

Departure Headway and Service Time

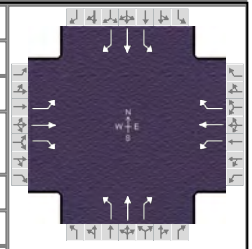
Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.305			0.100			0.701			0.470		
Final Departure Headway, hd (s)	7.56			8.81			7.11			7.06		
Final Degree of Utilization, x	0.722			0.274			1.558			1.036		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.56			6.81			5.11			5.06		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	343			112			789			528		
Capacity	476			409			506			510		
95% Queue Length, Q_{95} (veh)	7.0			1.1			149.3			33.2		
Control Delay (s/veh)	29.4			15.1			1034.2			162.2		
Level of Service, LOS	D			C			F			F		
Approach Delay (s/veh)	29.4			15.1			1034.2			162.2		
Approach LOS	D			C			F			F		
Intersection Delay, s/veh | LOS	515.3						F					

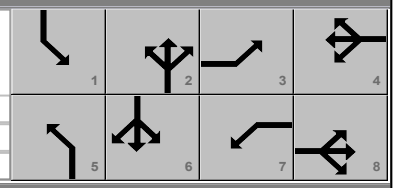
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LAV Consulting			Duration, h	0.250
Analyst	BMB	Analysis Date	Mar 28, 2023	Area Type	Other
Jurisdiction	County	Time Period	PM Peak Hour + Project	PHF	0.88
Urban Street	N Spruce Ave	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	N Spruce Ave/Sycamore…	File Name	N Spruce Ave & Sycamore Ave 2045 PM+Proj-mit…		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	0	231	91	0	91	12	114	634	0	18	479	6

Signal Information					EB			WB			NB			SB		
Cycle, s	120.0	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	0.0	0.0	0.0	0.0	0.0	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	5	2	1	6
Case Number		9.0		9.0	1.1	3.0	1.1	3.0
Phase Duration, s		21.9		12.0	9.9	79.2	6.9	76.1
Change Period, ($Y+R_c$), s		4.0		4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s		0.0		0.0	0.0	0.0	0.0	0.0
Queue Clearance Time (g_s), s		0.0		0.0	0.0	0.0	0.0	0.0
Green Extension Time (g_e), s		0.0		0.0	0.0	0.0	0.0	0.0
Phase Call Probability		0.00		0.00	0.00	0.00	0.00	0.00
Max Out Probability		0.00		0.00	0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0	0	0	0	0
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ratio (*g/C*)	0.15	0.15	0.15	0.07	0.07	0.07	0.66	0.63	0.63	0.63	0.60	0.60
Capacity (*c*), veh/h	270	284	240	121	127	108	552	1190	1009	407	1142	968
Volume-to-Capacity Ratio (*X*)	0.000	0.885	0.411	0.000	0.777	0.121	0.224	0.579	0.000	0.048	0.456	0.007
Back of Queue (*Q*), ft/ln (95 th percentile)	0	325.7	118.7	0	135.4	16.5	47	389.4	0	8	296.1	3
Back of Queue (*Q*), veh/ln (95 th percentile)	0.0	13.0	4.7	0.0	5.4	0.7	1.9	15.6	0.0	0.3	11.8	0.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	0.0	50.0	46.3	0.0	55.1	52.7	9.3	13.1	0.0	11.1	13.1	9.6
Incremental Delay (d_2), s/veh	0.0	14.5	0.4	0.0	3.8	0.2	0.1	2.1	0.0	0.0	1.3	0.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	0.0	64.5	46.7	0.0	58.9	52.8	9.3	15.2	0.0	11.1	14.5	9.6
Level of Service (LOS)		E	D		E	D	A	B		B	B	A
Approach Delay, s/veh / LOS	59.5	E		58.2	E		14.3	B		14.3	B	
Intersection Delay, s/veh / LOS	25.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.16	B	2.14	B	2.07	B	2.08	B
Bicycle LOS Score / LOS	1.07	A	0.67	A	1.83	B	1.39	A

Street Segments

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1114	veh/h
Opposing direction volume, Vo	660	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1211	pc/h	722	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	37.4	mi/h
Percent Free Flow Speed, PFFS	70.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1211 pc/h	717 pc/h
Base percent time-spent-following,(note-4) BPTSFd	80.7 %	
Adjustment for no-passing zones, fnp	13.1	
Percent time-spent-following, PTSFd	88.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.71	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	37.4	mi/h
Percent time-spent-following, PTSFd (from above)	88.9	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1210.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.79
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1261	veh/h
Opposing direction volume, Vo	799	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1371	pc/h	868	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.2	mi/h
Percent Free Flow Speed, PFFS	66.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1371 pc/h	868 pc/h
Base percent time-spent-following,(note-4) BPTSFd	84.6 %	
Adjustment for no-passing zones, fnp	11.0	
Percent time-spent-following, PTSFd	91.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.81	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.2	mi/h
Percent time-spent-following, PTSFd (from above)	91.3	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1370.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.85
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1157	veh/h
Opposing direction volume, Vo	686	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1258	pc/h	750	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.9	mi/h
Percent Free Flow Speed, PFFS	69.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1258 pc/h	746 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.1 %	
Adjustment for no-passing zones, fnp	12.4	
Percent time-spent-following, PTSFd	89.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.74	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.9	mi/h
Percent time-spent-following, PTSFd (from above)	89.9	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1257.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.81
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1304	veh/h
Opposing direction volume, Vo	825	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1417	pc/h	897	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	34.6	mi/h
Percent Free Flow Speed, PFFS	65.3	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1417	pc/h	897	pc/h
Base percent time-spent-following,(note-4) BPTSFd	85.8	%		
Adjustment for no-passing zones, fnp	10.4			
Percent time-spent-following, PTSFd	92.2	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.83	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.6	mi/h
Percent time-spent-following, PTSFd (from above)	92.2	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1417.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.87
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1433	veh/h
Opposing direction volume, Vo	832	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1558	pc/h	904	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	33.4	mi/h
Percent Free Flow Speed, PFFS	63.1	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1558	pc/h	904	pc/h
Base percent time-spent-following,(note-4) BPTSFd	87.9	%		
Adjustment for no-passing zones, fnp	9.3			
Percent time-spent-following, PTSFd	93.8	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.92	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.4	mi/h
Percent time-spent-following, PTSFd (from above)	93.8	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1557.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.91
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1550	veh/h
Opposing direction volume, Vo	971	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1685	pc/h	1055	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	31.3	mi/h
Percent Free Flow Speed, PFFS	59.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1685 pc/h	1055 pc/h
Base percent time-spent-following,(note-4) BPTSFd	90.4 %	
Adjustment for no-passing zones, fnp	8.0	
Percent time-spent-following, PTSFd	95.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.99	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	31.3	mi/h
Percent time-spent-following, PTSFd (from above)	95.3	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1684.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.95
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1694 veh/h
Opposing direction volume, Vo 1003 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1841	pc/h	1090	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	29.8	mi/h
Percent Free Flow Speed, PFFS	56.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1841 pc/h	1090 pc/h
Base percent time-spent-following,(note-4) BPTSFd	92.2 %	
Adjustment for no-passing zones, fnp	8.3	
Percent time-spent-following, PTSFd	97.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	1.08	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	29.8	mi/h
Percent time-spent-following, PTSFd (from above)	97.4	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1841.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.00
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1841	veh/h
Opposing direction volume, Vo	1142	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	2001	pc/h	1241	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	27.4	mi/h
Percent Free Flow Speed, PFFS	51.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	2001 pc/h	1241 pc/h
Base percent time-spent-following,(note-4) BPTSFd	94.4 %	
Adjustment for no-passing zones, fnp	8.0	
Percent time-spent-following, PTSFd	99.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	1.18	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	27.4	mi/h
Percent time-spent-following, PTSFd (from above)	99.3	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	2001.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.04
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	880	veh/h
Opposing direction volume, Vo	983	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	957	pc/h	1068	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.8	mi/h
Percent Free Flow Speed, PFFS	69.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	957 pc/h	1068 pc/h
Base percent time-spent-following,(note-4) BPTSFd	77.7 %	
Adjustment for no-passing zones, fnp	13.3	
Percent time-spent-following, PTSFd	84.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.56	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.8	mi/h
Percent time-spent-following, PTSFd (from above)	84.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	956.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.67
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 954 veh/h
Opposing direction volume, Vo 1117 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1037	pc/h	1214	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.1	mi/h
Percent Free Flow Speed, PFFS	66.2	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1037	pc/h	1214	pc/h
Base percent time-spent-following,(note-4) BPTSFd	81.0	%		
Adjustment for no-passing zones, fnp	11.1			
Percent time-spent-following, PTSFd	86.1	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.61	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.1	mi/h
Percent time-spent-following, PTSFd (from above)	86.1	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1037.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.71
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 914 veh/h
Opposing direction volume, Vo 1021 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	993	pc/h	1110	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.2	mi/h
Percent Free Flow Speed, PFFS	68.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	993 pc/h	1110 pc/h
Base percent time-spent-following,(note-4) BPTSFd	79.1 %	
Adjustment for no-passing zones, fnp	12.6	
Percent time-spent-following, PTSFd	85.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.58	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.2	mi/h
Percent time-spent-following, PTSFd (from above)	85.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	993.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.69
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 988 veh/h
Opposing direction volume, Vo 1155 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1074	pc/h	1255	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	34.5	mi/h
Percent Free Flow Speed, PFFS	65.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1074 pc/h	1255 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.3 %	
Adjustment for no-passing zones, fnp	10.3	
Percent time-spent-following, PTSFd	87.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.63	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.5	mi/h
Percent time-spent-following, PTSFd (from above)	87.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1073.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.73
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1109 veh/h
Opposing direction volume, Vo 1239 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1205	pc/h	1347	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	32.7	mi/h
Percent Free Flow Speed, PFFS	61.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1205 pc/h	1347 pc/h
Base percent time-spent-following,(note-4) BPTSFd	85.7 %	
Adjustment for no-passing zones, fnp	8.2	
Percent time-spent-following, PTSFd	89.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.71	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	32.7	mi/h
Percent time-spent-following, PTSFd (from above)	89.6	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1205.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.78
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1183 veh/h
Opposing direction volume, Vo 1373 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1286	pc/h	1492	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	31.0	mi/h
Percent Free Flow Speed, PFFS	58.5	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1286	pc/h	1492	pc/h
Base percent time-spent-following,(note-4) BPTSFd	87.9	%		
Adjustment for no-passing zones, fnp	7.1			
Percent time-spent-following, PTSFd	91.2	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.76	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	31.0	mi/h
Percent time-spent-following, PTSFd (from above)	91.2	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1285.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.82
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.87	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1336 veh/h
Opposing direction volume, Vo 1494 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1536	pc/h	1717	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	27.3	mi/h
Percent Free Flow Speed, PFFS	51.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1536 pc/h	1717 pc/h
Base percent time-spent-following,(note-4) BPTSFd	91.7 %	
Adjustment for no-passing zones, fnp	5.5	
Percent time-spent-following, PTSFd	94.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.90	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	27.3	mi/h
Percent time-spent-following, PTSFd (from above)	94.3	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1535.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.88
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1412 veh/h
Opposing direction volume, Vo 1628 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1535	pc/h	1770	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	26.9	mi/h
Percent Free Flow Speed, PFFS	50.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1535 pc/h	1770 pc/h
Base percent time-spent-following,(note-4) BPTSFd	91.7 %	
Adjustment for no-passing zones, fnp	5.8	
Percent time-spent-following, PTSFd	94.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.90	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	26.9	mi/h
Percent time-spent-following, PTSFd (from above)	94.4	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1534.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.91
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	851		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	600		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	960		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	685		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	884		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	623		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	993		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	708		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1072		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	741		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1181		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	826		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1293		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	912		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1407		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	997		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	648		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	344		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	747		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	422		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	673		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	357		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	772		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	435		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	816		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	433		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	915		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	511		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	985		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	523		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1084		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	601		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	480		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	508		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	568		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	578		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	499		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	528		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	587		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	598		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	605		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	637		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	693		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	710		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	729		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	772		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	817		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	853		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	623	veh/h
Opposing direction volume, Vo	622	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	681	pc/h	680	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	41.8	mi/h
Percent Free Flow Speed, PFFS	78.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	677 pc/h	676 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.4 %	
Adjustment for no-passing zones, fnp	21.1	
Percent time-spent-following, PTSFd	74.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.8	mi/h
Percent time-spent-following, PTSFd (from above)	74.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	677.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.49
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 695 veh/h
Opposing direction volume, Vo 707 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	760	pc/h	773	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.6	mi/h
Percent Free Flow Speed, PFFS	76.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	755 pc/h	768 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.3 %	
Adjustment for no-passing zones, fnp	18.6	
Percent time-spent-following, PTSFd	76.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	76.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	755.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.55
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	648	veh/h
Opposing direction volume, Vo	647	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	709	pc/h	708	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	41.4	mi/h
Percent Free Flow Speed, PFFS	78.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	704 pc/h	703 pc/h
Base percent time-spent-following,(note-4) BPTSFd	64.4 %	
Adjustment for no-passing zones, fnp	19.9	
Percent time-spent-following, PTSFd	74.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.41	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.4	mi/h
Percent time-spent-following, PTSFd (from above)	74.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	704.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.51
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	719	veh/h
Opposing direction volume, Vo	732	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	786	pc/h	800	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.2	mi/h
Percent Free Flow Speed, PFFS	75.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	782 pc/h	796 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.8 %	
Adjustment for no-passing zones, fnp	18.1	
Percent time-spent-following, PTSFd	77.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.2	mi/h
Percent time-spent-following, PTSFd (from above)	77.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	781.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.57
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	785	veh/h
Opposing direction volume, Vo	784	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	853	pc/h	852	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	39.3	mi/h
Percent Free Flow Speed, PFFS	74.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	853 pc/h	852 pc/h
Base percent time-spent-following,(note-4) BPTSFd	71.7 %	
Adjustment for no-passing zones, fnp	16.7	
Percent time-spent-following, PTSFd	80.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.50	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	39.3	mi/h
Percent time-spent-following, PTSFd (from above)	80.1	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	853.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.61
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	857	veh/h
Opposing direction volume, Vo	869	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	932	pc/h	945	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	38.0	mi/h
Percent Free Flow Speed, PFFS	71.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	932 pc/h	945 pc/h
Base percent time-spent-following,(note-4) BPTSFd	75.3 %	
Adjustment for no-passing zones, fnp	14.9	
Percent time-spent-following, PTSFd	82.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	38.0	mi/h
Percent time-spent-following, PTSFd (from above)	82.7	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	931.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.65
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	946	veh/h
Opposing direction volume, Vo	946	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1028	pc/h	1028	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.6	mi/h
Percent Free Flow Speed, PFFS	69.0	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1028	pc/h	1028	pc/h
Base percent time-spent-following,(note-4) BPTSFd	79.0	%		
Adjustment for no-passing zones, fnp	13.0			
Percent time-spent-following, PTSFd	85.5	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.60	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.6	mi/h
Percent time-spent-following, PTSFd (from above)	85.5	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1028.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.70
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1018 veh/h
Opposing direction volume, Vo 1031 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1107	pc/h	1121	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.3	mi/h
Percent Free Flow Speed, PFFS	66.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1107 pc/h	1121 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.0 %	
Adjustment for no-passing zones, fnp	11.4	
Percent time-spent-following, PTSFd	87.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.65	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.3	mi/h
Percent time-spent-following, PTSFd (from above)	87.7	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1106.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.74
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1015		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	801		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1153		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	907		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1054		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	832		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1192		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	938		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1279		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1009		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1417		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1115		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1543		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1217		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1681		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1323		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	352	veh/h
Opposing direction volume, Vo	564	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.3		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.982		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	390	pc/h	617	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	44.4	mi/h
Percent Free Flow Speed, PFFS	83.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	385 pc/h	613 pc/h
Base percent time-spent-following,(note-4) BPTSFd	44.9 %	
Adjustment for no-passing zones, fnp	24.4	
Percent time-spent-following, PTSFd	54.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.4	mi/h
Percent time-spent-following, PTSFd (from above)	54.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	382.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.20
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	400	veh/h
Opposing direction volume, Vo	619	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.3		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.982		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	443	pc/h	677	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	43.7	mi/h
Percent Free Flow Speed, PFFS	82.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	435 pc/h	673 pc/h
Base percent time-spent-following,(note-4) BPTSFd	48.9 %	
Adjustment for no-passing zones, fnp	23.1	
Percent time-spent-following, PTSFd	58.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.7	mi/h
Percent time-spent-following, PTSFd (from above)	58.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	434.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.27
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	366	veh/h
Opposing direction volume, Vo	586	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.3		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.982		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	405	pc/h	641	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	44.2	mi/h
Percent Free Flow Speed, PFFS	83.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	400 pc/h	637 pc/h
Base percent time-spent-following,(note-4) BPTSFd	46.0 %	
Adjustment for no-passing zones, fnp	23.8	
Percent time-spent-following, PTSFd	55.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.2	mi/h
Percent time-spent-following, PTSFd (from above)	55.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	397.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.22
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	414	veh/h
Opposing direction volume, Vo	641	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.3		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.982		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	458	pc/h	701	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	43.4	mi/h
Percent Free Flow Speed, PFFS	81.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	450 pc/h	697 pc/h
Base percent time-spent-following,(note-4) BPTSFd	50.9 %	
Adjustment for no-passing zones, fnp	22.5	
Percent time-spent-following, PTSFd	59.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.4	mi/h
Percent time-spent-following, PTSFd (from above)	59.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	450.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.29
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	443	veh/h
Opposing direction volume, Vo	740	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	487	pc/h	809	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	42.5	mi/h
Percent Free Flow Speed, PFFS	80.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	482 pc/h	804 pc/h
Base percent time-spent-following,(note-4) BPTSFd	53.8 %	
Adjustment for no-passing zones, fnp	19.6	
Percent time-spent-following, PTSFd	61.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.5	mi/h
Percent time-spent-following, PTSFd (from above)	61.1	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	481.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.32
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	491	veh/h
Opposing direction volume, Vo	765	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	540	pc/h	837	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	41.9	mi/h
Percent Free Flow Speed, PFFS	79.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	534 pc/h	832 pc/h
Base percent time-spent-following,(note-4) BPTSFd	57.5 %	
Adjustment for no-passing zones, fnp	19.0	
Percent time-spent-following, PTSFd	64.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.9	mi/h
Percent time-spent-following, PTSFd (from above)	64.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	533.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.37
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	535	veh/h
Opposing direction volume, Vo	858	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	585	pc/h	933	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.8	mi/h
Percent Free Flow Speed, PFFS	76.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	582 pc/h	933 pc/h
Base percent time-spent-following,(note-4) BPTSFd	61.2 %	
Adjustment for no-passing zones, fnp	17.2	
Percent time-spent-following, PTSFd	67.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.8	mi/h
Percent time-spent-following, PTSFd (from above)	67.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	581.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.42
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 583 veh/h
Opposing direction volume, Vo 913 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	638	pc/h	992	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	44.8	mi/h
Percent Free Flow Speed, PFFS	77.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	634 pc/h	992 pc/h
Base percent time-spent-following,(note-4) BPTSFd	64.3 %	
Adjustment for no-passing zones, fnp	16.4	
Percent time-spent-following, PTSFd	70.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.8	mi/h
Percent time-spent-following, PTSFd (from above)	70.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	633.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.46
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	148	veh/h
Opposing direction volume, Vo	240	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.7		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.960		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	168	pc/h	267	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	48.3	mi/h
Percent Free Flow Speed, PFFS	91.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	162 pc/h	262 pc/h
Base percent time-spent-following,(note-4) BPTSFd	18.8 %	
Adjustment for no-passing zones, fnp	35.1	
Percent time-spent-following, PTSFd	32.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	48.3	mi/h
Percent time-spent-following, PTSFd (from above)	32.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	160.9
Effective width of outside lane, We	28.68
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.53
Bicycle LOS	C

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	189	veh/h
Opposing direction volume, Vo	287	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	212	pc/h	319	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	47.6	mi/h
Percent Free Flow Speed, PFFS	89.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	207 pc/h	314 pc/h
Base percent time-spent-following,(note-4) BPTSFd	25.3 %	
Adjustment for no-passing zones, fnp	36.4	
Percent time-spent-following, PTSFd	39.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.12	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	47.6	mi/h
Percent time-spent-following, PTSFd (from above)	39.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	205.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.89
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	154	veh/h
Opposing direction volume, Vo	249	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.6		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.965		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	173	pc/h	277	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	48.2	mi/h
Percent Free Flow Speed, PFFS	90.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	168 pc/h	272 pc/h
Base percent time-spent-following,(note-4) BPTSFd	20.3 %	
Adjustment for no-passing zones, fnp	35.2	
Percent time-spent-following, PTSFd	33.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	48.2	mi/h
Percent time-spent-following, PTSFd (from above)	33.7	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	167.4
Effective width of outside lane, We	28.14
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	2.70
Bicycle LOS	C

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	195	veh/h
Opposing direction volume, Vo	296	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	218	pc/h	329	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	47.5	mi/h
Percent Free Flow Speed, PFFS	89.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	213 pc/h	324 pc/h
Base percent time-spent-following,(note-4) BPTSFd	25.7 %	
Adjustment for no-passing zones, fnp	36.5	
Percent time-spent-following, PTSFd	40.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.12	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	47.5	mi/h
Percent time-spent-following, PTSFd (from above)	40.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	212.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.90
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	186	veh/h
Opposing direction volume, Vo	302	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	208	pc/h	336	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	47.5	mi/h
Percent Free Flow Speed, PFFS	89.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	203 pc/h	330 pc/h
Base percent time-spent-following,(note-4) BPTSFd	24.5 %	
Adjustment for no-passing zones, fnp	35.5	
Percent time-spent-following, PTSFd	38.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.12	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	47.5	mi/h
Percent time-spent-following, PTSFd (from above)	38.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	202.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.88
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	227	veh/h
Opposing direction volume, Vo	349	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	254	pc/h	386	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	46.8	mi/h
Percent Free Flow Speed, PFFS	88.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	248 pc/h	382 pc/h
Base percent time-spent-following,(note-4) BPTSFd	29.4 %	
Adjustment for no-passing zones, fnp	35.3	
Percent time-spent-following, PTSFd	43.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.8	mi/h
Percent time-spent-following, PTSFd (from above)	43.3	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	246.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.98
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	225	veh/h
Opposing direction volume, Vo	364	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	252	pc/h	403	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	46.7	mi/h
Percent Free Flow Speed, PFFS	88.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	246 pc/h	398 pc/h
Base percent time-spent-following,(note-4) BPTSFd	30.0 %	
Adjustment for no-passing zones, fnp	34.0	
Percent time-spent-following, PTSFd	43.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.7	mi/h
Percent time-spent-following, PTSFd (from above)	43.0	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	244.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.98
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	268	veh/h
Opposing direction volume, Vo	411	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.4		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.977		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	298	pc/h	455	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	46.1	mi/h
Percent Free Flow Speed, PFFS	86.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	293 pc/h	447 pc/h
Base percent time-spent-following,(note-4) BPTSFd	35.7 %	
Adjustment for no-passing zones, fnp	30.5	
Percent time-spent-following, PTSFd	47.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.1	mi/h
Percent time-spent-following, PTSFd (from above)	47.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	291.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.06
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	452	veh/h
Opposing direction volume, Vo	412	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	497	pc/h	456	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	44.5	mi/h
Percent Free Flow Speed, PFFS	84.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	491 pc/h	448 pc/h
Base percent time-spent-following,(note-4) BPTSFd	50.5 %	
Adjustment for no-passing zones, fnp	29.5	
Percent time-spent-following, PTSFd	65.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.5	mi/h
Percent time-spent-following, PTSFd (from above)	65.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	491.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.33
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	499	veh/h
Opposing direction volume, Vo	458	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	549	pc/h	504	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	43.8	mi/h
Percent Free Flow Speed, PFFS	82.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	542 pc/h	498 pc/h
Base percent time-spent-following,(note-4) BPTSFd	53.5 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFd	67.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.8	mi/h
Percent time-spent-following, PTSFd (from above)	67.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	542.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.38
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	469	veh/h
Opposing direction volume, Vo	428	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	516	pc/h	471	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	44.3	mi/h
Percent Free Flow Speed, PFFS	83.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	510 pc/h	465 pc/h
Base percent time-spent-following,(note-4) BPTSFd	52.2 %	
Adjustment for no-passing zones, fnp	28.8	
Percent time-spent-following, PTSFd	67.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.3	mi/h
Percent time-spent-following, PTSFd (from above)	67.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	509.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.35
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	516	veh/h
Opposing direction volume, Vo	474	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	564	pc/h	521	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	43.6	mi/h
Percent Free Flow Speed, PFFS	82.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	561 pc/h	515 pc/h
Base percent time-spent-following,(note-4) BPTSFd	55.0 %	
Adjustment for no-passing zones, fnp	26.7	
Percent time-spent-following, PTSFd	68.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.6	mi/h
Percent time-spent-following, PTSFd (from above)	68.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	560.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.40
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 569 veh/h
Opposing direction volume, Vo 519 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	622	pc/h	568	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	42.9	mi/h
Percent Free Flow Speed, PFFS	81.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	618 pc/h	564 pc/h
Base percent time-spent-following,(note-4) BPTSFd	58.8 %	
Adjustment for no-passing zones, fnp	24.4	
Percent time-spent-following, PTSFd	71.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.9	mi/h
Percent time-spent-following, PTSFd (from above)	71.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	618.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.45
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	616	veh/h
Opposing direction volume, Vo	565	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	674	pc/h	618	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	42.2	mi/h
Percent Free Flow Speed, PFFS	79.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	670 pc/h	614 pc/h
Base percent time-spent-following,(note-4) BPTSFd	61.7 %	
Adjustment for no-passing zones, fnp	22.2	
Percent time-spent-following, PTSFd	73.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.2	mi/h
Percent time-spent-following, PTSFd (from above)	73.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.49
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	687	veh/h
Opposing direction volume, Vo	626	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	751	pc/h	685	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	41.2	mi/h
Percent Free Flow Speed, PFFS	77.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	747 pc/h	680 pc/h
Base percent time-spent-following,(note-4) BPTSFd	66.3 %	
Adjustment for no-passing zones, fnp	19.5	
Percent time-spent-following, PTSFd	76.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.44	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.2	mi/h
Percent time-spent-following, PTSFd (from above)	76.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	746.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.54
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 734 veh/h
Opposing direction volume, Vo 672 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	803	pc/h	735	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	40.5	mi/h
Percent Free Flow Speed, PFFS	76.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	798 pc/h	730 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.9 %	
Adjustment for no-passing zones, fnp	18.4	
Percent time-spent-following, PTSFd	78.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.47	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.5	mi/h
Percent time-spent-following, PTSFd (from above)	78.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	797.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.58
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	529	veh/h
Opposing direction volume, Vo	385	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.982	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	578	pc/h	426	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	44.0	mi/h
Percent Free Flow Speed, PFFS	83.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	575 pc/h	418 pc/h
Base percent time-spent-following,(note-4) BPTSFd	54.4 %	
Adjustment for no-passing zones, fnp	26.1	
Percent time-spent-following, PTSFd	69.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.0	mi/h
Percent time-spent-following, PTSFd (from above)	69.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	575.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.41
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	587	veh/h
Opposing direction volume, Vo	438	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	642	pc/h	482	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	43.2	mi/h
Percent Free Flow Speed, PFFS	81.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	638 pc/h	476 pc/h
Base percent time-spent-following,(note-4) BPTSFd	58.8 %	
Adjustment for no-passing zones, fnp	24.2	
Percent time-spent-following, PTSFd	72.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	72.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	638.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.46
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	550	veh/h
Opposing direction volume, Vo	399	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	601	pc/h	442	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	43.8	mi/h
Percent Free Flow Speed, PFFS	82.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	598 pc/h	434 pc/h
Base percent time-spent-following,(note-4) BPTSFd	56.3 %	
Adjustment for no-passing zones, fnp	25.4	
Percent time-spent-following, PTSFd	71.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.8	mi/h
Percent time-spent-following, PTSFd (from above)	71.0	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	597.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.43
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	608	veh/h
Opposing direction volume, Vo	452	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	665	pc/h	497	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	43.0	mi/h
Percent Free Flow Speed, PFFS	81.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	661 pc/h	491 pc/h
Base percent time-spent-following,(note-4) BPTSFd	60.4 %	
Adjustment for no-passing zones, fnp	23.5	
Percent time-spent-following, PTSFd	73.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.0	mi/h
Percent time-spent-following, PTSFd (from above)	73.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	660.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.48
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	665	veh/h
Opposing direction volume, Vo	485	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	727	pc/h	534	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	42.3	mi/h
Percent Free Flow Speed, PFFS	79.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	723 pc/h	527 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.6 %	
Adjustment for no-passing zones, fnp	21.7	
Percent time-spent-following, PTSFd	76.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.3	mi/h
Percent time-spent-following, PTSFd (from above)	76.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	722.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.53
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	724	veh/h
Opposing direction volume, Vo	528	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	792	pc/h	577	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	41.5	mi/h
Percent Free Flow Speed, PFFS	78.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	787 pc/h	574 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.0 %	
Adjustment for no-passing zones, fnp	19.8	
Percent time-spent-following, PTSFd	78.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.5	mi/h
Percent time-spent-following, PTSFd (from above)	78.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	787.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.57
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 805 veh/h
Opposing direction volume, Vo 585 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	875	pc/h	640	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	40.5	mi/h
Percent Free Flow Speed, PFFS	76.5	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	875	pc/h	636	pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.2	%		
Adjustment for no-passing zones, fnp	18.1			
Percent time-spent-following, PTSFd	80.7	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.51	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.5	mi/h
Percent time-spent-following, PTSFd (from above)	80.7	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	875.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.62
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	AM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	863	veh/h
Opposing direction volume, Vo	638	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	938	pc/h	698	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	39.7	mi/h
Percent Free Flow Speed, PFFS	74.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	938 pc/h	693 pc/h
Base percent time-spent-following,(note-4) BPTSFd	73.8 %	
Adjustment for no-passing zones, fnp	17.0	
Percent time-spent-following, PTSFd	83.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	39.7	mi/h
Percent time-spent-following, PTSFd (from above)	83.6	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	938.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.66
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1129	veh/h
Opposing direction volume, Vo	636	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1227	pc/h	695	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	37.5	mi/h
Percent Free Flow Speed, PFFS	70.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1227 pc/h	691 pc/h
Base percent time-spent-following,(note-4) BPTSFd	80.6 %	
Adjustment for no-passing zones, fnp	12.7	
Percent time-spent-following, PTSFd	88.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.72	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	37.5	mi/h
Percent time-spent-following, PTSFd (from above)	88.7	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1227.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.79
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1242	veh/h
Opposing direction volume, Vo	757	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1350	pc/h	828	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.6	mi/h
Percent Free Flow Speed, PFFS	67.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1350 pc/h	823 pc/h
Base percent time-spent-following,(note-4) BPTSFd	83.8 %	
Adjustment for no-passing zones, fnp	11.4	
Percent time-spent-following, PTSFd	90.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.79	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.6	mi/h
Percent time-spent-following, PTSFd (from above)	90.9	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1350.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.84
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1173	veh/h
Opposing direction volume, Vo	661	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1275	pc/h	723	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	36.9	mi/h
Percent Free Flow Speed, PFFS	69.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1275 pc/h	718 pc/h
Base percent time-spent-following,(note-4) BPTSFd	82.1 %	
Adjustment for no-passing zones, fnp	12.1	
Percent time-spent-following, PTSFd	89.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.75	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.9	mi/h
Percent time-spent-following, PTSFd (from above)	89.8	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1275.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.81
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1286	veh/h
Opposing direction volume, Vo	782	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1398	pc/h	855	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.1	mi/h
Percent Free Flow Speed, PFFS	66.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1398 pc/h	850 pc/h
Base percent time-spent-following,(note-4) BPTSFd	85.1 %	
Adjustment for no-passing zones, fnp	10.8	
Percent time-spent-following, PTSFd	91.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.82	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.1	mi/h
Percent time-spent-following, PTSFd (from above)	91.8	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1397.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.86
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1423	veh/h
Opposing direction volume, Vo	801	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1547	pc/h	871	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	33.8	mi/h
Percent Free Flow Speed, PFFS	63.7	%

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1547	pc/h	871	pc/h
Base percent time-spent-following,(note-4) BPTSFd	87.4	%		
Adjustment for no-passing zones, fnp	9.6			
Percent time-spent-following, PTSFd	93.5	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.91	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	33.8	mi/h
Percent time-spent-following, PTSFd (from above)	93.5	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1546.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.91
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1536 veh/h
Opposing direction volume, Vo 922 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1670	pc/h	1002	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	31.8	mi/h
Percent Free Flow Speed, PFFS	60.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1670 pc/h	1002 pc/h
Base percent time-spent-following,(note-4) BPTSFd	90.0 %	
Adjustment for no-passing zones, fnp	8.2	
Percent time-spent-following, PTSFd	95.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.98	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	31.8	mi/h
Percent time-spent-following, PTSFd (from above)	95.1	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1669.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.95
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 1716 veh/h
Opposing direction volume, Vo 967 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1865	pc/h	1051	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	29.9	mi/h
Percent Free Flow Speed, PFFS	56.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1865 pc/h	1051 pc/h
Base percent time-spent-following,(note-4) BPTSFd	92.2 %	
Adjustment for no-passing zones, fnp	8.5	
Percent time-spent-following, PTSFd	97.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	1.10	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	29.9	mi/h
Percent time-spent-following, PTSFd (from above)	97.6	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1865.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.01
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/N Spruce Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	1829	veh/h
Opposing direction volume, Vo	1088	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	1.000		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	1988	pc/h	1183	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	27.9	mi/h
Percent Free Flow Speed, PFFS	52.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1988 pc/h	1183 pc/h
Base percent time-spent-following,(note-4) BPTSFd	94.2 %	
Adjustment for no-passing zones, fnp	8.2	
Percent time-spent-following, PTSFd	99.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	1.17	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	27.9	mi/h
Percent time-spent-following, PTSFd (from above)	99.3	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1988.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	5.04
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 600 veh/h
Opposing direction volume, Vo 1232 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	656	pc/h	1339	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	37.1	mi/h
Percent Free Flow Speed, PFFS	69.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	652 pc/h	1339 pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.0 %	
Adjustment for no-passing zones, fnp	10.8	
Percent time-spent-following, PTSFd	72.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	37.1	mi/h
Percent time-spent-following, PTSFd (from above)	72.5	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	652.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.47
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 656 veh/h
Opposing direction volume, Vo 1382 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	717	pc/h	1502	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	35.3	mi/h
Percent Free Flow Speed, PFFS	66.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	713 pc/h	1502 pc/h
Base percent time-spent-following,(note-4) BPTSFd	72.8 %	
Adjustment for no-passing zones, fnp	10.1	
Percent time-spent-following, PTSFd	76.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.42	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	35.3	mi/h
Percent time-spent-following, PTSFd (from above)	76.1	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	713.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.52
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 623 veh/h
Opposing direction volume, Vo 1301 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	681	pc/h	1414	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.3	mi/h
Percent Free Flow Speed, PFFS	68.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	677 pc/h	1414 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.6 %	
Adjustment for no-passing zones, fnp	10.4	
Percent time-spent-following, PTSFd	74.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.3	mi/h
Percent time-spent-following, PTSFd (from above)	74.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	677.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.49
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 679 veh/h
Opposing direction volume, Vo 1431 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	742	pc/h	1555	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	34.7	mi/h
Percent Free Flow Speed, PFFS	65.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	738 pc/h	1555 pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.2 %	
Adjustment for no-passing zones, fnp	9.9	
Percent time-spent-following, PTSFd	77.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	34.7	mi/h
Percent time-spent-following, PTSFd (from above)	77.4	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	738.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.54
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 756 veh/h
Opposing direction volume, Vo 1577 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	827	pc/h	1714	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	32.8	mi/h
Percent Free Flow Speed, PFFS	61.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	822 pc/h	1714 pc/h
Base percent time-spent-following,(note-4) BPTSFd	77.5 %	
Adjustment for no-passing zones, fnp	9.4	
Percent time-spent-following, PTSFd	80.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	32.8	mi/h
Percent time-spent-following, PTSFd (from above)	80.5	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	821.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.59
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 812 veh/h
Opposing direction volume, Vo 1727 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	883	pc/h	1877	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	31.1	mi/h
Percent Free Flow Speed, PFFS	58.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	883 pc/h	1877 pc/h
Base percent time-spent-following,(note-4) BPTSFd	79.4 %	
Adjustment for no-passing zones, fnp	9.3	
Percent time-spent-following, PTSFd	82.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	31.1	mi/h
Percent time-spent-following, PTSFd (from above)	82.4	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	882.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.63
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7: Two-Lane Highways Release 7.7

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.87	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 912 veh/h
Opposing direction volume, Vo 1903 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1048	pc/h	2187	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	27.4	mi/h
Percent Free Flow Speed, PFFS	51.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1048 pc/h	2187 pc/h
Base percent time-spent-following,(note-4) BPTSFd	83.8 %	
Adjustment for no-passing zones, fnp	9.2	
Percent time-spent-following, PTSFd	86.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.62	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	27.4	mi/h
Percent time-spent-following, PTSFd (from above)	86.8	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1048.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.71
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	Cedar Ave/Tulare Rd
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 968 veh/h
Opposing direction volume, Vo 2033 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	1052	pc/h	2210	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	27.2	mi/h
Percent Free Flow Speed, PFFS	51.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	1052 pc/h	2210 pc/h
Base percent time-spent-following,(note-4) BPTSFd	83.9 %	
Adjustment for no-passing zones, fnp	9.2	
Percent time-spent-following, PTSFd	86.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	F	
Volume to capacity ratio, v/c	0.62	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	27.2	mi/h
Percent time-spent-following, PTSFd (from above)	86.9	
Level of service, LOSd (from above)	F	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	1052.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.72
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	850		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	712		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	960		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	685		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	883		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	740		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	974		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	826		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1071		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1162		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1162		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	983		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1293		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	912		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1383		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1168		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	876		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1012		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	961		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	1088		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	955		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	1127		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	910		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1051		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1103		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1275		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1188		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1351		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1332		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	1538		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1417		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1614		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	828		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	796		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	905		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	864		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	860		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	827		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	937		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	895		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1043		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1003		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1119		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1071		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1259		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1209		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1336		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1277		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2090
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2090
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	591	veh/h
Opposing direction volume, Vo	668	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	646	pc/h	730	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	41.8	mi/h
Percent Free Flow Speed, PFFS	78.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	642 pc/h	726 pc/h
Base percent time-spent-following,(note-4) BPTSFd	62.4 %	
Adjustment for no-passing zones, fnp	20.3	
Percent time-spent-following, PTSFd	71.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.38	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.8	mi/h
Percent time-spent-following, PTSFd (from above)	71.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	642.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.47
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	653	veh/h
Opposing direction volume, Vo	739	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	714	pc/h	808	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.7	mi/h
Percent Free Flow Speed, PFFS	76.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	710 pc/h	803 pc/h
Base percent time-spent-following,(note-4) BPTSFd	65.6 %	
Adjustment for no-passing zones, fnp	18.5	
Percent time-spent-following, PTSFd	74.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.42	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.7	mi/h
Percent time-spent-following, PTSFd (from above)	74.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	709.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.52
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	614	veh/h
Opposing direction volume, Vo	694	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	671	pc/h	759	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	41.4	mi/h
Percent Free Flow Speed, PFFS	78.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	667 pc/h	754 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.3 %	
Adjustment for no-passing zones, fnp	19.5	
Percent time-spent-following, PTSFd	72.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.4	mi/h
Percent time-spent-following, PTSFd (from above)	72.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	667.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.48
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	676	veh/h
Opposing direction volume, Vo	765	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	739	pc/h	837	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.3	mi/h
Percent Free Flow Speed, PFFS	76.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	735 pc/h	832 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.2 %	
Adjustment for no-passing zones, fnp	18.0	
Percent time-spent-following, PTSFd	75.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.3	mi/h
Percent time-spent-following, PTSFd (from above)	75.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	734.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.53
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	745	veh/h
Opposing direction volume, Vo	842	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	815	pc/h	915	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	39.1	mi/h
Percent Free Flow Speed, PFFS	73.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	810 pc/h	915 pc/h
Base percent time-spent-following,(note-4) BPTSFd	70.7 %	
Adjustment for no-passing zones, fnp	16.4	
Percent time-spent-following, PTSFd	78.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	39.1	mi/h
Percent time-spent-following, PTSFd (from above)	78.4	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	809.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.58
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 807 veh/h
Opposing direction volume, Vo 913 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	877	pc/h	992	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	38.0	mi/h
Percent Free Flow Speed, PFFS	71.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	877 pc/h	992 pc/h
Base percent time-spent-following,(note-4) BPTSFd	74.0 %	
Adjustment for no-passing zones, fnp	14.9	
Percent time-spent-following, PTSFd	81.0 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	38.0	mi/h
Percent time-spent-following, PTSFd (from above)	81.0	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	877.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.62
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 899 veh/h
Opposing direction volume, Vo 1016 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	1.000		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	977	pc/h	1104	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.4	mi/h
Percent Free Flow Speed, PFFS	68.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	977 pc/h	1104 pc/h
Base percent time-spent-following,(note-4) BPTSFd	78.6 %	
Adjustment for no-passing zones, fnp	12.8	
Percent time-spent-following, PTSFd	84.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.57	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.4	mi/h
Percent time-spent-following, PTSFd (from above)	84.6	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	977.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.68
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 65
From/To	N Spruce Ave/Hwy 137
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 772 veh/h
Opposing direction volume, Vo 1087 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		1.000	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	844	pc/h	1182	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	36.8	mi/h
Percent Free Flow Speed, PFFS	69.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	839 pc/h	1182 pc/h
Base percent time-spent-following,(note-4) BPTSFd	75.2 %	
Adjustment for no-passing zones, fnp	13.3	
Percent time-spent-following, PTSFd	80.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	36.8	mi/h
Percent time-spent-following, PTSFd (from above)	80.7	
Level of service, LOSd (from above)	E	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	839.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.60
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1092		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	844		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2023
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1208		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	952		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1135		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	877		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2025
Jurisdiction	County	Time Analyzed	AM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1249		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	985		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1376		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1064		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2035
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1492		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data			
Direction 2	1172		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1660		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	1283		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

HCS7 Multilane Highway Report

Project Information

Analyst	BMB	Date	3/28/2023
Agency	LAV Consulting	Analysis Year	2045
Jurisdiction	County	Time Analyzed	PM Peak Hour + Project
Project Description	TIS for Commercial Development	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	1776		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Direction 2 Geometric Data

Direction 2	1391		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Access Point Density, pts/mi	1.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	54.8		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	0	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.88	Flow Rate (V_p), pc/h/ln	0
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2096
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2096
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.00

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	0.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.3		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	0	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	36	Bicyle LOS Score (BLOS)	0.00
Average Effective Width (W_e), ft	42	Bicycle Level of Service (LOS)	A

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	416	veh/h
Opposing direction volume, Vo	453	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.988		0.988	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	458	pc/h	498	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	44.6	mi/h
Percent Free Flow Speed, PFFS	84.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	452 pc/h	492 pc/h
Base percent time-spent-following,(note-4) BPTSFd	48.2 %	
Adjustment for no-passing zones, fnp	29.5	
Percent time-spent-following, PTSFd	62.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.6	mi/h
Percent time-spent-following, PTSFd (from above)	62.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	452.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.29
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	759	veh/h
Opposing direction volume, Vo	547	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	830	pc/h	598	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	41.1	mi/h
Percent Free Flow Speed, PFFS	77.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	825 pc/h	595 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.2 %	
Adjustment for no-passing zones, fnp	18.9	
Percent time-spent-following, PTSFd	79.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.49	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.1	mi/h
Percent time-spent-following, PTSFd (from above)	79.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	825.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.59
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	431	veh/h
Opposing direction volume, Vo	526	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	474	pc/h	575	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	44.0	mi/h
Percent Free Flow Speed, PFFS	83.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	468 pc/h	572 pc/h
Base percent time-spent-following,(note-4) BPTSFd	49.4 %	
Adjustment for no-passing zones, fnp	26.4	
Percent time-spent-following, PTSFd	61.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.0	mi/h
Percent time-spent-following, PTSFd (from above)	61.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	468.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.31
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	475	veh/h
Opposing direction volume, Vo	565	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	523	pc/h	618	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	43.4	mi/h
Percent Free Flow Speed, PFFS	81.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	516 pc/h	614 pc/h
Base percent time-spent-following,(note-4) BPTSFd	53.4 %	
Adjustment for no-passing zones, fnp	24.9	
Percent time-spent-following, PTSFd	64.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.30	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.4	mi/h
Percent time-spent-following, PTSFd (from above)	64.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	516.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.35
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	524	veh/h
Opposing direction volume, Vo	637	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	573	pc/h	697	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	42.5	mi/h
Percent Free Flow Speed, PFFS	80.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	570 pc/h	692 pc/h
Base percent time-spent-following,(note-4) BPTSFd	58.3 %	
Adjustment for no-passing zones, fnp	22.1	
Percent time-spent-following, PTSFd	68.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.5	mi/h
Percent time-spent-following, PTSFd (from above)	68.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	569.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.40
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	567	veh/h
Opposing direction volume, Vo	639	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	620	pc/h	699	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	42.1	mi/h
Percent Free Flow Speed, PFFS	79.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	616 pc/h	695 pc/h
Base percent time-spent-following,(note-4) BPTSFd	60.5 %	
Adjustment for no-passing zones, fnp	21.5	
Percent time-spent-following, PTSFd	70.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.36	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.1	mi/h
Percent time-spent-following, PTSFd (from above)	70.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	616.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.44
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	633	veh/h
Opposing direction volume, Vo	769	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	692	pc/h	841	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.6	mi/h
Percent Free Flow Speed, PFFS	76.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	688 pc/h	836 pc/h
Base percent time-spent-following,(note-4) BPTSFd	65.2 %	
Adjustment for no-passing zones, fnp	18.2	
Percent time-spent-following, PTSFd	73.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	73.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	688.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.50
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Hwy 65/Road 188
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	676	veh/h
Opposing direction volume, Vo	808	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		1.000	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	739	pc/h	878	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	58.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	44.9	mi/h
Percent Free Flow Speed, PFFS	77.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	735 pc/h	878 pc/h
Base percent time-spent-following,(note-4) BPTSFd	67.8 %	
Adjustment for no-passing zones, fnp	17.4	
Percent time-spent-following, PTSFd	75.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.43	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.9	mi/h
Percent time-spent-following, PTSFd (from above)	75.7	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	734.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.53
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	196	veh/h
Opposing direction volume, Vo	312	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.4	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.977	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	219	pc/h	347	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	47.3	mi/h
Percent Free Flow Speed, PFFS	89.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	214 pc/h	341 pc/h
Base percent time-spent-following,(note-4) BPTSFd	26.4 %	
Adjustment for no-passing zones, fnp	35.9	
Percent time-spent-following, PTSFd	40.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	47.3	mi/h
Percent time-spent-following, PTSFd (from above)	40.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	213.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.91
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	233	veh/h
Opposing direction volume, Vo	345	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.4		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.977		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	259	pc/h	382	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	46.8	mi/h
Percent Free Flow Speed, PFFS	88.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	255 pc/h	377 pc/h
Base percent time-spent-following,(note-4) BPTSFd	30.3 %	
Adjustment for no-passing zones, fnp	35.6	
Percent time-spent-following, PTSFd	44.7 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.8	mi/h
Percent time-spent-following, PTSFd (from above)	44.7	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	253.3
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.99
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	204	veh/h
Opposing direction volume, Vo	322	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.5		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.971		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	228	pc/h	356	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.3	mi/h
Average travel speed, ATSd	47.2	mi/h
Percent Free Flow Speed, PFFS	89.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	223 pc/h	352 pc/h
Base percent time-spent-following,(note-4) BPTSFd	26.9 %	
Adjustment for no-passing zones, fnp	36.1	
Percent time-spent-following, PTSFd	40.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	47.2	mi/h
Percent time-spent-following, PTSFd (from above)	40.9	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	221.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	3.93
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	241	veh/h
Opposing direction volume, Vo	357	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.4		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.977		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	268	pc/h	395	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.2	mi/h
Average travel speed, ATSd	46.6	mi/h
Percent Free Flow Speed, PFFS	88.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	0.994
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	264 pc/h	390 pc/h
Base percent time-spent-following,(note-4) BPTSFd	31.8 %	
Adjustment for no-passing zones, fnp	34.6	
Percent time-spent-following, PTSFd	45.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.6	mi/h
Percent time-spent-following, PTSFd (from above)	45.8	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	262.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.01
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	247	veh/h
Opposing direction volume, Vo	393	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.4		1.3	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.977		0.982	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	275	pc/h	435	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	46.3	mi/h
Percent Free Flow Speed, PFFS	87.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	270 pc/h	427 pc/h
Base percent time-spent-following,(note-4) BPTSFd	32.2 %	
Adjustment for no-passing zones, fnp	31.9	
Percent time-spent-following, PTSFd	44.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	46.3	mi/h
Percent time-spent-following, PTSFd (from above)	44.6	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	268.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.02
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	284	veh/h
Opposing direction volume, Vo	426	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.4		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.977		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	316	pc/h	469	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.1	mi/h
Average travel speed, ATSd	45.8	mi/h
Percent Free Flow Speed, PFFS	86.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	311 pc/h	463 pc/h
Base percent time-spent-following,(note-4) BPTSFd	36.4 %	
Adjustment for no-passing zones, fnp	29.3	
Percent time-spent-following, PTSFd	48.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.18	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	45.8	mi/h
Percent time-spent-following, PTSFd (from above)	48.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	308.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.09
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	298	veh/h
Opposing direction volume, Vo	474	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.4		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.977		0.988	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	332	pc/h	521	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	45.4	mi/h
Percent Free Flow Speed, PFFS	85.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	326 pc/h	515 pc/h
Base percent time-spent-following,(note-4) BPTSFd	38.8 %	
Adjustment for no-passing zones, fnp	26.9	
Percent time-spent-following, PTSFd	49.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	45.4	mi/h
Percent time-spent-following, PTSFd (from above)	49.2	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	323.9
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.12
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	Hwy 137
From/To	Road 188/Road 180
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.94	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	335	veh/h
Opposing direction volume, Vo	507	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.3		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.982		0.988	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	363	pc/h	546	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	45.0	mi/h
Percent Free Flow Speed, PFFS	85.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.994	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	359 pc/h	539 pc/h
Base percent time-spent-following,(note-4) BPTSFd	42.3 %	
Adjustment for no-passing zones, fnp	26.6	
Percent time-spent-following, PTSFd	52.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.21	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	45.0	mi/h
Percent time-spent-following, PTSFd (from above)	52.9	
Level of service, LOSd (from above)	C	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	356.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.18
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	480	veh/h
Opposing direction volume, Vo	441	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	528	pc/h	485	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	44.1	mi/h
Percent Free Flow Speed, PFFS	83.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	522 pc/h	479 pc/h
Base percent time-spent-following,(note-4) BPTSFd	52.1 %	
Adjustment for no-passing zones, fnp	28.3	
Percent time-spent-following, PTSFd	66.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.31	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.1	mi/h
Percent time-spent-following, PTSFd (from above)	66.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	521.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.36
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	512	veh/h
Opposing direction volume, Vo	481	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	560	pc/h	529	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	43.6	mi/h
Percent Free Flow Speed, PFFS	82.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	557 pc/h	523 pc/h
Base percent time-spent-following,(note-4) BPTSFd	55.3 %	
Adjustment for no-passing zones, fnp	26.8	
Percent time-spent-following, PTSFd	69.1 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.6	mi/h
Percent time-spent-following, PTSFd (from above)	69.1	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	556.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.39
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	499	veh/h
Opposing direction volume, Vo	458	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	549	pc/h	504	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	43.8	mi/h
Percent Free Flow Speed, PFFS	82.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	542 pc/h	498 pc/h
Base percent time-spent-following,(note-4) BPTSFd	53.5 %	
Adjustment for no-passing zones, fnp	27.5	
Percent time-spent-following, PTSFd	67.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.32	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.8	mi/h
Percent time-spent-following, PTSFd (from above)	67.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	542.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.38
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd 531 veh/h
Opposing direction volume, Vo 498 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.988	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	581	pc/h	548	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	43.3	mi/h
Percent Free Flow Speed, PFFS	81.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	577 pc/h	541 pc/h
Base percent time-spent-following,(note-4) BPTSFd	56.8 %	
Adjustment for no-passing zones, fnp	26.0	
Percent time-spent-following, PTSFd	70.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.34	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.3	mi/h
Percent time-spent-following, PTSFd (from above)	70.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	577.2
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.41
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	605	veh/h
Opposing direction volume, Vo	556	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	662	pc/h	608	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	42.4	mi/h
Percent Free Flow Speed, PFFS	80.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	658 pc/h	604 pc/h
Base percent time-spent-following,(note-4) BPTSFd	60.5 %	
Adjustment for no-passing zones, fnp	22.7	
Percent time-spent-following, PTSFd	72.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.39	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.4	mi/h
Percent time-spent-following, PTSFd (from above)	72.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	657.6
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.48
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	640	veh/h
Opposing direction volume, Vo	596	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	700	pc/h	652	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	41.8	mi/h
Percent Free Flow Speed, PFFS	78.9	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	696 pc/h	648 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.5 %	
Adjustment for no-passing zones, fnp	21.0	
Percent time-spent-following, PTSFd	74.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.41	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.8	mi/h
Percent time-spent-following, PTSFd (from above)	74.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	695.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.51
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	726	veh/h
Opposing direction volume, Vo	670	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	794	pc/h	733	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	40.6	mi/h
Percent Free Flow Speed, PFFS	76.6	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	789 pc/h	728 pc/h
Base percent time-spent-following,(note-4) BPTSFd	68.6 %	
Adjustment for no-passing zones, fnp	18.6	
Percent time-spent-following, PTSFd	78.3 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.46	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.6	mi/h
Percent time-spent-following, PTSFd (from above)	78.3	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	789.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.57
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Acacia Ave/Sycamore Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	748	veh/h
Opposing direction volume, Vo	710	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	818	pc/h	776	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.1	mi/h
Percent Free Flow Speed, PFFS	75.7	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	813 pc/h	772 pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.3 %	
Adjustment for no-passing zones, fnp	17.9	
Percent time-spent-following, PTSFd	78.5 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.48	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.1	mi/h
Percent time-spent-following, PTSFd (from above)	78.5	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	813.0
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.59
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	407	veh/h
Opposing direction volume, Vo	440	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.3		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.982		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	451	pc/h	484	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	44.7	mi/h
Percent Free Flow Speed, PFFS	84.4	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	442 pc/h	478 pc/h
Base percent time-spent-following,(note-4) BPTSFd	46.9 %	
Adjustment for no-passing zones, fnp	30.1	
Percent time-spent-following, PTSFd	61.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.26	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.7	mi/h
Percent time-spent-following, PTSFd (from above)	61.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	442.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.28
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2023
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	445	veh/h
Opposing direction volume, Vo	489	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.988		0.988	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	490	pc/h	538	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	44.1	mi/h
Percent Free Flow Speed, PFFS	83.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	484 pc/h	532 pc/h
Base percent time-spent-following,(note-4) BPTSFd	50.5 %	
Adjustment for no-passing zones, fnp	27.9	
Percent time-spent-following, PTSFd	63.8 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.28	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.1	mi/h
Percent time-spent-following, PTSFd (from above)	63.8	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	483.7
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.32
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	423	veh/h
Opposing direction volume, Vo	457	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	465	pc/h	503	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	44.5	mi/h
Percent Free Flow Speed, PFFS	84.0	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	460 pc/h	497 pc/h
Base percent time-spent-following,(note-4) BPTSFd	48.3 %	
Adjustment for no-passing zones, fnp	29.3	
Percent time-spent-following, PTSFd	62.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	44.5	mi/h
Percent time-spent-following, PTSFd (from above)	62.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	459.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.30
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2025
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	461	veh/h
Opposing direction volume, Vo	506	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.2		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.988		0.988	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	507	pc/h	557	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.9	mi/h
Average travel speed, ATSd	43.9	mi/h
Percent Free Flow Speed, PFFS	82.8	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	501 pc/h	550 pc/h
Base percent time-spent-following,(note-4) BPTSFd	51.6 %	
Adjustment for no-passing zones, fnp	27.2	
Percent time-spent-following, PTSFd	64.6 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.29	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.9	mi/h
Percent time-spent-following, PTSFd (from above)	64.6	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	501.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.34
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	512	veh/h
Opposing direction volume, Vo	555	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	560	pc/h	607	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.8	mi/h
Average travel speed, ATSd	43.2	mi/h
Percent Free Flow Speed, PFFS	81.5	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	557 pc/h	603 pc/h
Base percent time-spent-following,(note-4) BPTSFd	55.2 %	
Adjustment for no-passing zones, fnp	24.9	
Percent time-spent-following, PTSFd	67.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.33	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	43.2	mi/h
Percent time-spent-following, PTSFd (from above)	67.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	556.5
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.39
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2035
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	550	veh/h
Opposing direction volume, Vo	604	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	601	pc/h	660	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	42.5	mi/h
Percent Free Flow Speed, PFFS	80.2	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	598 pc/h	657 pc/h
Base percent time-spent-following,(note-4) BPTSFd	58.3 %	
Adjustment for no-passing zones, fnp	22.8	
Percent time-spent-following, PTSFd	69.2 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	42.5	mi/h
Percent time-spent-following, PTSFd (from above)	69.2	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	597.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.43
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	619	veh/h
Opposing direction volume, Vo	668	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.994	
Grade adj. factor,(note-1) fg	1.00		1.00	
Directional flow rate,(note-2) vi	677	pc/h	730	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed total demand,(note-3) V	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access point density,(note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	41.5	mi/h
Percent Free Flow Speed, PFFS	78.3	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	673 pc/h	726 pc/h
Base percent time-spent-following,(note-4) BPTSFd	63.9 %	
Adjustment for no-passing zones, fnp	19.8	
Percent time-spent-following, PTSFd	73.4 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.40	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	41.5	mi/h
Percent time-spent-following, PTSFd (from above)	73.4	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	672.8
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.49
Bicycle LOS	D

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/28/2023
Analysis Time Period	PM Peak Hour + Project
Highway	N Spruce Ave
From/To	Hwy 65/Acacia Ave
Jurisdiction	County
Analysis Year	2045
Description	TIS for Commercia Development

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.92	
Shoulder width	6.0	ft	% Trucks and buses	6	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	20	%
Up/down	-	%	Access point density	8	/mi

Analysis direction volume, Vd	657	veh/h
Opposing direction volume, Vo	717	veh/h

Average Travel Speed

Direction	Analysis (d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor, (note-5) fHV	0.994		0.994	
Grade adj. factor, (note-1) fg	1.00		1.00	
Directional flow rate, (note-2) vi	718	pc/h	784	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	55.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	2.0	mi/h
Free-flow speed, FFSd	53.0	mi/h
Adjustment for no-passing zones, fnp	0.5	mi/h
Average travel speed, ATSd	40.9	mi/h
Percent Free Flow Speed, PFFS	77.1	%

Percent Time-Spent-Following

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.0	1.0
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	1.000	1.000
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	714 pc/h	779 pc/h
Base percent time-spent-following,(note-4) BPTSFd	65.9 %	
Adjustment for no-passing zones, fnp	18.8	
Percent time-spent-following, PTSFd	74.9 %	

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.42	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

Passing Lane Analysis

Total length of analysis segment, Lt	0.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSd (from above)	40.9	mi/h
Percent time-spent-following, PTSFd (from above)	74.9	
Level of service, LOSd (from above)	D	

Average Travel Speed with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSpl	-	
Percent free flow speed including passing lane, PFFSpl	0.0	%

Percent Time-Spent-Following with Passing Lane

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

Level of Service and Other Performance Measures with Passing Lane

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

Bicycle Level of Service

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	714.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	4.52
Bicycle LOS	E

Notes:
1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific dewngrade segments are treated as level terrain.
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Appendix “C”
Additional Documents

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE |P.O. BOX 12616 |FRESNO, CA 93778-2616
(559) 840-6066 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov

June 15, 2023

TUL-65-30.30
TIS
TRAVEL CENTER (5)
CEDAR AVENUE, LINDSAY, CA
GTS #: 36146

SENT VIA EMAIL: brent@lavpinnacle.com

Mr. Brent Barenberg
LAV // Pinnacle
Consulting & Engineering Services
12418 Rosedale Highway, Suite B
Bakersfield, CA 93312

Dear Mr. Barenberg:

Caltrans has completed review the Traffic Impact Study (TIS) dated April 20, 2023, for a Travel Center which proposes a convenience store, 2 quick serve restaurants (QSR) with drive-thru, a gas fueling canopy with 8 pumps (16 dispensers), and a diesel fueling area with 6 pumps (12 dispensers) (Project). The Project site is located on northeast corner of the State Route (SR) 65 intersection with Cedar Avenue in the City of Lindsay, Tulare County.

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. On page 13, of the TIS, the last paragraph states "Caltrans' policy sets a limit …pass-by and captured to 25 percent." The Caltrans Guide for the Preparation of Traffic Impact Studies states that a reduction of more than 15% for "pass-by" as well as 5% for "internal capture" trips shall be justified and must be discussed in the TIS. Please provide examples and discussion in the TIS, of similar development sites, as a part of the justification for a reduction of more than 15%.

2. Table 2, on page 14, under the calculated trips generation, indicates reduction for "pass-by" trips was computed at 20% which exceeds the limits for "pass-by" trips set by Caltrans in the Traffic Impact Study Guide (This is also stated at the top of page 41). Please provide examples/discussion of similar development sites, as justification for a reduction of more than 15%.

3. Please correct, page 15, second paragraph under "Trip Simulation", where it states, "Based on information provided by Kern Council of Government …". This project is in Tulare County and should be changed to "Tulare County Council of Government…".

4. Please correct, page 32, second paragraph, where it states "…including the City of Bakersfield and the County of Kern." This project is in Tulare County and should indicate "…including the City of Lindsay and the County of Tulare."

5. Please verify and correct, Table 9: Project Pro-Rata Share, on page 38. The year of the Pro-Rata Share is listed as year 2042, however the analysis year (future life cycle of the project) in the report is shown as year 2045.

6. Caltrans does not disagree with the calculated Pro-Rata Share in the Table 9. However, Caltrans has partnered with the County of Tulare to design and construct the re-alignment of SR 65, which is west of the current existing SR 65 alignment and is tentatively scheduled to start construction in 2034.

7. As a point of information, the new SR 65 re-alignment project will include the construction of a Roundabout at the SR 65 and Cedar Avenue intersection. As part of the SR 65 re-alignment project, Cedar Avenue would be terminated north of SR 65 and realigned to the East to connect with the new alignment of Oak Avenue. The existing W. Tulare Road will be closed or re-aligned when the roundabout is constructed. For further information, it is *recommended to contact* Caltrans Project Manager, Mohamad Annan at (559) 270-4448 or mohamad.annan@dot.ca.gov

8. Caltrans anticipates that the recommended signalization of the SR 65 / Cedar Avenue intersection may need to be ***re-evaluated*** in the future. Caltrans Traffic Operations Directive 13-02 requires the analysis of any new intersection control, to evaluate the most effective traffic control strategies (whether signal, multi-stop or yield or roundabout control) for an intersection within the State's right-of-way.

9. Regarding the site plan for the proposed development, Layout A-1, on page 43:

   a) It is we request that structures (above-ground or underground) like underground storage fuel tanks or monument signage be installed outside of the footprint of the future roundabout at the Cedar Avenue intersection. The Project developer understands that any improvements, upon, over, and across said real property within the roundabout footprint shall be removed at Project developer's expense, when construction of the roundabout starts.

   b) It is requests that all truck traffic to enter/exit the Project site via the Cedar Avenue driveway which should be designed for truck traffic movements. Therefore, it is recommended that the SR 65 / Cedar intersection be re-evaluated by the TIS for truck turning movements.

   c) Please be advised that the westbound to northbound right turn lane shall be designed to meet the Caltrans standards specified in the Highway Design Manual (HDM Index 405.3).

d) A 6-foot bike lane shall also be installed between the thru-lane and the right-turn lane as required by the Caltrans HDM Index 403.6.(1). Additional safety measures must be considered, during the design phase, to facilitate safe operations for motoring public, especially at the proposed access point (driveway) on SR 65.

10. On page 45, Figure 2: 2023 traffic volume/count, please verify there is no turning volumes (in/out to/from SR 65) at Cedar Avenue during peak hours. This is the same for all future year analysis (without project scenario).

11. Please provide the traffic signal warrant sheets (calculations) for the unsignalized intersections listed in Table 8.

12. For Appendix B, regarding printouts/outputs for the LOS calculations:

    a) For the signalized analysis, the peak hour factor (PHF) is set at 1.0. Please verify that the PHF calculation is correct.

    b) For the multi-lane highway analysis, the access point density is set at zero. Please verify that the correct value for access density is being used.

13. Caltrans requires the Project to construct highway frontage improvements along SR 65 including but not limited to roadway pavement improvements, curb, gutter, sidewalks, streetlights and drainage facilities.

14. Caltrans requires a minimum of a 6-foot sidewalk (10-foot preferred), measured from the back of the curb.

15. Dust control measures shall be implemented on the site in a manner to prevent dust from entering the State right-of-way.

16. No water from the proposed project shall flow into the State right-of-way without approval from the District Hydraulic Engineer.

17. Caltrans recommends the Project install sidewalks and streetlights at the SR 65 and Cedar Avenue intersection and along Cedar Avenue for pedestrian security and safe operations of the intersection.

18. All proposed landscaping plans shall meet current standards as determined by the District Landscape Architect. Proposed landscaping adjacent to driveways needs to be low growing, less than two feet in height, due to sight distance concerns. All features of landscaping shall be evaluated for type, location and site visibility conflicts during the encroachment review process. All permits for landscaping in conventional highway right-of-way must be accompanied by a "District" approved maintenance agreement obligating a local agency or the permittee to maintaining the

landscaping. Said maintenance agreement must accompany and be approved prior to issuance of the landscape permit. Proposed landscape projects in access control rights-of-way require an exception process, and approval is subject to the Headquarters Departmental approval process.

19. The sidewalk, streetlights and any landscaping shall be maintained per a "District 6" approved maintenance agreement.

20. As a point of information, any work completed in the State's right-of-way will require a Caltrans encroachment permit. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.

21. Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, **at (559) 383-5047 or (559) 383-5235.**

22. Please review the encroachment permit application - required document checklist at: https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MAOTO&brapath=PERM.

23. Please also review the encroachment permit application - processing checklist at: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf.

24. Any advertising signs within the immediate area outside the State right-of-way need to be cleared through the Caltrans Division of Traffic Operations, Office of Outdoor Advertising. The project proponent must construct and maintain the advertising signs without access to the State Routes. Please contact the Outdoor Advertising Program, P.O. Box 942874, MS-36, Sacramento, CA 94274-001, by email at ODA@dot.ca.gov or at

(916) 654-6473 for additional information or to obtain a sign permit application. Additional information on Caltrans Outdoor Advertising Permit requirement may also be found on the Internet at http://dot.ca.gov/programs/traffic-operations/oda.

If you have any other questions, please call David Deel, Associate Transportation Planner at (559) 981-1041.

Sincerely,

Lorena Mendibles

Ms. Lorena Mendibles, Branch Chief,
Transportation Planning – South

Ms. Lorena Medibles, Branch Chief
Transportation Planning, - South
California Department of Transportation – District 6 Office
1352 West Olive Avenue, P.O. Box 12616
Fresno, California 93778-2316

August 14, 2023

RE: **Travel Center TUL-6.5-30.30, Cedar Avenue, Lindsay – Response to Traffic Impact Study Review – Caltrans Letter of 6-15-23**

Dear Ms. Mendibles:

This letter is in response to your letter of June 15, 2023, to Mr. Brent Barenberg, LAV/Pinnacle Engineering, in which you provided a review and comments for the referenced traffic impact study (TIS). Thank you for your prompt review of the TIS.

In addition to review of the TIS, your letter of June 15th included numerous Caltrans design, construction, and landscaping requirements. This letter and the attached revised TIS can only address comments related to the TIS. Compliance with Caltrans' site design, landscaping, erosion, dust control, and drainage criteria can only be demonstrated with submission of improvement plans. However, the full range of improvements can only be determined once the TIS is approved. With this submittal, we are seeking approval of the TIS from your office.

In the following, I have reiterated each comment from your letter of June 15th, and provided our responses:

Comment 1: On page 13, of the TIS, the last paragraph states "Caltrans' policy sets a limit …pass-by and captured to 25 percent." The Caltrans Guide for the Preparation of Traffic Impact Studies states that a reduction of more than 15% for "pass-by" as well as 5% for "internal capture" trips shall be justified and must be discussed in the TIS. Please provide examples and discussion in the TIS, of similar development sites, as a part of the justification for a reduction of more than 15%.

Response to Comment No. 1: Given comments no. 1 and 2 are of a similar nature, we have provided a combined response to both comments: Please see our response that follows Comment No. 2.

Comment 2: Table 2, on page 14, under the calculated trips generation, indicates reduction for "pass-by" trips was computed at 20% which exceeds the limits for "pass-by" trips set by Caltrans in the Traffic Impact Study Guide (This is also stated at the top of page 41). Please provide examples/discussion of similar development sites, as justification for a reduction of more than 15%.

Response to Comment No. 1 and 2: Our office has specialized in the development of truck stops, gas stations with convenience markets and quick serve restaurants. These sites also often include specialty retail stores. As in the referenced project, these facilities are typically located along major arterials, thoroughfares, expressways, and freeways. The Project itself is located at the intersection of State Route (SR) 65. South of the Project, much of SR 65 is classified as an expressway, but it downgrades to a rural two-lane highway in the vicinity of Lindsay. Nevertheless, SR 65 carries a significant amount of traffic bound for central valley locations.

Having been involved in so many similar projects, including preparation of traffic impact studies (TIS), we have performed numerous driveway surveys of like projects. These surveys have been performed at all hours to include peak and non-peak periods. As in the case of every project, we perform a driveway survey at the nearest similar facility. As discussed in page 8 of the Project TIS, without exception, these surveys all indicated well over 90 percent of trips to these facilities are "side trips", being part of the principal trip to a destination other than the project. If the project was "sited" along a major thoroughfare, our surveys revealed over 90 percent of trips were "pass-bys". If the project was at or near a freeway interchange, our surveys revealed the majority of trips were "diverted link" trips. In either scenario, again without exception, less than 2 percent of trips to these projects were primary trips, being mostly employees.

As I am sure you are aware, current editions of the ITE Manual do not include data or case studies for "pass-by" and "capture". However, past editions provided numerous studies for similar projects and resulting rates ranging from 58% to 90%, and 15% to 38% for "pass-by" and "capture", respectively.

Given our own research, as well as that by other reputable sources, we have no doubt that the 20 percent used in this study for the combined effects of "pass-by" and "capture", is extremely conservative.

Comment 3: Please correct, page 15, second paragraph under "Trip Simulation", where it states, "Based on information provided by Kern Council of Government …". This project is in Tulare County and should be changed to "Tulare County Council of Government…".

Response to Comment No. 3: The information in the report was in fact provided by the Kern Council of Governments (KernCOG). Said information only relates to average trip length. KernCOG maintains a traffic simulation model for Kern County, and we have not found an agency in Tulare County providing same. Since central Lindsay is about 1.5 miles from the Project, and the majority of the trips are "pass-bys", using 4 miles for an average trip assimilation length is considered conservative. Actual average trip lengths for gas or convenience items are likely less than the 4 miles used in the study.

Comment 4: Please correct, page 32, second paragraph, where it states "…including the City of Bakersfield and the County of Kern." This project is in Tulare

County and should indicate "…including the City of Lindsay and the County of Tulare."

Response to Comment No. 4: The correction has been made in the revised copy, attached and dated August 14, 2023.

Comment 5: Please verify and correct, Table 9: Project Pro-Rata Share, on page 38. The year of the Pro-Rata Share is listed as year 2042, however the analysis year (future life cycle of the project) in the report is shown as year 2045.

Response to Comment No. 5: The correction has been made in the revised copy, attached, and dated August 14, 2023.

Comment 6: Caltrans does not disagree with the calculated Pro-Rata Share in the Table 9. However, Caltrans has partnered with the County of Tulare to design and construct the re-alignment of SR 65, which is west of the current existing SR 65 alignment and is tentatively scheduled to start construction in 2034.

Response to Comment No. 6: Comment noted.

Comment 7: As a point of information, the new SR 65 re-alignment project will include the construction of a Roundabout at the SR 65 and Cedar Avenue intersection. As part of the SR 65 re-alignment project, Cedar Avenue would be terminated north of SR 65 and realigned to the East to connect with the new alignment of Oak Avenue. The existing W. Tulare Road will be closed or re-aligned when the roundabout is constructed. For further information, it is *recommended to contact* Caltrans Project Manager, Mohamad Annan at (559) 270-4448 or mohamad.annan@dot.ca.gov

Response to Comment No. 7: As recommended I spoke with Mr. Annan, who participated in our conference call months ago, and he has seen the site plan for the Project. Mr. Annan indicated that the Project Report for the SR 65 realignment would be completed in about 6 weeks, at which time a more "final" drawing of the realignment will be available. However, Mr. Annan did not indicate any substantial changes that would affect the Project. In our discussion, I indicated the Project's current site layout is compatible with Caltrans' realignment of SR 65, including the roundabout.

Your comment indicated that Cedar Avenue would be closed north of SR 65 and realigned to tie into Oak Avenue. Since it will be tying into Oak Avenue, I have assumed that a short segment of Cedar Avenue will still connect to SR 65, rather than its complete removal. Either way will be compatible with the Project. We are also in agreement with the realignment of W. Tulare Road such that it does not intersect with SR 65. Certainly realignment of W. Tulare Road as a first order of work would simplify construction and traffic control for the SR 65 project.

As you know, the TIS recommends a traffic signal at the intersection of Cedar Avenue and SR 65. This signal will simply be removed and salvaged when the SR 65 realignment project commences work on the roundabout in 2034.

Comment 8: Caltrans anticipates that the recommended signalization of the SR 65 / Cedar Avenue intersection may need to be ***re-evaluated*** in the future. Caltrans Traffic Operations Directive 13-02 requires the analysis of any new intersection control, to evaluate the most effective traffic control strategies (whether signal, multi-stop or yield or roundabout control) for an intersection within the State's right-of-way.

Response to Comment No. 8: We do not disagree that the proposed traffic signal at the intersection SR 65 and Cedar may need reevaluation in the future. Please be aware that the TIS for the Project, in addition to a signal analysis of Cedar Avenue and SR 65, evaluated the intersection for a two-way stop and a multi-stop, both with additional dedicated turn lanes; however, the "finding" was that a traffic signal was the only mitigation resulting in a satisfactory Level of Service. As I discussed in my response to Comments 1 and 2, the TIS calculations are overly conservative given Caltrans' limitations on "pass-by" and "capture" rates. We are happy to reanalyze the intersection of Cedar Avenue and SR 65 using realistic values for "pass-by" and "capture." I should also mention that the TIS used growth factors of 1.9 percent, compounded annually to estimate future traffic. Even though the last few years of data indicate decreasing traffic, lesser or negative growth factors have been rejected by Caltrans and local agencies in past studies.

Decreasing traffic is largely attributed to California's decreasing population, and the continued post-pandemic trend in working remotely. Please let me know if we should reanalyze the intersection of Cedar Avenue and SR 65 using "pass-by" and "capture" rates consistent with our driveway surveys and other data.

Comment 9: Regarding the site plan for the proposed development, Layout A-1, on page 43:

a) It is we request that structures (above-ground or underground) like underground storage fuel tanks or monument signage be installed outside of the footprint of the future roundabout at the Cedar Avenue intersection. The Project developer understands that any improvements, upon, over, and across said real property within the roundabout footprint shall be removed at Project developer's expense, when construction of the roundabout starts.

Response to Comment No. 9a: Comment noted. Please understand that following this recommendation can only be demonstrated with submission of improvement plans. At this time, we are only seeking approval of the TIS; but the current site plan has located underground tanks and structures outside of the future footprint of said roundabout.

b) It is requests that all truck traffic to enter/exit the Project site via the Cedar Avenue driveway which should be designed for truck traffic movements. Therefore, it is recommended that the SR 65 / Cedar intersection be re-evaluated by the TIS for truck turning movements.

Response to Comment No. 9b: The intersection of Cedar Avenue and SR 65 has been reanalyzed routing all anticipated project-related truck traffic through the intersection. Calculations have been attached herewith and are included in the attached revised TIS. The analysis has indicated that the intersection will operate at a satisfactory Level of Service with proposed mitigation in place.

c)Please be advised that the westbound to northbound right turn lane shall be designed to meet the Caltrans standards specified in the Highway Design Manual (HDM Index 405.3).

Response to Comment No. 9c: Comment noted; however, given the presence of W. Tulare Road, the length of a west bound right-turn lane is limited. Once W. Tulare Road is realigned and does not intersect with SR 65, the right turn lane could be lengthened.

d) A 6-foot bike lane shall also be installed between the thru-lane and the right-turn lane as required by the Caltrans HDM Index 403.6.(1). Additional safety measures must be considered, during the design phase, to facilitate safe operations for motoring public, especially at the proposed access point (driveway) on SR 65.

Response to Comment No. 9d: We request that Caltrans reconsider the requirement for a striped 6-foot bike lane for the following reasons: 1) There is currently no bike lane striping on either side of the Project, nor anywhere in its vicinity. 2) There is not a planned bike route along SR 65 or any other side street. 3) Five hundred feet of striped bike lane with no connectivity at either end would obviously not be utilized by bicyclists and would only confuse motorists.

Comment 10: On page 45, Figure 2: 2023 traffic volume/count, please verify there is no turning volumes (in/out to/from SR 65) at Cedar Avenue during peak hours. This is the same for all future year analysis (without project scenario).

Response to Comment No. 10: The volumes indicated in the original report reflect our actual counts. However, we have reanalyzed the intersection, adding a small volume of traffic, including turning movements. The Level of Service calculations under this scenario did not yield different results.

Comment 11: Please provide the traffic signal warrant sheets (calculations) for the unsignalized intersections listed in Table 8.

Response to Comment No. 11: Warrant sheets are included in Appendix "C" of the original TIS. Additional copies are attached herewith.

Comment 12: For Appendix B, regarding printouts/outputs for the LOS calculations:

a) For the signalized analysis, the peak hour factor (PHF) is set at 1.0. Please verify that the PHF calculation is correct.

Response to Comment No. 12a: A calculation of the PHF was prepared and yielded a value of 0.88. The intersection has been recalculated; however, the Level of Service did not change. The overall average delay did increase from 38.3 to 38.9 seconds.

b) For the multi-lane highway analysis, the access point density is set at zero. Please verify that the correct value for access density is being used.

Response to Comment No. 12b: The muli-lane access point densities have been adjusted, ranging from 1.0 to 2.0 where appropriate, but the Level of Service results did not change.

Comment 13: Caltrans requires the Project to construct highway frontage improvements along SR 65 including but not limited to roadway pavement improvements, curb, gutter, sidewalks, streetlights and drainage facilities.

Response to Comment No. 13: The current site plan shows said required improvements. These improvements will also be verified by Caltrans when plans are submitted as part of the encroachment permit process.

Comment 14: Caltrans requires a minimum of a 6-foot sidewalk (10-foot preferred), measured from the back of the curb.

Response to Comment No. 14: The current site plan shows a sidewalk width of 6-feet.

Comment No. 15: Dust control measures shall be implemented on the site in a manner to prevent dust from entering the State right-of-way.

Response to Comment No. 15: The Grading Plan, yet unsubmitted, includes both erosion control and dust control measures. Fugitive dust will not leave the Project site.

Comment 16: No water from the proposed project shall flow into the State right-of-way without approval from the District Hydraulic Engineer.

Response to Comment No. 16: The Grading Plan, yet unsubmitted, includes erosion control measures. The site is not large enough to "trigger" a Storm Water Pollution Control Plan (SWPPP), yet a comprehensive plan of appropriate BMPs for erosion control is included. This plan is as comprehensive as any SWPPP.

Comment 17: Caltrans recommends the Project install sidewalks and streetlights at the SR 65 and Cedar Avenue intersection and along Cedar Avenue for pedestrian security and safe operations of the intersection.

Response to Comment No. 17: The Grading Plan, yet unsubmitted, includes sidewalks and street lights. These improvements will be verified by Caltrans during the encroachment permit process.

Comment 18: All proposed landscaping plans shall meet current standards as determined by the District Landscape Architect. Proposed landscaping adjacent to driveways needs to be low growing, less than two feet in height, due to sight distance concerns. All features of landscaping shall be evaluated for type, location and site visibility conflicts during the encroachment review process. All permits for landscaping in conventional highway right-of-way must be accompanied by a "District" approved maintenance agreement obligating a local agency or the permittee to maintaining the landscaping. Said maintenance agreement must accompany and be approved prior to issuance of the landscape permit. Proposed landscape projects in access control rights-of-way require an exception process, and approval is subject to the Headquarters Departmental approval process.

Response to Comment No. 18: Comment noted. We also are especially concerned with maintaining safe site distance at all intersections and project entrances.

Comment 19: The sidewalk, streetlights and any landscaping shall be maintained per a "District 6" approved maintenance agreement.

Response to Comment No. 19: Comment noted.

Comment 20: As a point of information, any work completed in the State's right-of-way will require a Caltrans encroachment permit. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the

legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.

Response to Comment No. 20: Comment noted. The Owner's intent is to pursue the encroachment as soon as possible. Engineered plans must be comprehensive and include all requirements of an approved TIS.

Comment 21: Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, **at (559) 383-5047 or (559) 383-5235.**

Response to Comment No. 21: Comment noted.

Comment 22. Please review the encroachment permit application - required document checklist at: https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0402&distpath=MAOTO&brapath=PERM.

Response to Comment No. 22: Comment noted.

Comment 23: Please also review the encroachment permit application - processing checklist at: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf.

Response to Comment No. 23: Comment noted.

Comment 24: Any advertising signs within the immediate area outside the State right-of-way need to be cleared through the Caltrans Division of Traffic Operations, Office of Outdoor Advertising. The project proponent must construct and maintain the advertising signs without access to the State Routes. Please contact the Outdoor Advertising Program, P.O. Box 942874, MS-36, Sacramento, CA 94274-001, by email at ODA@dot.ca.gov or at

(916)654-6473 for additional information or to obtain a sign permit application. Additional information on Caltrans Outdoor Advertising Permit requirement may also be found on the Internet at http://dot.ca.gov/programs/traffic-operations/oda.

Response to Comment No. 24: Comment noted.

Thank you again for your review and comments. Again, all comments related to the TIS have been addressed with this letter, the revised TIS, and attachments. Please let me know if you need any further information. We hereby request approval of the attached TIS, dated August 14, 2023.

Sincerely,

Matt VoVilla, P.E.

Attachments

From: Deel, David@DOT
To: Brent Barenberg
Cc: Scott Quintana; Alyssa Allen; Mendibles, Lorena@DOT
Subject: RE: TIS Lindsay Gas Station Route 65 [21-992]
Date: Friday, July 14, 2023 1:38:47 PM

Brent,

Got a quick reply and both questions are YES.
Q1 = Yes, granted a section of the study was devoted to justifying the reasoning
Q2 = Yes, Given the findings of the surveys, would Caltrans find the 20% reduction to be acceptable for the basis of our study?

Respectfully,
DAVID DEEL | CALTRANS D6 | Office: 559.981.1041

From: Brent Barenberg <brent@lavpinnacle.com>
Sent: Thursday, July 13, 2023 9:04 AM
To: Deel, David@DOT <david.deel@dot.ca.gov>
Cc: Scott Quintana <scott@lavpinnacle.com>; Alyssa Allen <alyssa@lavpinnacle.com>
Subject: RE: TIS Lindsay Gas Station Route 65 [21-992]

Hello David,

I am addressing the comment letter you provided for the Lindsay Traffic Study. I had a question regarding comments 1 & 2.

Both comments regard justifying a pass-by percentage of 20%. Based on how the comments are written, it seems that the 20% reduction could be considered acceptable, granted a section of the study was devoted to justifying the reasoning. Am I correct in this assessment?

In regard to pass-by, we determined a 20% reduction is conservative based on a driveway survey done at a travel center near the Project site. Additionally, several driveway surveys of travel centers in the region were looked at as a basis of comparison. For the Lindsay driveway survey, it was found that 100% of trips are pass-by trips. In all other surveys, the pass-by percentage was a minimum of 30% of surveyed trips, with several surveys exceeding 90% pass-by. Several such surveys, including the Lindsay survey, have been attached to this email. Given the findings of the surveys, would Caltrans find the 20% reduction to be acceptable for the basis of our study?

Thank you for your help. Please let me know if you have any questions or need any additional information.

Brent Barenberg
LAV // Pinnacle

Consulting & Engineering Services
brent@lavpinnacle.com

From: Deel, David@DOT <david.deel@dot.ca.gov>
Sent: Thursday, June 15, 2023 4:08 PM
To: Brent Barenberg <brent@lavpinnacle.com>
Cc: logananthonycouch@gmail.com; Scott Quintana <scott@lavpinnacle.com>; Alyssa Allen <alyssa@lavpinnacle.com>; Matt Vovilla <matt@lavpinnacle.com>; Mendibles, Lorena@DOT <lorena.mendibles@dot.ca.gov>
Subject: RE: TIS Lindsay Gas Station Route 65 [21-992]

Brent,

Caltrans comment letter is attached for the TIS review for the proposed Travel Center on SR 65 in Lindsay.

If you have further questions, please contact me.

Respectfully,

DAVID DEEL | Associate Transportation Planner | Desk & Mobile: 559.981.1041
Planning, Local Programs & Environmental Analysis Division
CALTRANS - District 6
1352 W. Olive Avenue (P.O. Box 12616)
Fresno, CA 93778-2616

For real-time highway conditions: http://quickmap.dot.ca.gov/

From: Brent Barenberg <brent@lavpinnacle.com>
Sent: Tuesday, May 23, 2023 3:58 PM
To: Deel, David@DOT <david.deel@dot.ca.gov>
Cc: logananthonycouch@gmail.com; Scott Quintana <scott@lavpinnacle.com>; Alyssa Allen <alyssa@lavpinnacle.com>; Matt Vovilla <matt@lavpinnacle.com>
Subject: TIS Lindsay Gas Station Route 65 [21-992]

Hello David,

Please find in the link below the Traffic Impact Study for the proposed Gas Station/C-Store located on Route 65 in Lindsay.

https://lavpinnacle.sharefile.com/d-s84d0dce2e5754568828c523bdc5c1640

Please let me know if you have any questions or need any additional information.

Brent Barenberg
LAV // Pinnacle
Consulting & Engineering Services
12418 Rosedale Highway, Suite B
Bakersfield, CA 93312
brent@lavpinnacle.com
Office: (661) 869-0184

From:	Deel, David@DOT
To:	Brent Barenberg
Cc:	Scott Quintana; "Matt Vovilla"; "Nashwan Obad"; najimoh09@gmail.com; "Kari Rivera"; Ly, Duc Ken K@DOT; Lee, Albert M@DOT; Mendibles, Lorena@DOT; Olson, Eric@DOT; Annan, Mohamad@DOT; Navarro, Michael@DOT; logananthonycouch@gmail.com
Subject:	RE: TIS Scope for Lindsay Route 65 and Route 198/245 [21-992]
Date:	Wednesday, January 04, 2023 10:54:31 AM
Attachments:	image001.png image002.png

Brent,

The following is what the Traffic study and analysis should include:

1. Existing condition (current year 2023 in this case)
2. Opening day condition {with project and without project; approximately year 2025 in this case}.
3. Future condition with cumulative traffic in the in area, approximate year 2045 {with project and without project}.
4. If viable, include the near term or mid-term analysis (10 years after the opening day, approximately year 2035 in this case).

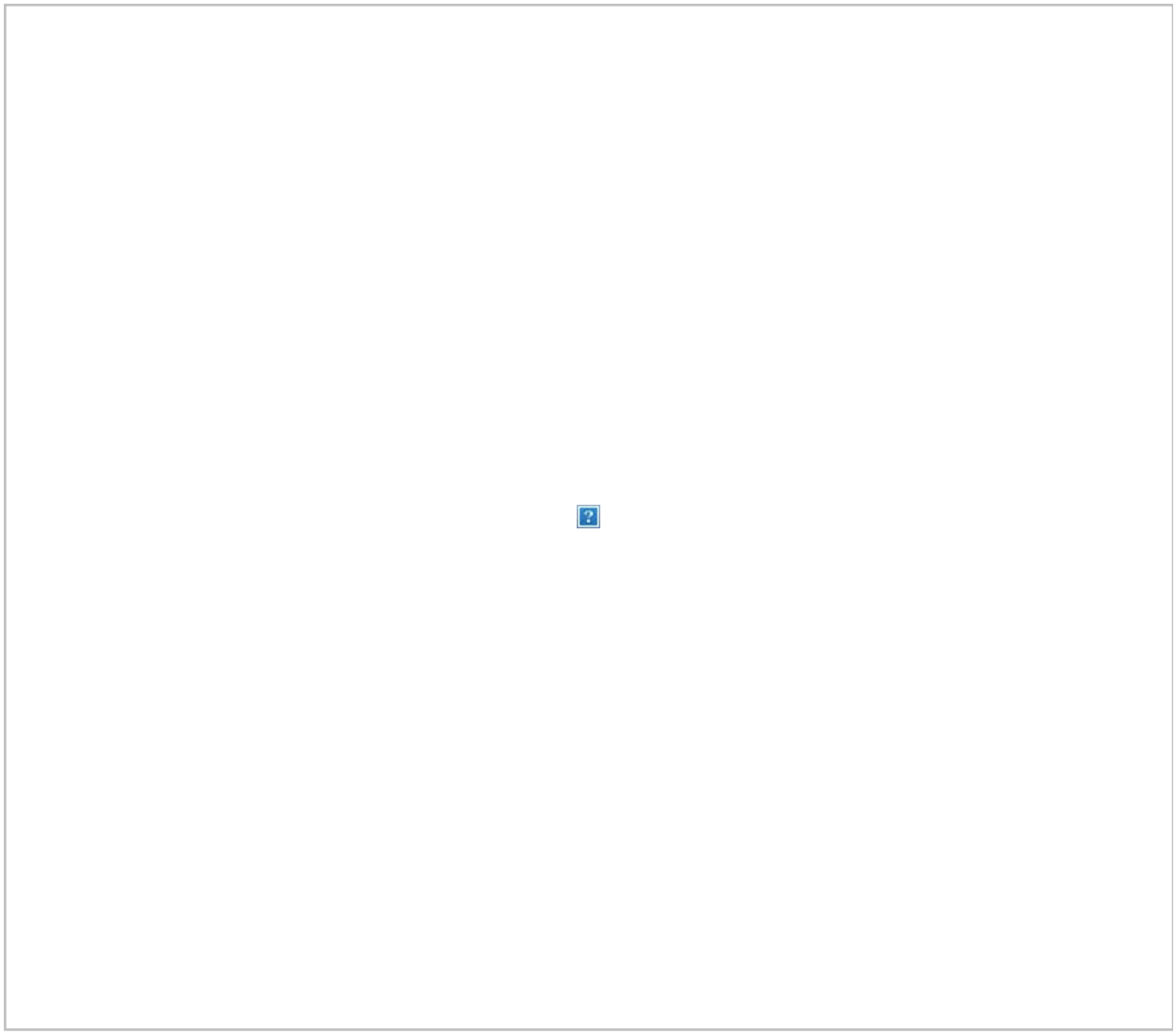
Also, the following was emailed to Logan Couch on 12/20/22:

From: Deel, David@DOT
Sent: Tuesday, December 20, 2022 1:22 PM
To: logananthonycouch@gmail.com; Mendibles, Lorena@DOT lorena.mendibles@dot.ca.gov
Cc: 'Scott Quintana' scott@lavpinnacle.com; 'Matt Vovilla' matt@pinnaclex2.com; 'Nashwan Obad' nashwanobad@gmail.com; najimoh09@gmail.com; 'Kari Rivera' krivera@cmconstructionservices.com; Ly, Duc Ken K@DOT duc.ken.ly@dot.ca.gov; Lee, Albert M@DOT albert.lee@dot.ca.gov; Olson, Eric@DOT eric.olson@dot.ca.gov; Annan, Mohamad@DOT mohamad.annan@dot.ca.gov; Navarro, Michael@DOT michael.navarro@dot.ca.gov
Subject: RE: TUL-65-30.30 Lindsay update - Lindsay Route 65 and Route 198/245 Operational Improvements Project

Logan,

See my responses below in bold that correspond to the imbedded map from the Caltrans website for the Lindsay Route 65 and Route 198/245 Operational Improvements Project (https://dot.ca.gov/caltrans-near-me/district-6/district-6-projects/06-43080):

- Anticipated construction date for the large 2 lane roundabout south of our site. **(Location #3 and the Roundabouts at Cedar Avenue and Hermosa Street do not have an estimated construction date, at this time.)**
- Anticipated construction date for the smaller roundabout to the east of our site. **(Location #1 and the Roundabout at Oak Avenue has an approximate construction start date in Mid-2027.)**
- Confirm our development will not need to provide LOS analysis for the 'post roundabout' condition. Our TIS will only include the 'pre roundabout condition'. **(Correct, no LOS analysis for Post-Roundabout, analysis is only for Pre-Roundabout)**
- Advise on SCE easement for new power poles on the south side of our site, adjacent to HWY 65 ROW, pre and post roundabout conditions. **(Please contact Caltrans Project Manager, Mohamad Annan at (559) 270-4448 or mohamad.annan@dot.ca.gov)**



If you have further questions, please contact me.

Respectfully,
DAVID DEEL | Associate Transportation Planner | Desk & Mobile: 559.981.1041
Planning, Local Programs & Environmental Analysis Division
Local Development Review (LDR) – Tulare & Kern
Regional Planning – Tulare
FTA 5311 Transit – Tulare

CALTRANS - District 6
1352 W. Olive Avenue (P.O. Box 12616)
Fresno, CA 93778-2616

For real-time highway conditions: http://quickmap.dot.ca.gov/

From: Brent Barenberg <brent@lavpinnacle.com>
Sent: Wednesday, December 21, 2022 11:33 AM
To: Deel, David@DOT <david.deel@dot.ca.gov>

Cc: Scott Quintana <scott@lavpinnacle.com>; 'Matt Vovilla' <matt@pinnaclex2.com>; 'Nashwan Obad' <nashwanobad@gmail.com>; najimoh09@gmail.com; 'Kari Rivera' <krivera@cmconstructionservices.com>; Ly, Duc Ken K@DOT <duc.ken.ly@dot.ca.gov>; Lee, Albert M@DOT <albert.lee@dot.ca.gov>; Mendibles, Lorena@DOT <lorena.mendibles@dot.ca.gov>; Olson, Eric@DOT <eric.olson@dot.ca.gov>; Annan, Mohamad@DOT <mohamad.annan@dot.ca.gov>; Navarro, Michael@DOT <michael.navarro@dot.ca.gov>; logananthonycouch@gmail.com
Subject: TIS Scope for Lindsay Route 65 and Route 198/245 [21-992]

Hello David,

Thank you for your help with clarifying the scope of this Project. Based on the previous correspondence, the following is, as we understand it, a summary of the scope for the Traffic Impact Study:

The Traffic Impact Study will determine the potential impact of the Project on local traffic. Impact will be determined through Level of Service (LOS) calculations and Vehicle Miles Travelled (VMT) calculations. Calculations will be performed for current conditions (2023), opening day conditions (~2025), and future conditions (~2043). The analysis for all conditions will be performed based on ***current improvements only***. The construction of the roundabout by Caltrans will ***not*** be a factor in any analysis.

Please let us know if this is an accurate summary of the scope, or if you have any clarifications.

Brent Barenberg
LAV // Pinnacle
Consulting & Engineering Services
12418 Rosedale Highway, Suite B
Bakersfield, CA 93312
brent@lavpinnacle.com
Office: (661) 869-0184

Table 8: Peak Hour Warrant Analysis

		Year 2023 Volumes						Year 2025 Volumes					
		Existing Volumes (Figures 2 & 3)			Existing Volumes Plus Project (Figure 5)			Opening Day Volumes (Figure 6)			Opening Day Volumes Plus Project (Figure 7)		
No.	Existing Non-Signalized Intersection	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied
1)	Hwy 65 & Cedar Ave AM	0	1,520	No	206	1,753	Yes	0	1,600	No	206	1,813	Yes
	Hwy 65 & Cedar Ave PM	0	1,236	No	186	1,413	Yes	0	1,284	No	186	1,461	Yes
2)	Hwy 65 & W Tulare Rd AM	128	1,998	Yes	144	2,270	Yes	133	2,075	Yes	149	2,347	Yes
	Hwy 65 & W Tulare Rd PM	115	2,344	Yes	127	2,590	Yes	120	2,436	Yes	132	2,682	Yes
3)	Hwy 65 & W Lindmore St AM	44	1,248	No	49	1,432	No	45	1,296	No	50	1,480	No
	Hwy 65 & W Lindmore St PM	36	1,588	No	36	1,759	No	38	1,650	No	38	1,821	No
4)	Hwy 65 & Marigold St AM	16	824	No	18	990	No	16	856	No	18	1,022	No
	Hwy 65 & Marigold St PM	40	1,839	No	41	1,992	No	41	1,911	No	42	2,064	No
5)	Hwy 65 & Ave 208 AM	36	1,152	No	38	1,099	No	38	1,197	No	40	1,344	No
	Hwy 65 & Ave 208 PM	24	1,670	No	24	1,807	No	25	1,735	No	25	1,892	No
6)	Hwy 137 & Road 188 AM	20	592	No	23	687	No	21	615	No	24	710	No
	Hwy 137 & Road 188 PM	24	728	No	26	804	No	25	756	No	27	832	No
7)	Hwy 137 & Road 180 AM	12	304	No	12	388	No	12	316	No	12	400	No
	Hwy 137 & Road 180 PM	0	384	No	0	451	No	0	399	No	0	466	No
8)	N Spruce Ave & Acacia Ave AM	10	941	No	11	1,045	No	10	978	No	11	1,082	No
	N Spruce Ave & Acacia Ave PM	19	847	No	21	926	No	20	881	No	22	959	No
9)	N Spruce Ave & Sycamore Ave AM	236	900	No	243	979	No	246	935	Yes	253	1,014	Yes
	N Spruce Ave & Sycamore Ave PM	208	728	No	214	784	No	216	831	No	222	892	No

Table 8: Peak Hour Warrant Analysis

		Year 2035 Volumes						Year 2045 Volumes					
		Future Volumes (Figures 8)			Future Volumes Plus Project (Figures 9)			Future Volumes (Figures 10)			Future Volumes Plus Project (Figures 11)		
No.	Existing Non-Signalized Intersection	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied
1)	Hwy 65 & Cedar Ave AM	0	1,941	No	206	2,154	Yes	0	2,341	No	206	2,415	Yes
	Hwy 65 & Cedar Ave PM	0	1,557	No	186	1,734	Yes	0	1,879	No	186	2,056	Yes
2)	Hwy 65 & W Tulare Rd AM	162	2,518	Yes	178	2,790	Yes	194	3,037	Yes	210	3,309	Yes
	Hwy 65 & W Tulare Rd PM	145	2,953	Yes	157	3,199	Yes	175	3,563	Yes	187	3,809	Yes
3)	Hwy 65 & W Lindmore St AM	55	1,557	No	60	1,741	No	67	1,897	No	72	2,081	No
	Hwy 65 & W Lindmore St PM	45	2,020	No	45	2,171	No	54	2,414	No	54	2,585	No
4)	Hwy 65 & Marigold St AM	20	1,038	No	22	1,204	No	24	1,252	No	26	1,418	No
	Hwy 65 & Marigold St PM	50	2,318	No	51	2,471	No	61	2,797	No	62	2,944	No
5)	Hwy 65 & Ave 208 AM	45	1,451	No	47	1,234	No	54	1,750	No	56	1,908	No
	Hwy 65 & Ave 208 PM	30	2,105	No	30	2,242	No	36	2,537	No	36	2,674	No
6)	Hwy 137 & Road 188 AM	25	745	No	28	830	No	30	899	No	33	994	No
	Hwy 137 & Road 188 PM	30	917	No	32	993	No	36	1,107	No	38	1,183	No
7)	Hwy 137 & Road 180 AM	15	383	No	15	467	No	18	462	No	18	548	No
	Hwy 137 & Road 180 PM	0	484	No	0	551	No	0	584	No	0	651	No
8)	N Spruce Ave & Acacia Ave AM	12	1,185	No	13	1,292	No	16	1,431	No	17	1,535	No
	N Spruce Ave & Acacia Ave PM	24	1,068	No	26	1,146	No	29	1,289	No	31	1,367	No
9)	N Spruce Ave & Sycamore Ave AM	297	1,133	Yes	304	1,212	Yes	359	1,368	Yes	366	1,447	Yes
	N Spruce Ave & Sycamore Ave PM	263	1,008	Yes	269	1,072	Yes	316	1,212	Yes	322	1,263	Yes

Pass-By and Diverted Link Study

Location: N & S TRAVEL CENTER (HWY 65 & AVE 128) **Date:** 3/01

No.	Purpose of your trip	Trip Origin	Trip Destination	Route In		Route Out		Time	Trip Type		
				Street	Direction	Street	Direction		Primary	Pass-By	Diverted Link
1)	GAS			128	EAST	65	N	6:02		✓	
2)	GAS			128	EAST	65	N	6:05		✓	
3)	FOOD			128	EAST	65	S	6:12		✓	
4)	GAS/SMOKES			128	EAST	65	N	6:19		✓	
5)	BEER			128	EAST	65	N	6:28		✓	
6)	BEER/SNACKS			128	EAST	65	N	6:36		✓	
7)	GAS/FOOD			128	EAST	65	S	6:43		✓	
8)	GAS			128	EAST	65	N	6:51		✓	
9)											
10)											
11)											
12)											

Pass-By and Diverted Link Study

Location: N&S TRAVEL CENTER (HWY 65 & AVE 128) **Date:** 3/16

No.	Purpose of your trip	Trip Origin	Trip Destination	Route In		Route Out		Time PM	Trip Type		
				Street	Direction	Street	Direction		Primary	Pass-By	Diverted Link
1)	GAS			128	EAST	65	N	6:10		✓	
2)	GAS/FOOD			128	EAST	65	N	6:14		✓	
3)	BEER			128	EAST	65	N	6:18		✓	
4)	BEER			128	EAST	65	S	6:25		✓	
5)	FOOD/BEER			128	EAST	65	S	6:32		✓	
6)	GAS/BEER			128	WEST	65	N	6:35		✓	
7)	GAS/SNACKS			128	EAST	65	N	6:42		✓	
8)	BEER			128	EAST	65	S	6:50		✓	
9)											
10)											
11)											
12)											

6:15-8:00am

Pass-By and Diverted Link Study for Gas Station/C-Store at Comanche Drive & Hwy 58:								Date: 9/25/2020 Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	Edison	Comanche	Hwy. 58	Time:	Yes	No
25)	work	Bakersfield	Barstow			✓	6:18	✓	
26)	Work	Bakersfield	Arvin		✓		6:20	✓	
27)	Work	Caliente	Bakersfield	✓			6:21	✓	
28)	Work	Las Vegas	Bakersfield			✓	6:22	✓	
29)	Work	Goshen	Barstow			✓	6:24	✓	
30)	Work	Arvin	Bakersfield			✓	6:27	✓	
31)	Work	Caliente	Bakersfield			✓	6:30	✓	
32)	Work	Bakersfield	Tehachapi			✓	6:31	✓	
33)	Work	Bakersfield	Arvin		✓		6:38	✓	
34)	Work	Arvin	Edison		✓		6:41	✓	
35)	Work	Arvin	Bakersfield	✓			6:42	✓	
36)	Vacation	Delano	Las Vegas			✓	6:45	✓	

6:15–8:00 am

Pass-By and Diverted Link Study for Gas Station/C-Store at Comanche Drive & Hwy 58:							Date: 9/25/2020		
								Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	Edison	Comanche	Hwy. 58	Time:	Yes	No
37)	Work	Bakersfield	Caliente			✓	6:49	✓	
38)	Work	Bakersfield	Apple Valley			✓	6:51	✓	
39)	Work	Bakersfield	Tehachapi			✓	6:53	✓	
40)	Work	Bakersfield	Arvin	✓			6:56	✓	
41)	Recreational (shooting)	Bakersfield	Bakersfield		✓		7:02	✓	
42)	Work	Tehachapi	Bakersfield			✓	7:06	✓	
43)	Work	Bakersfield	Bakersfield			✓	7:10	✓	
44)	Work	Bakersfield	Mojave			✓	7:14	✓	
45)	Play Golf	Bakersfield	Bakersfield		✓		7:30	✓	
46)	Work	Bakersfield	Tehachapi			✓	7:41	✓	
47)	Home	Bakersfield	Bakersfield	✓			7:44	✓	
48)	Vacation	Bakersfield	Havasu			✓	7:49	✓	

6:15 - 8:00am

Pass-By and Diverted Link Study for Gas Station/C-Store at Comanche Drive & Hwy 58:							Date: 9/25/2020		
								Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	Edison	Comanche	Hwy. 58	Time:	Yes	No
49)	Business	Boron	Portland			✓	7:53	✓	
50)	Work	Bakersfield	Arvin		✓		7:54	✓	
51)	Work	Bakersfield	Arvin		✓		7:57	✓	
52)									
53)									
54)									
55)									
56)									
57)									
58)									
59)									
60)									

4:00 - 5:30pm

Pass-By and Diverted Link Study for Gas Station/C-Store at Comanche Drive & Hwy 58:								Date: 9/24/2020 Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	Edison	Comanche	Hwy. 58	Time:	Yes	No
1)	Sales Rep	Bakersfield ~~Shell~~	Store			✓	4:16		✓
2)	Work	Bakersfield	Arvin		✓		4:19	✓	
3)	Dinner/Home	Bakersfield	Caliente			✓	4:23	✓	
4)	work	Bakersfield	Bakersfield			✓	4:25	✓	
5)	Home	Tehachapi	Bakersfield	✓			4:26	✓	
6)	Work	Shafter	Bakersfield		✓		4:27	✓	
7)	Vacation	Morro Bay	Lake Powell			✓	4:30	✓	
8)	work	Arvin	Arvin		✓		4:40		✓
9)	Home	Bakersfield	Tehachapi			✓	4:44	✓	
10)	Home	Keene	Bakersfield			✓	4:52	✓	
11)	Work	Vegas	Porterville			✓	4:59	✓	
12)	Home	Delano	Arvin	✓			5:02	✓	

4:30 - 5:30pm

Pass-By and Diverted Link Study for Gas Station/C-Store at Comanche Drive & Hwy 58:								Date: 9/24/2020 Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	Edison	Comanche	Hwy. 58	Time:	Yes	No
13)	Vacation	Redding	Phoenix			✓	5:03	✓	
14)	Home	Bakersfield	Tehachapi			✓	5:08	✓	
15)	Work	Arvin	Bakersfield			✓	5:10	✓	
16)	Work	Arvin	Bakersfield			✓	5:13	✓	
17)	Home	Bay Area	Tehachapi			✓	5:15	✓	
18)	Home	Bakersfield	Tehachapi			✓	5:20	✓	
19)	Work	Arvin	Bakersfield			✓	5:27	✓	
20)									
21)									
22)									
23)									
24)									

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	**Purpose of your trip:**	**Trip Origin:**	**Trip Destination:**	**I5**	**Stockdale Hwy**	**I5**	**Stockdale Hwy**	**Pass-Bys**	**Diverted Link**	**Time:**
1)	Home	Lost Hills	Bakersfield	S			E	X		4:06
2)	Visit Family	San Jose	Ventura	S		S			X	4:10
3)	Vacation	Bakersfield	San Diego		W	S		X		4:13
4)	Home	Oregon	Los Angeles	S		S			X	4:17
5)	Home	Taft	Bakersfield		E		E	X		4:29
6)	Vacation	Los Angeles	San Francisco	S		N			X	4:32
7)	Home	Atascadero	Bakerfield	S			E	X		4:35
8)	Moving	San Diego	Eugene, OR	N		N			X	4:41
9)	Home	Los Angeles	Sacramento	N		N			X	4:47
10)	Work	Bakersfield	Paramount Farms		W	N		X		4:53
11)	Home	Los Angeles	Bakersfield	N			E	X		4:57

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	I5	Stockdale Hwy	I5	Stockdale Hwy	Pass-Bys	Diverted Link	Time:
1)	Moving	San Diego	Oregon	N					X	10:28
2)	Dog Show	San Francisco	Palm Springs	S					X	10:30
3)	Vacation	Oakland	Palm Springs	S					X	10:35
4)	Take Daughter Home	Los Angeles	San Jose	N					X	10:35
5)	Visit Sister	Lahaba	Yuba	N					X	10:38
6)	Deliver Furniture	Bakersfield	Oregon		E	N		X		10:43
7)	Visiting Friends	Bakersfield	San Francisco		E	N		X		10:54
8)	Work	Lebec	Bakersfield		E	N		X		10:54
9)	Vacation	Santa Rosa	Texas	N		S			X	10:55
10)	Work	McFarland	Avenall	S		N			X	11:00
11)	Vacation	Prescott AZ	Napa	S		N			X	11:01
12)	Vacation	Los Angeles	San Francisco	S		N			X	11:03

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	I5	Stockdale Hwy	I5	Stockdale Hwy	Pass-Bys	Diverted Link	Time:
13)	Golf	Sacramento	Palm Springs	N		S			X	11:09
14)	Vacation	Los Angeles	San Francisco	S		N			X	11:11
15)	Visit Friends	San Jose	Los Angeles	N		S			X	11:12
16)	Business	Los Angeles	San Francisco	S		N			X	11:14
17)	Church Revival	Los Angeles	San Francisco	S		N			X	11:20
18)	Vacation	Carson	Eureka	S		N			X	11:20
19)	Moving	Paso Robles	Burbank	N		S			X	11:26
20)	Visit Friends	Los Angeles	Livermore	S		N			X	11:30
21)	Work	Chino	Redding	S		N			X	11:36
22)	Universal Studios	San Francisco	Universal Studios	N		S			X	11:36
23)	Visit Friends	Los Angeles	Sacramento	S		N			X	11:38
24)	Visit Friends	Burbank	San Francisco	S		N			X	11:43

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	I5	Stockdale Hwy	I5	Stockdale Hwy	Pass-Bys	Diverted Link	Time:
25)	Moving	Las Vegas	San Francisco	S		N			X	11:52
26)	Take child to school	Los Angeles	San Francisco	S		N			X	11:53
27)	Take family home	Firebough	Los Angeles	N		S			X	11:53
28)	Work	Oakland	San Diego	N		S			X	11:54
29)	Disneyland	San Bruno	Anaheim	N		S			X	11:55
30)	Visit Friends	Fresno	Los Angeles	N		S			X	11:55
31)	Moving	Phoenix	Menlo Park	S		N			X	11:56
32)	Business	Los Angeles	San Jose	S		N			X	12:03
33)	Vacation	Ensenada	San Francisco	S		N			X	12:03
34)	Work	Buttonwillow	Bakersfield		E		W	X		12:04
35)	Vacation	San Ramon	San Francisco	S		N			X	12:05
36)	College Tour	Los Angeles	Davis	S		N			X	12:10

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	**Purpose of your trip:**	**Trip Origin:**	**Trip Destination:**	**I5**	**Stockdale Hwy**	**I5**	**Stockdale Hwy**	**Pass-Bys**	**Diverted Link**	**Time:**
37)	Business	Bakersfield	Maricopa		W		E	X		12:13
38)	Vacation	San Francisco	Los Angeles	N		S			X	12:14
39)	Work	Lindsey	Long Beach	N		S			X	12:17
40)	Visiting Family	Los Angeles	Sacramento	S		N			X	12:18
41)	Visiting Family	Bakersfield	San Francisco		W	N		X		12:20
42)	Work	Los Angeles	San Francisco	S		N			X	12:21
43)	Vacation	Bakersfield	Napa		W	N		X		12:21
44)	Work	Buttonwillow	Bakersfield		E		W	X		12:22
45)	Work	Bakersfield	Paso Robles		W	N		X		12:24
46)	Visit Family	Los Angeles	Oakland	S		N			X	12:25
47)	Visit Family	Bakersfield	Pismo Beach		E		W	X		12:29
48)	Visit Family	Los Angeles	San Francisco	S		N			X	12:30
49)	Vacation	Burbank	San Jose	S		N			X	12:30

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	I5	Stockdale Hwy	I5	Stockdale Hwy	Pass-Bys	Diverted Link	Time:
1)	Vacation	Ventura	Dublin	S		N			X	4:20
2)	Work	Bakersfield	Sacramento		W	N		X		4:24
3)	Work	Mississippi	Eureka	S		N			X	4:25
4)	Go back to School	San Francisco	San Diego	N		S			X	4:26
5)	Work	Los Angeles	Sacramento	S		N			X	4:41
6)	Work	Concord	Burbank	N		S			X	4:42
7)	Work	Bakersfield	Mckitrick		W		E	X		4:46
8)	Work	Paso Robles	Bakersfield	N			E	X		4:47
9)	Work	Orange County	Cupertino	S		N			X	4:53
10)	Visit Friends	Sacramento	Los Angeles	N		S			X	4:54
11)	Work	Bakersfield	Lost Hills		W		E	X		4:59
12)	Work	BelRidge	Bakersfield		E		W	X		4:59

Driveway Survey for Stockdale Hwy & I5:								Date:		
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	I5	Stockdale Hwy	I5	Stockdale Hwy	Pass-Bys	Diverted Link	Time:
13)	Work	Oxnard	Salinas	N		S			X	5:00
14)	Work	Long Beach	San Jose	S		N			X	5:01
15)	Visit Family	Seaside	Oakland	S		N			X	5:10
16)	Funeral	Stockton	Bakersfield	N			E	X		5:23
17)	Work	Santabarbara	San Francisco	S		N			X	5:24
18)	Work	San Jose	Los Angeles	N		S			X	5:29
19)	Vacation	Mexico	Woodland	S		N			X	5:30
20)	Vacation	Los Angeles	Stockton	S		N			X	5:31
21)	Work	San Francisco	San Diego	N		S			X	5:35
22)	Funeral	Los Angeles	Monteca	S		N			X	5:36
23)	Work	San Francisco	Bakersfield	N			E	X		5:39
24)	Work	Los Angeles	Paso Robles	S		N			X	5:43

Driveway Survey for Stockdale Hwy & I5:								Date:	5/25/2021	
				Primary Route - Arrival		Primary Route - Departure		Survey By:		CF
No.	**Purpose of your trip:**	**Trip Origin:**	**Trip Destination:**	**I5**	**Stockdale Hwy**	**I5**	**Stockdale Hwy**	**Pass-Bys**	**Diverted Link**	**Time:**
25)	Vacation	Stockton	San Diego	N		S			X	5:49
26)	Work	Los Angeles	San Francisco	S		N			X	5:54
27)	Work	Bakersfield	Redwood City		W	N		X		5:56
28)	Work	Tracy	Bakersfield	N			E	X		5:58

Totals:	
Pass-By	29%
Diverted Link	71%

Pass-By and Diverted Link Study:								7:30-8:30	Date:	
				Route In		Route Out		AM	Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	99	119	99	119	Time:	Yes	No
1)	work	Taft	Bakersfield		E	N		7:39	✓	
2)	Dr. Appt.	Bakersfield	LA	S		S		7:42	✓	
3)	work	Bakersfield	Bakersfield		E	N		7:44	✓	
4)	visit family	Bakersfield	Anaheim		E	S		7:48	✓	
5)	work	Bakersfield	Bakersfield		W	N		7:50	✓	
6)	work	Bakersfield	Bakersfield		E	N		7:52	✓	
7)	work	Bakersfield	Taft	S			W	7:53	✓	
8)	Shopping	Bakersfield	LA	S		S		7:57	✓	
9)	Work	Bakersfield	Fresno		E	N		8:01	✓	
10)	Dr Appt.	Bakersfield	Madera		E	N		8:03	✓	
11)	work	Bakersfield	Bakersfield		W		W	8:04	✓	
12)	work	Bakersfield	Bakersfield		E	N		8:07	✓	

Pass-By and Diverted Link Study:									Date:	
				Route In		Route Out		AM	Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	99	119	99	119	Time:	Yes	No
13)	work	Bakersfield	Taft	S			W	8:10	✓	
14)	Vacation	Bakersfield	Yosemite		E	N		8:13	✓	
15)	work	Bakersfield	Bakersfield	S			W	8:14	✓	
16)	work	Bakersfield	Bakersfield		E	S		8:15	✓	
17)	work	Bakersfield	Taft	S			W	8:18	✓	
18)	work	Bakersfield	Bakersfield		W		W	8:19	✓	
19)	work	Fresno	Bakersfield	S			W	8:23	✓	
20)	work	Bakersfield	Bakersfield		E	N		8:28	✓	
21)	work	Bakersfield	Bakersfield	S			W	8:31	✓	
22)										
23)										
24)										

Pass-By and Diverted Link Study:								4:30-5:30 PM	Date:	
				Route In		Route Out			Pass-Bys	
No.	Purpose of your trip:	Trip Origin:	Trip Destination:	99	119	99	119	Time:	Yes	No
1)	Medical	Modesto	Lompoc	S			W	4:35	✓	
2)	Home	Bakersfield	Bakersfield		E	N		4:39	✓	
3)	Home	Taft	Arvin		E		E	4:45	✓	
4)	Work	Bakersfield	LA	S		S		4:49	✓	
5)	To serve papers	Bakersfield	Taft	S			W	4:51	✓	
6)	Home	LA	Fresno	N		N		4:54	✓	
7)	Home	Bakersfield	Bakersfield		E	N		5:04	✓	
8)	Home	Taft	Bakersfield		E	N		5:09	✓	
9)	To visit family	Bakersfield	LA		W	S		5:11	✓	
10)	Home	Bakersfield	Bakersfield	S			E	5:14	✓	
11)	Home	Bakersfield	Bakersfield		E	N		5:17	✓	
12)										