C+R ASSOCIATES

TO: Jessica Heidari; TK Consulting

FROM: Phuong Nguyen, PE; CR Associates (CRA)

DATE: July 29, 2023

RE: Arroyo Vista Fire Evacuation Analysis – Technical Memorandum

The purpose of this technical memorandum is to assess the time required for emergency evacuation under several scenarios, assuming a wind-driven fire that results in an evacuation affecting the Arroyo Vista Project ("Project") and surrounding communities. The following discussion of evacuation traffic simulations is not intended to be an Evacuation Plan, nor include elements typically found in an Evacuation Plan. The sole purpose of the traffic simulations is to focus on the vehicle travel times in simulated evacuation events.

Background and Purpose

This memorandum provides a summary of the traffic simulations conducted for evacuation of the Project and surrounding community due to a wildfire. The simulations have been conducted for a variety of evacuation scenarios described below. Modeling potential evacuation traffic impacts requires that numerous assumptions be made to address many variables that will impact a real-life evacuation scenario, including the number of existing vehicles in the community, the number of project vehicles that will need to evacuate, the roadway capacities and whether enhancements are provided (e.g., extra lanes, lane widening, signaling intersections), the total number of intersections and how they will be operating, the final destination, the targeted evacuation area, the total mobilization time, vegetation communities, weather and wind, fire spread rates, humidity, topography, risk to homes, locations of ignitions and new fire starts, and lead time needed, etc. There are many hundreds or thousands of potential model scenarios, and every fire scenario poses variations that regularly change and are reassessed "real-time" during a wildfire. Agencies involved in implementing an evacuation order would not rely on a project-specific evacuation plan, but on situational awareness and wildfire pre-plans, which act as operational tools to provide high-level fire assessments and assets at risk, preferred evacuation approaches, and safety information to inform evacuation decision-making.

The following analysis is intended to present representative evacuation scenarios using the best available information, conservative assumptions, and the best available modeling technology. In an actual emergency, unified command will take into account numerous factors including fire location and spread rates, wind speeds and direction, humidity, topography, fuel loading, emergency access routes, evacuation routes, shelter-in-place options, time needed to evacuate, and other variables, and will issue specific evacuation or shelter-in-place directives consistent with the process and protocols outlined in the City's and County's Emergency Operations Plans. During a wildfire, residents should comply with those directives from authorities and first responders conducting the evacuation or emergency response. The evacuation traffic model used herein is appropriate for planning and comparison purposes but will likely not be relied on by first responders and should not be relied on by residents in time of an emergency; however, it provides useful information that will be provided to agencies and emergency managers.

The roadway network and vehicle input assumptions also have been selected to simulate a "worst-case" evacuation scenario that would occur on a weekend when all Project residents and the surrounding community are at home when ordered to evacuate. This "worst-case" evaluation is not required by law. Nonetheless, this preparer imposed a "worst-case" evaluation out of an abundance of caution. The assumptions that a mass evacuation would occur at on a weekend when all Project residents and the surrounding community are at home when the evacuation order is provided represents an extreme, worst-case condition. In an actual wildfire event, phased evacuation orders would be given to provide for a more orderly evacuation, and it is likely that fewer residents would be present onsite.

Accordingly, given the highest probability wildfire scenarios that would result in evacuation, the perimeter populations in certain locations may be targeted for evacuation. This type of evacuation is consistent with management of recent wildfires throughout southern California and Riverside County, including the Palisades Fire in 2021, where the phased/surgical evacuation practice has been implemented with great success.

Project Description

The proposed Project which is located on the northwest corner of Chicago Avenue and Iris Avenue in the Woodcrest area of unincorporated County of Riverside is composed of 233 single family detached residential dwelling units. The Project is to construct the following improvement as a design feature in conjunction with development of the site:

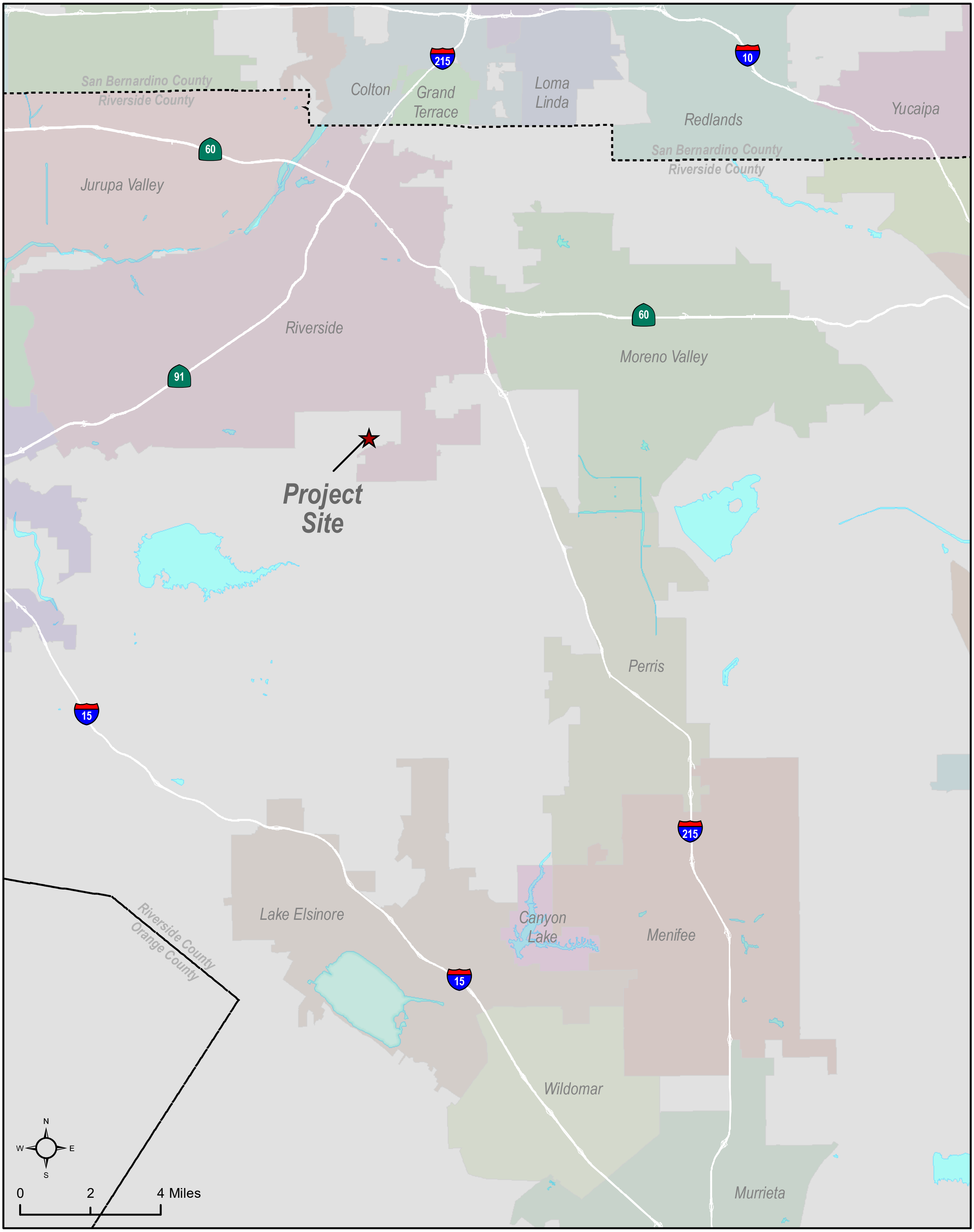
- Project to construct Iris Avenue along the Project's frontage at its ultimate half-section width as a Local Street (60-foot right-of-way) from Chicago Avenue to the Project's western boundary consistent with the County's standards.
- Project to construct existing Chicago Avenue right of way along the Project's frontage at its ultimate half-section width as a modified Local Street (60-foot right-of-way) from the emergency vehicle access to Gentian Avenue, consistent with the County's standards.

Figure 1 displays the proposed Project location and study area, and **Figure 2** displays the proposed Project site plan.

Assumptions

This evacuation analysis was performed for the Project to determine how long it would take for residents of the proposed Project and the surrounding communities to evacuate to nearby urban areas/freeway access in case of a fire emergency. Current evacuation practice typically targets the scope of the evacuation only to the area in immediate danger and placing a larger area on standby for evacuation. This practice allows for better evacuation operations, reduces gridlock, and reserves sufficient travel way for emergency vehicles. It is assumed that first responders or law enforcement will direct traffic at all major intersections during the evacuation process.

During the evacuation process, which can proceed aided by the roadside fuel modification zones and unexposed corridors, wildfire spread, and encroachment may be slowed by fire-fighting efforts that would likely include fixed wing and helicopter fire-fighting assets. Hand crews would also be deployed toward containment. None of the evacuation scenarios assumed counter-flow lanes, as these lanes are reserved for first responders, law enforcement, and fire fighters in case of unforeseen circumstances. Because the proposed Project consists of primarily residential land uses, this analysis assumed a weekend evacuation order, where all the residents are home, and that each household would take all their vehicles during an evacuation.



Arroyo Vista Evacuation Analysis

Figure 1
Regional Location

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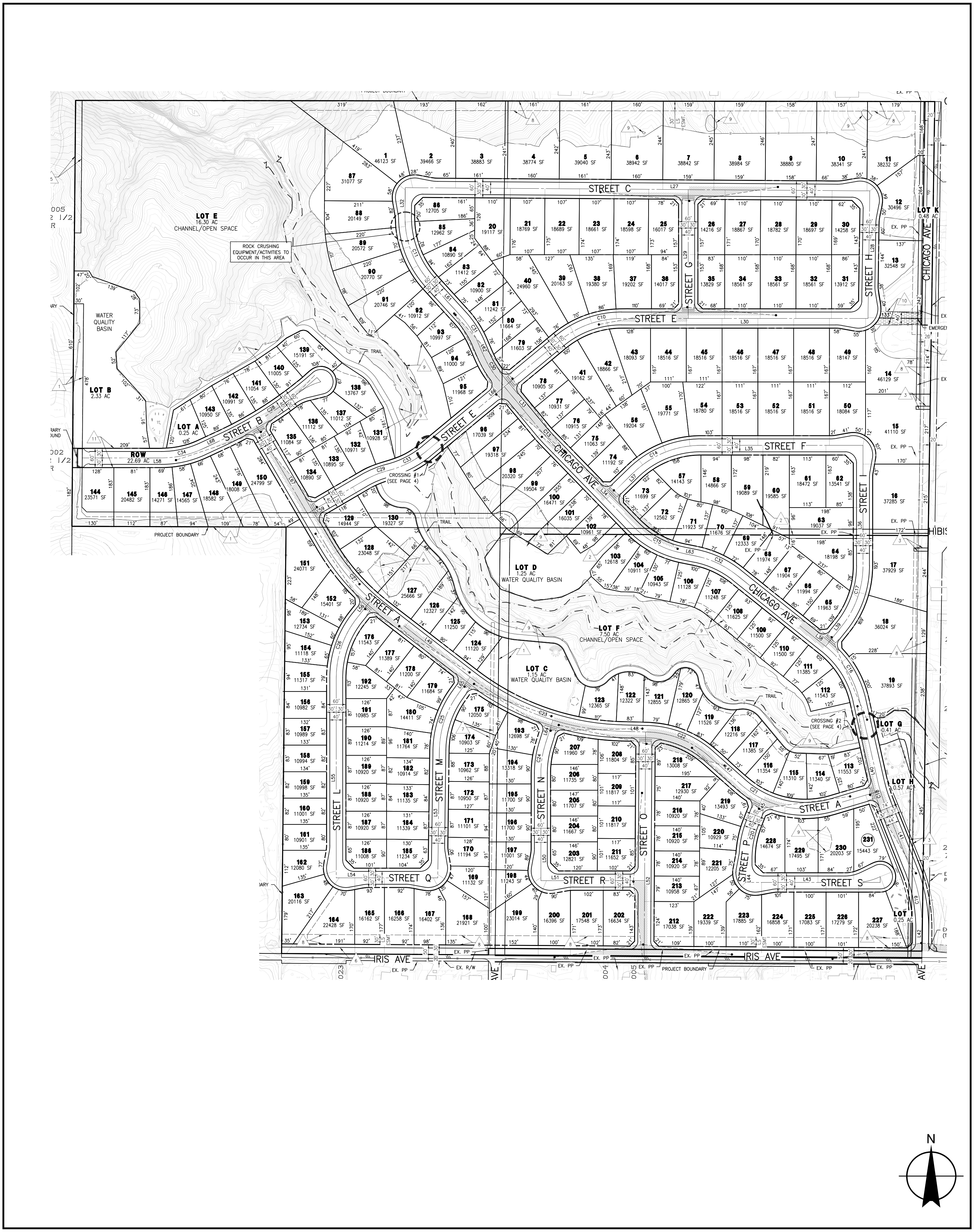

Arroyo Vista Evacuation Analysis

Figure 2
Project Site Plan

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Weekend Evacuation; 100% Occupancy

CRA assumed that the evacuation would occur on the weekend when all residents are home and the parking lot associated with the Amos Temple Church is fully occupied. The assumption was that all residential and non-residential vehicles would participate in the evacuation. In an actual wildfire scenario, it is likely that fewer vehicles would be present on the Project site and within the surrounding communities when an evacuation order is given.

Weekend Evacuation is the most conservative scenario, as this scenario assumed that all residents are at home and visitors/members/patrons/employees of nearby non-commercial land uses such as the Amos Temple Church or the Flat Top Bar and would evacuate with all available vehicles.

Primary Evacuation Routes

Based upon review of previous fires, evacuation orders, and the Riverside Fire Severity Zone Map[1], it is assumed that evacuating vehicles would use the closest route to evacuate to a safe area. It is assumed that traffic evacuating from both the Project and nearby communities would use Van Buren Boulevard, Gardner Avenue, Sage Avenue, Sage Avenue, Porter Avenue, Gamble Avenue, Chicago Avenue, and other local roads to travel to more urbanized, fire-safe areas. This presents a worst-case scenario by assuming more traffic would utilize these roadways despite the other available options that may be employed in an actual evacuation scenario, such as shelter in place or targeted evacuation. **Figure 3** displays the evacuation routes and evacuation area within the study area. Detailed evacuation analysis information is provided in **Attachment A**.

No contraflow lanes were assumed to provide access.[2] Two-way travel was assumed, with evacuating vehicles traveling outbound to the Safe Zone. It is assumed that first responders or law enforcement will direct traffic at all major intersections during the evacuation process. Should evacuation managers determine that contraflow is preferred or necessary, evacuation capacity would increase while evacuation times would decrease.

Safe Zone

Based on review of the County's fire history, fires have halted along areas adjacent to wildland fuels and have not historically progressed into the more densely urbanized, irrigated, and hardscaped areas. Thus, it is assumed that evacuees are considered to reach a safe area once they travel past an urbanize area (Washington Street to the west or Wood Road to the east).

A total of five evacuation scenarios were analyzed:

- **Scenario 1** – *Existing Land Uses*: This scenario estimates the evacuation time for the existing land uses within the study area.

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[1] https://koordinates.com/layer/96850-riverside-county-ca-fire-hazard-severity-zones/

[2] Contraflow or lane reversal involves directing traffic to use lanes coming from the source of a hazard to move people away from the hazard. Such a strategy can be used to eliminate bottlenecks in communities with road geometries that prevent efficient evacuations or to facilitate traffic flow out of a major urban area. Among the considerations in planning emergency contraflow are whether sufficient traffic control officers are available, potential negative impact on responding fire apparatus, access management, merging, exiting, safety concerns, and labor requirements. Contraflow configurations must be carefully planned based on on-site factors and should not be implemented in an *ad-hoc* fashion. Dudek July 2014. "Wildland Fire Evacuation Procedures Analysis" for City of Santa Barbara, California, page 65.

- **Scenario 2** – *Proposed Project Only*: This scenario assumed full evacuation of the proposed Project.
- **Scenario 3** – *Existing Land Uses with the proposed Project*: This scenario is similar to Scenario 1, with the addition of the proposed Project traffic.
- **Scenario 4** – *Existing Land Uses with Cumulative Projects*: This scenario is similar to Scenario 1 with the addition of cumulative traffic. Although the Arroyo Vista Traffic Analysis (Urban Crossroad, March 2023) identified 28 cumulative projects in the City of Riverside, 4 projects within the County of Riverside, and 14 projects in the March Joint Power Authority, none of these projects share the same evacuation route as the proposed Project. Thus, for a conservative analysis and consistent with the traffic analysis, a 10.41% ambient growth was assumed for this scenario.
- **Scenario 5** – *Existing Land Uses with Cumulative Projects with the proposed Project*: This scenario is similar to Scenario 4, with the addition of the proposed Project traffic.

Evacuating Vehicles

The number of evacuating vehicles was calculated by taking the total number of residential units and multiplying it by the average vehicle ownership of each area, full occupancy of the Amos Temple Church parking lot, and Saturday May 13, 2023 parking counts for commercial centers within the evacuation area. Average vehicle ownership, residential units, and parking calculations are provided in Attachment A. **Table 1** displays the number of vehicles evacuating under each scenario.

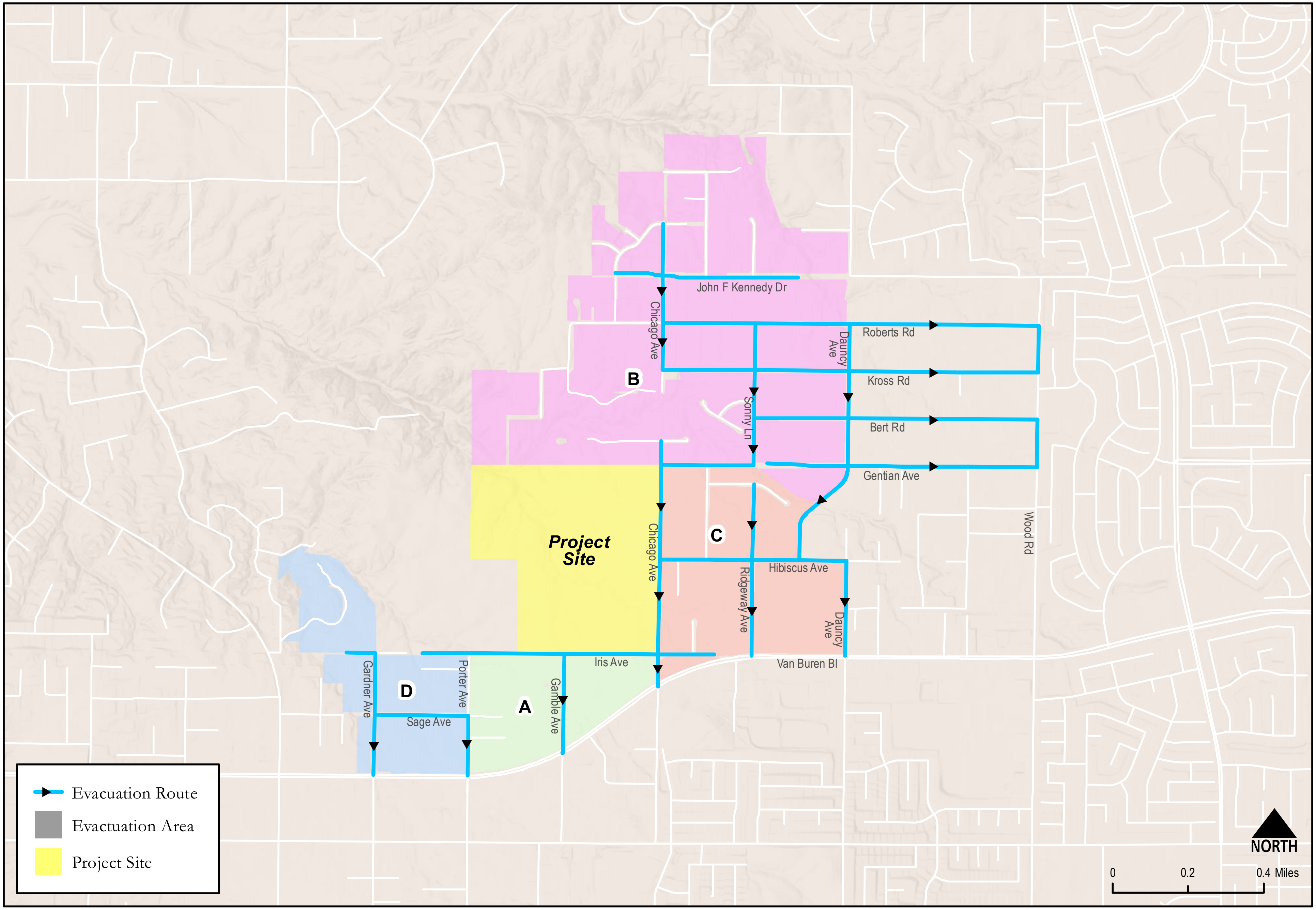
Table 1 – Evacuating Vehicles

Scenario	Number of Evacuating Vehicles					
	Nearby Land Uses (Area)				Project	Total
	A	B	C	D		
Scenario 1 – Existing Land Uses	342	740	450	430	0	1,962
Scenario 2 – Proposed Project Only	0	1	2	3	680	686
Scenario 3 – Existing Land Uses with Proposed Project	342	740	450	430	680	2,642
Scenario 5 – Existing Land Uses with Cumulative Projects	380	820	500	480	0	2,180
Scenario 6 – Existing Land Uses with Cumulative Projects with the proposed Project	380	820	500	480	680	2,860

Source: CR Associates (2023), US Census Bureau (2023), Google Maps (2023).

For this analysis, it was assumed that five percent (5%) of the vehicles involved in evacuation would be heavy vehicles (trucks with trailers). This assumption was made to account for nearby agricultural and industrial land uses which may have a higher proportion of heavy vehicles compared to regular land uses. The assumption of five percent is considered conservative, as the nationally accepted ratio of heavy vehicles to all vehicles is two percent[3].

[3] https://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_599.pdf (p.5). Given that there are no industrial land uses within the evacuation area, this assumption is very conservative in nature.



Arroyo Vista Evacuation Analysis

Figure 3
Evacuation Routes and Evacuation Area

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Mass Evacuation

A mass evacuation scenario was modeled in which all area residents would evacuate at the same time. This assumption presents a worst-case scenario as all traffic would be directed to the evacuation roadways at once. Mass evacuation events can overwhelm a roadway's capacity, which, when reaching a threshold traffic density, begins to decrease traffic flow.

In an actual "real-life" wildfire event, a phased evacuation would be implemented where orders are given to evacuate based on vulnerability, location, and/or other factors, which reduces or prevents traffic surges on major roadways and improves traffic flow. The phased evacuation strategy also prioritizes the evacuation of residents in proximity to the immediate danger, giving emergency managers the ability to monitor the fire situation and decide in real time based on changing conditions whether to order additional evacuations as needed, or not.

Extreme Wildfire Event

The evacuation analysis set forth below assumes a Santa Ana-wind driven fire from the north and/or east of the study area and travels in a westerly and southerly direction. This fire condition is the one most likely to require a large-scale evacuation, and the one that creates the most risk to property and humans.

In California, wildfire-related large-scale evacuations are almost exclusively associated with wildfires that occur on extreme fire weather days, also known as "Red Flag Warning" days. These days occur when relative humidity drops to low levels and strong winds from the north/northeast are sustained. With climate change, periods in which such wildfires occur may increase. During Red Flag Warning days, vegetation is more likely to ignite and fire spread is more difficult to control. In the greater Santa Clarita region, these extreme weather days typically occur during limited periods in the late summer, fall and, occasionally, in the spring, but may occur at other times on a less frequent basis. Currently, it is not common to experience more than 15 to 20 Red Flag Warning days in a typical year. Wildfires that occur during these periods of extreme weather are driven by winds –referred to as "Santa Ana" winds – that come from the north or east and blow toward the south or west. Fires driven by these winds move very quickly, making them difficult to control. In response to such fires, emergency managers typically activate pre-planned evacuation triggers that require down-wind communities to sequentially be notified to evacuate and move to nearby urbanized areas prior to the fire's encroachment.

Wildfires that occur on non-extreme weather days behave in a much less aggressive manner and pose fewer dangers to life and property because they include less aggressive fire behavior and are easier to control. Terrain and fuel are typically the wildfire drivers. During these non-extreme weather days, vegetation is much more difficult to ignite and does not spread fire as rapidly. In these situations, firefighters have a very high success rate of controlling fires and keeping them under 10 acres. CALFIRE estimates that 90% of all vegetation fires occur during normal, onshore weather conditions and that such fires account for only 10% of the land area burned. Conversely, the 10% of wildfires that occur during extreme fire weather account for 90% of the land area burned. This data highlights that the most dangerous fire conditions are those related to a fire that moves rapidly due to high winds and low humidity, whereas under normal conditions fires are likely to be controlled with no evacuation or possibly limited extent, focused evacuations.

While it is possible that a fire driven by onshore wind (i.e., from the west) could require evacuation of the Project, such an event would be highly unusual. Moreover, due to the reduced fire behavior during normal weather periods, the evacuation would not be expected to be a large-scale evacuation of large areas. Instead, most of the Project area population would be anticipated to remain at their locations and within their communities, with a more targeted evacuation being ordered, if any.

Analysis Methodology

The analysis methodology utilized the following equation for determining evacuation time:

Evacuation Time = (Evacuation Population / Average Vehicle Occupancy) / Roadway Capacity

To analyze the evacuation events, CRA conducted simulations using *Vissim*, a microscopic, multimodal traffic flow modeling software used to simulate different traffic conditions. In *Vissim* simulations, roadway capacity is accounted for and each vehicle in the traffic system is individually tracked through the model and comprehensive measures of effectiveness, such as average vehicle speed and queueing, are collected on every vehicle during each 0.1-second of the simulation. This software enables drivers' behaviors during an evacuation to be replicated. A total of 20 simulations were conducted to yield a reasonable sample size to determine the performance of the study area roadways and impacts during evacuation scenarios. To be conservative, CRA assumed a worst-case scenario in which all vehicles belonging to households in the study area would be used in the evacuation, instead of the necessary number of vehicles needed to evacuate the impacted population.

Evacuation Analysis & Results

Based on the analysis methodology described above, **Table 2** reflects evacuation times for each scenario. The evacuation time does not depict the time for *each* population modeled, but rather the time needed to evacuate *all* populations modeled. Populations located in closer proximity to the safe zone will safely evacuate sooner than the calculated evacuation time.

Table 2 – Evacuation Time Summary – All Scenarios

Scenario	Total Evacuation Vehicles	Evacuation Time (Hours: Minutes)				
		Nearby Land Uses				Project
		A	B	C	D	
Scenario 1 – Existing Land Uses	1,962	0:21	0:27	0:24	0:13	N/A
Scenario 2 – Proposed Project Only	686	N/A	N/A	N/A	N/A	0:26
Scenario 3 – Existing Land Uses with Proposed Project	2,642	0:24	0:39	0:31	0:18	0:31
Scenario 4 – Existing Land Uses with Cumulative Projects	2,180	0:22	0:28	0:27	0:15	N/A
Scenario 5 – Existing Land Uses with Cumulative Projects with the proposed Project	2,860	0:25	0:41	0:33	0:20	0:31

Source: CR Associates (2023).

Although there are no established thresholds for determining whether evacuation times are safe, the Federal Emergency Management Agency (FEMA) has provided a general guideline for reasonable community evacuations of 90 minutes[4]. Therefore, with the Project, the evacuation times are well within the 90-minute timeframe and the analyzed timeframe is based on a very conservative scenario, with actual evacuation times expected to occur over a shorter time frame.

[4] From Fire Services Operational Assessment, Otay Ranch Village 14, Rohde & Associates Emergency Management. 26 pp.

Analysis and Conclusion

Neither CEQA, nor the County has adopted numerical time standards for determining whether an evacuation timeframe is appropriate. Public safety, not time, is generally the guiding consideration for evaluating impacts related to emergency evacuation. The County considers a Project's impact on evacuation significant if the Project will significantly impair or physically interfere with implementation of an adopted emergency response or evacuation plan; or if the Project will expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

The County of Riverside has historically had an extremely high success rate for safely evacuating large numbers of people and doing so in a managed and strategic way using available technological innovations. Safely undertaking large-scale evacuations may take several hours or more and require moving people long distances to designated areas. Further, evacuations are fluid and timeframes may vary widely depending on numerous factors, including, among other things, the number of vehicles evacuating, the road capacity to accommodate those vehicles, residents' awareness and preparedness, evacuation messaging and direction, and on-site law enforcement control.

Notwithstanding evacuation challenges and variables, the success rate in the County of Riverside in safely managing both mass and targeted evacuations is nearly 100% safe evacuations based on research showing there were no fire-caused deaths during an evacuation. Technological advancements and improved evacuation strategies learned from prior wildfire evacuation events have resulted in a system that is many times more capable of managing evacuations. With the technology in use today in the County, evacuations are more strategic and surgical than in the past, evacuating smaller areas at highest risk and phasing evacuation traffic so that it flows more evenly and minimizes the surges that may slow an evacuation. Mass evacuation scenarios where large populations are all directed to leave simultaneously, resulting in traffic delays, are thereby avoided, and those populations most at risk populations are able to safely evacuate.

Based on the evacuation simulations above, evacuation traffic generated by the Project would not significantly increase the average evacuation travel time or result in unsafe evacuation timeframes. Although there is a potential increase in evacuation times of up to 12 minutes for existing communities, the evacuation times under the with Project conditions are all under the 90 minutes threshold provided above.

The information presented above will be provided to law enforcement and fire agencies for use in pre-planning scenarios to better inform in the field decisions made pursuant to adopted Emergency Response Plans. Emergency personnel who issue an evacuation order may consider these time estimates in determining when and where to issue evacuation orders. In a real evacuation scenario, emergency managers may use alternative actions/options to further expedite evacuation. Such actions may include providing additional lead time in issuing evacuation orders, prioritizing area at higher risks, providing alternative signal control at downstream intersections, utilizing additional off-site routes or directing traffic to roadways with additional capacity, implementing contra-flow lanes, issuing "shelter-in-place" orders when determined to be safer than evacuation, or considering the possibility of a delayed evacuation where parts of the population could be directed to remain on-site until the fire burns out in the sparse fuels around the evacuation route. These options require "in the field" determinations of when evacuations are needed and how they are phased to maximize efficiency. Overall, safe evacuation of the Project and surrounding community is possible in all modeled scenarios.

Limitations

CRA has presented a conservative analysis simulating evacuation during an extreme wildfire event. However, as discussed above, wildfires are variable events. The underlying planning principle for fire preparedness, given the dynamic nature of a fire, is to demonstrate the availability of multiple route alternatives and response strategies to permit emergency professionals to manage their response according to the specific circumstances. The Project area provides ample route and response alternatives that were not considered in this model. Emergency responders will coordinate the safest possible evacuation based on the dynamic circumstances of the actual event, including the appropriate phasing of the evacuation, and utilization of the most appropriate ingress and egress routes for area residents and emergency responders.

The breadth of route alternatives and response strategies available to emergency professionals to manage a potential fire in the County cannot and should not be evaluated using this evacuation analysis alone.

This travel time analysis presents a reasonable vehicle travel time estimate based on professional judgment made by CRA based on after fire report from previous evacuation in Southern California. Changing any number of these assumptions can lengthen or shorten the average vehicle travel time.

For instance, a situation could arise in which professionals *may* choose to utilize additional roadways for evacuation not utilized in the analyses and *may also* choose to guide vehicle trips to more or different route permutations relative to what has been modeled in this analysis. A phased evacuation is also likely to be implemented, which improves the orderly flow of traffic in an evacuation scenario.

The net result of changing the variables selected could yield an average evacuation travel time shorter or longer than the results detailed in the analysis. Many factors can shorten or lengthen the vehicle time from the results shown herein. For example:

1. Changing the evacuation area affected by the evacuation order would affect the results.

2. Increasing or decreasing the number of path permutations and percentage of the population utilizing each route that leads out of the immediate area could shorten or lengthen vehicle travel time relative to the results shown herein.

3. Emergency professionals electing to reserve certain travel lanes for emergency vehicle ingress for periods of time could affect the travel time relative to the results shown herein.

4. Assuming evacuees utilize fewer or more vehicles to evacuate from their homes relative to the vehicle utilization rate selected in the analysis would shorten or lengthen vehicle travel time relative to the results shown herein.

5. Changing the mix of vehicle trips allocated to each evacuation route could shorten or lengthen vehicle travel time relative to the results shown herein.

6. Assuming different road condition adjustment factors could shorten or lengthen the vehicle travel time relative to the results shown herein.

7. Assuming fewer people are at home when the evacuation notice is given would reduce the number of vehicle trips and shorten vehicle travel time relative to the results shown herein. For instance, an evacuation during daytime hours could result in fewer outbound trips than assumed in this analysis.

8. Assuming some portion of vehicle trips are made in advance of the evacuation notice would reduce the number of vehicle trips relative to the results shown herein.

9. Assuming emergency professionals elect to implement contraflow on certain roadways to open up additional lanes for emergency evacuation egress could reduce the travel time results shown herein.

This evacuation time analysis is necessarily limited in scope given the numerous variables inherent in a wildfire and evacuation event. However, as discussed above, it is not anticipated that the Project will significantly impact evacuation of the proposed or existing surrounding communities based on evacuation times and other qualitative considerations.

<u>Prepared by</u>

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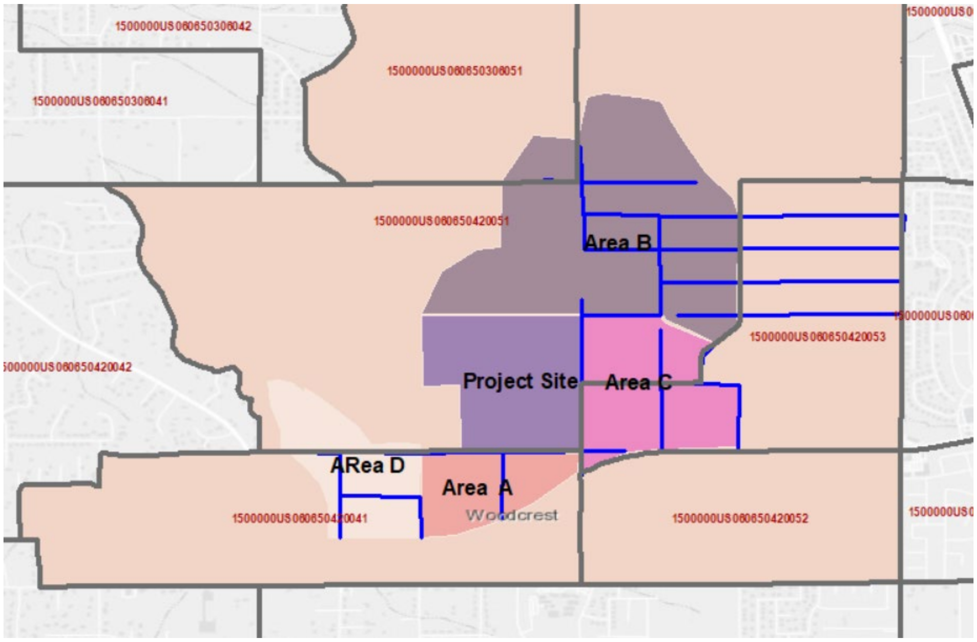
Attachment A
Evacuating Vehicles Calculation

Vehicle Ownership Calculation



			Project Site		
Join ID	306051	420041	**420051**	420052	420053
Total:	778	493	665	441	307
Owner occupied:	724	427	621	385	250
No vehicle available	9	0	0	0	0
1 vehicle available	57	37	22	34	10
2 vehicles available	255	95	273	167	64
3 vehicles available	202	43	200	70	150
4 vehicles available	79	45	55	114	9
5 or more vehicles available	122	207	71	0	17
Renter occupied:	54	66	44	56	57
No vehicle available	0	19	0	0	0
1 vehicle available	0	10	16	0	30
2 vehicles available	8	18	0	28	0
3 vehicles available	37	15	0	6	8
4 vehicles available	9	0	0	22	19
5 or more vehicles available	0	4	28	0	0
Total Vehicles	2262	1682	**1899**	1196	839
Average Vehicles per HH	2.907455	3.411765	**2.855639**	2.712018	2.732899

Zone	A	B	C	D	Project
Single/Multi Family Residential	46	258	94	113	235
Average Vehicle Ownership	3.41	2.86	2.86	3.41	2.86
Total Veh (Residential) - Round up Nearest 10	160	740	270	390	680
Other LU					
Amos Temple Church (30 parking spaces)	30				
Commercial	152		180	40	
Total Evacuating Passenger Vehicles	342	740	450	430	680
Cumulative Projects (10.41% Growth)	38	80	50	50	0
Total Evacuating Passenger Vehicles under Cumulative, Rounded up to nearest 10.	380	820	500	480	680

Attachment B
Evacuation Analysis Worksheets

Existing

Start Zone	Start Gate	Start Time	End Zone	End Gate	End Time	Elapse Seconds	Elapse Time
A	1	907.805	Area A Evac	9	1519.37	611.565	0:10
A2	2	241.38	Area A Evac	9	1519.37	1277.99	0:21
B1	3	233.65	Area B Evac	10	1879.01	1645.36	0:27
B2	4	911.605	Area B Evac	10	1879.01	967.405	0:16
B3	5	917.975	Area B Evac	10	1879.01	961.035	0:16
C	6	906.97	Area C Evac	11	2398.465	1491.495	0:24
D	7	907.365	Area D Evac	12	1725.615	818.25	0:13

Existing + Project

Start Zone	Start Gate	Start Time	End Zone	End Gate	End Time	Elapse Seconds	Elapse Time
A	1	907.805	Area A Evac	9	1705.725	797.92	0:13
A2	2	241.38	Area A Evac	9	1705.725	1464.345	0:24
B1	3	233.65	Area B Evac	10	2575.92	2342.27	0:39
B2	4	911.605	Area B Evac	10	2575.92	1664.315	0:27
B3	5	917.975	Area B Evac	10	2575.92	1657.945	0:27
C	6	906.97	Area C Evac	11	2796.405	1889.435	0:31
D	7	907.365	Area D Evac	12	2029.625	1122.26	0:18
Project	8	223.525	Project Evac	13	2089.655	1866.13	0:31

Project Only

Start Zone	Start Gate	Start Time	End Zone	End Gate	End Time	Elapse Seconds	Elapse Time
Project	8	223.525	Project Evac	13	1799.665	1576.14	0:26

Cumulative

Start Zone	Start Gate	Start Time	End Zone	End Gate	End Time	Elapse Seconds	Elapse Time
A	1	907.805	Area A Evac	9	1571.895	664.09	0:11
A2	2	240.235	Area A Evac	9	1571.895	1331.66	0:22
B1	3	233.22	Area B Evac	10	1972.315	1739.095	0:28
B2	4	911.605	Area B Evac	10	1972.315	1060.71	0:17
B3	5	917.975	Area B Evac	10	1972.315	1054.34	0:17
C	6	906.97	Area C Evac	11	2534.155	1627.185	0:27
D	7	907.365	Area D Evac	12	1812.81	905.445	0:15

Cumulative + Project

Start Zone	Start Gate	Start Time	End Zone	End Gate	End Time	Elapse Seconds	Elapse Time
A	1	907.805	Area A Evac	9	1755.4	847.595	0:14
A2	2	240.235	Area A Evac	9	1755.4	1515.165	0:25
B1	3	233.22	Area B Evac	10	2733.37	2500.15	0:41
B2	4	911.605	Area B Evac	10	2733.37	1821.765	0:30
B3	5	917.975	Area B Evac	10	2733.37	1815.395	0:30
C	6	906.97	Area C Evac	11	2909.525	2002.555	0:33
D	7	907.365	Area D Evac	12	2133.85	1226.485	0:20
Project	8	223.525	Project Evac	13	2142.485	1918.96	0:31