



City of Santa Rosa  
Planning & Economic  
Development Department  
Aug 5, 2022  
RECEIVED

December 9, 2021

Mr. Janver Holly  
Holly and Associates  
73 St. James Drive  
Santa Rosa, CA 95403

## **PRELIMINARY Focused Traffic Study for the Lago Fresco Project**

Dear Mr. Holly;

As requested, W-Trans has prepared a focused traffic analysis for the proposed Lago Fresco residential project to be located at 4730 Hoen Avenue in the City of Santa Rosa. The purpose of this letter is to provide the project's anticipated trip generation, evaluate the VMT and adequacy of site access for all modes of transportation, address potential sight distance issues, and determine parking needs.

### **Existing Conditions**

The study area consists of Hoen Avenue, which runs along the frontage of the project site in the City of Santa Rosa. Hoen Avenue is an approximately 1.5-mile long east-west corridor extending from Farmers Lane to Summerfield Road, with a posted speed limit of 35 mph. Hoen Avenue is predominantly a three-lane arterial with a center two-way left-turn lane and turn pockets in select locations and at major intersections, and Class II bike lanes in each direction. Based on traffic count data provided by the City of Santa Rosa for February 19, 2019, the section of Hoen Avenue between Yulupa Avenue and Summerfield Road has a daily traffic volume of about 15,100 vehicles.

### **Project Description**

The project as proposed includes 50 apartment units on a currently vacant 1.31-acre site. Access to the site would occur via a new driveway on Hoen Avenue. The project would provide 65 parking spaces. The proposed 50 apartment units consist of 20 one-bedroom, 22 two-bedroom, 4 three-bedroom, and 4 four-bedroom units.

### **Collision History**

The collision history for Hoen Avenue/Summerfield Road intersection was reviewed to determine any trends or patterns that indicate a safety risk that may be exacerbated by the addition of project traffic. Average annual collision rates were calculated based on records for October 1, 2015 through September 30, 2020 obtained through the California Highway Patrol and published in their Statewide Integrated Traffic Records System (SWITRS) reports.

The statewide average collision rate for a signalized, four-legged urban intersection is 0.24 collisions per million vehicles entering (c/mve). The study intersection had seven reported collisions over the five-year study period for a calculated collision rate of 0.22 c/mve, which is lower than the statewide average, indicating that the intersection is generally operating safely. One of the seven collisions was caused by traffic signals and signs. The remaining six collisions recorded were a result of improper turning, right-of-way violations, and unsafe lane changing.

### **Trip Generation**

The anticipated daily and peak hour trip generations for the proposed apartments were estimated using standard rates published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual, 10<sup>th</sup> Edition, 2017 for "Multifamily Housing (Mid-Rise)" (LU #221). Based on application of these rates, the proposed project would be expected to generate an average of 272 trips per day, including 18 a.m. peak hour trips and 22 p.m. peak hour trips. These results are summarized in Table 1.

**Table 1 – Trip Generation Summary**

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Multifamily Housing (Mid-Rise)	50 du	5.44	272	0.36	18	5	13	0.44	22	13	9

Note: du = dwelling unit

## Vehicle Miles Traveled

Senate Bill (SB) 743 established a change in the metric to be applied to determining transportation impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service analysis, the increase in vehicle-miles-travelled (VMT) as a result of a project will be the basis for determining environmental impacts. The City of Santa Rosa issued guidelines for VMT analysis, as outlined in *Vehicle Miles Traveled (VMT) Guidelines Final Draft*, dated June 5, 2020. Many of the VMT significance criteria in these guidelines are consistent with guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018. This document indicates that a residential project generating vehicle travel that is 15 percent or more below the existing citywide residential VMT per capita may be an appropriate VMT threshold.

The VMT associated with the project was adjusted based on the density. The publication *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association (CAPCOA), 2021, includes a methodology to determine the VMT reductions associated with increases in residential density using conventional single-family home development as a baseline. With 50 proposed units on a site of 1.31 acres, the project has a residential density of 38.2 units per acre, resulting in a maximum reduction of 30 percent in VMT. Applying this reduction to the estimated VMT per capita of 17.39 results in a project-specific rate of 12.17 VMT per capita. This is below the VMT significance threshold of 14.05 VMT per capita. Accordingly, the project as proposed would be expected to result in a less-than-significant VMT impact. The VMT findings are shown in Table 2 and a copy of the spreadsheet is enclosed for reference.

**Table 2– Vehicle Miles Traveled Analysis Summary**

VMT Metric	Baseline VMT Rate (Countywide Ave)	Threshold (15% Below Countywide Ave)	Project VMT Rate		
			Base Unadjusted (TAZ 605)	With Density Adjustment	Significance Finding
Residential VMT per Capita (Countywide Baseline)	16.53	14.05	17.39	12.17	Less than Significant

Note: VMT Rate is measured in VMT per Capita, or the number of daily miles driven per resident; TAZ=Traffic Analysis Zone

**Finding** – The project would be expected to have a less-than-significant transportation impact on vehicle miles traveled.

## Alternative Modes

### Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. Continuous sidewalk coverage is provided on Hoen Avenue on both sides of the street. Additionally, sidewalks are provided along the property frontages on Hoen

Avenue and Summerfield Road and the signalized intersection at Hoen Avenue/ Summerfield Road has crosswalks on all legs and pedestrian phases.

**Finding** – Pedestrian facilities serving the project site are adequate.

### **Bicycle Facilities**

Existing bicycle lanes on both sides of Hoen Avenue and both sides of Summerfield Road would provide adequate access for bicyclists.

**Finding** – Bicycle facilities serving the project site are adequate.

### **Transit Facilities**

The nearest bus stop is at Summerfield Road/Hoen Avenue, which is within a half-mile walking distance of the project site.

Santa Rosa CityBus Route 8 provides service between eastern Santa Rosa and the Santa Rosa Transit Mall Terminal and makes a stop at the Summerfield Road/Hoen Avenue intersection. Route 8 operates Monday through Friday with approximately half-hour headways between 6:00 a.m. and 7:30 p.m. On weekends, Route 8 operates with approximately half-hour headways between 10:30 a.m. and 4:30 p.m.

**Finding** – Transit facilities serving the project site are adequate.

### **Parking**

Parking was evaluated to determine if the proposed parking supply would be adequate to satisfy City requirements for the 50 multifamily housing units, six of which would be affordable. Per the preliminary site plan, a total of 65 parking spaces would be provided on-site, including 12 covered stalls, 24 covered tandem stalls and 29 uncovered spaces.

### **City Requirements and ITE Parking Demand**

Section 20-36.040 of the Santa Rosa City Code requires multifamily housing to provide parking at a rate of 1.0 covered space and half a visitor space for one-bedroom apartments, and 1.0 covered space plus 1.5 visitor spaces per unit for two-bedroom, three-bedroom, and four-bedroom apartments. Based on the 20 one-bedroom units, 22 two-bedroom units, 4 three-bedroom units, and 4 four-bedroom units, 50 resident spaces and 55 visitor parking spaces would need to be provided on-site to meet City Code. The parking supply is, therefore, 40 spaces short of meeting strict application of the City's requirements.

It is understood that a density bonus is being requested for this project, including a concession on the parking requirement. Under the State's Density Bonus law, a project that provides affordable housing can only be required to provide one parking space per one-bedroom unit, 1.5 spaces per two- or three-bedroom unit, and 2.5 spaces per four-bedroom unit, or a total of 69 spaces for the proposed 50-unit project, which exceeds the 65 spaces proposed by four spaces.

Because there may be concerns about the adequacy of the parking supply as proposed, parking demand rates included in the publication *Parking Generation*, 5<sup>th</sup> Edition, Institute of Transportation Engineers, 2019 were consulted to assess the project's anticipated total parking demand. Using rates for "Multifamily Housing (Mid Rise)" (LU #221) for the proposed 44 market rate units and rates for "Affordable Housing" (LU #223) for the six affordable units, the proposed residences are projected to have an average weekday peak parking demand of 64

spaces, indicating that the proposed supply of 65 spaces is inadequate to accommodate the peak parking demand. The proposed parking supply and City of Santa Rosa requirements are shown in Table 3.

**Table 3 – Parking Summary**

<b>Land Use</b>	<b>Units</b>	<b>Rate</b>	<b>Parking Spaces</b>
<b>City Required Parking</b>			
Multifamily – One Bedroom	20 du	1.0 covered space/du 0.5 visitor spaces/du	20 10
Multifamily – Two or More Bedrooms	30 du	1.0 covered space/du 1.5 visitor spaces/du	30 45
<i>City Required Parking Total</i>			<i>105</i>
<b>ITE Parking Demand Estimate</b>			
Multifamily Housing (Mid Rise)	44 du	1.3 spaces/du	58
Affordable Housing	6 du	1.0 space/ksf	6
<i>ITE Parking Demand Estimate Total</i>			<i>64</i>
<b>Proposed Parking Supply</b>			<b>65</b>

Notes: du = dwelling units

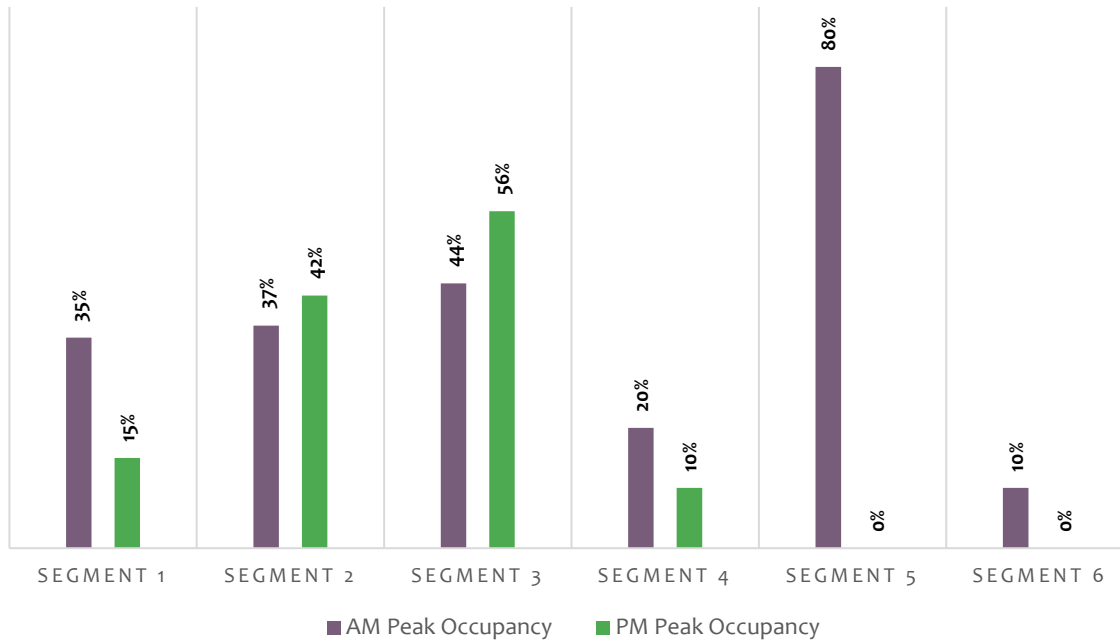
### On-Street Parking Survey

On-street parking occupancy was sampled to further evaluate the availability of nearby on-street parking, should it be needed. Parking occupancy was determined during three-hour periods between 9:00 a.m. to 12:00 noon and again between 8:00 p.m. to 11:00 p.m. on November 23, and 4, 2021. The time periods were selected to include conditions when nearby medical offices are open in the morning and residents are expected to be at home in the late evening, thus occupying the estimated maximum number of parking spaces. The on-street parking occupancy counts were collected on Hoen Avenue between Summerfield Road and Arroyo Sierra Circle, which was broken up into the following segments:

- **Segment 1:** North side, between Summerfield Road and Sierra Creek Lane, 20 spaces
- **Segment 2:** North side, between Sierra Creek Lane and Arroyo Sierra Circle (West of Arroyo Sierra Drive), 19 spaces
- **Segment 3:** South side, between Arroyo Sierra Circle (West of Arroyo Sierra Drive) and Arroyo Sierra Drive, 9 spaces
- **Segment 4:** South side, between Arroyo Sierra Drive and Arroyo Sierra Circle (East of Arroyo Sierra Drive), 10 spaces
- **Segment 5:** South side, between Arroyo Sierra Circle (East of Arroyo Sierra Drive) and Sierra Creek Lane, 5 spaces
- **Segment 6:** South side, between Sierra Creek Lane and Summerfield Road, 21 spaces

The on-street parking spaces on the study segments are unmarked and do not have any time restrictions. While marked spaces are typically 22 feet long, because parking may be less efficient where it is unmarked, a 25-foot vehicle length was conservatively used to estimate the parking supply. Based on this assumption, it was determined that there are about 84 parking spaces within the study area.

Based on the peak number of vehicles counted during the morning and evening hours surveyed on each day, the peak occupancy for the segment as a whole was determined. Note that the peak occupancy for each segment may not have occurred simultaneously, so the sum of the peaks reflects a conservative result. Based on this data there was a parking occupancy of 31 percent during the morning and 20 percent during the evening for all the study segments combined. This translates to at least 58 unoccupied parking spaces in the morning and 67 unoccupied spaces in the evening. The peak occupancy rates for each segment are shown in Plate 1 and the parking occupancy survey, which breaks down the number of parking spaces occupied by 20-minute intervals, is enclosed for reference.



**Plate 1 – Peak On-Street Parking Occupancy**

It is noted that under the City’s standard parking requirements the project would need 42 parking spaces added to their proposed 65 on-site parking spaces. While the analysis does not indicate that this additional parking is needed to meet the site’s anticipated demand, there is more than enough on-street parking available near the project site to accommodate any potential parking overflow such as might be experienced infrequently if a resident is entertaining.

**Finding** – While the proposed on-site parking supply would be inadequate to meet the City code requirements, the parking supply would be adequate based on the ITE parking demand rates. Further, there is sufficient available parking capacity on Hoen Avenue in the project vicinity to provide for any overflow that may occur.

**Bicycle Parking**

According to the City of Santa Rosa’s Municipal Code, Chapter 20.36.040, multifamily dwellings are required to provide bicycle storage at the rate of one space per four units if the units do not have a private garage or private storage space. As proposed 44 units would have an outdoor storage closet in which to store their bicycles. Additionally, two short-term bicycle racks with eight spaces would be located outside the community center, which is more than adequate to serve the remaining six units.

**Finding** – The proposed bicycle parking supply would be adequate to meet the City’s required bicycle parking.

## Access and Circulation

### Site Access

The project site would be accessed via a single driveway on Hoen Avenue to be located approximately 150 feet from the western side of Summerfield Road. Because the driveway would align with the existing eastbound left-turn pocket on the approach to Summerfield Road, westbound drivers entering via a left turn would do so from the through lane. Since parking is not allowed on the north side of Hoen Avenue but the through lane is transitioning toward the middle of the road, the 20-foot width at the proposed driveway location is sufficient for through traffic to move around a vehicle waiting to turn left into the project driveway.

### Queuing Analysis

To determine if there would be a potential conflict between eastbound traffic queuing on Hoen Avenue at the Summerfield Road/Hoen Avenue intersection and vehicles exiting the project driveway at Hoen Avenue, a queuing analysis was conducted using the methodology contained in the *Highway Capacity Manual (HCM)*, 6<sup>th</sup> Edition, Transportation Research Board, 2017.

The Existing plus Project volumes were applied to the Summerfield Road/Hoen Avenue intersection and assessed using the lane configuration planned for implementation in the near term and signal timing provided by the City of Santa Rosa. A diagram indicating the planned lane configuration is enclosed. Using the HCM methodology, the estimated maximum eastbound queue length would extend 52 feet west from the limit line at Summerfield Road/Hoen Avenue. As the distance between this limit line and the midpoint of the proposed driveway is approximately 150 feet, the eastbound queue at this signal would not conflict with drivers making a right-turn onto Hoen Avenue at the project driveway. Drivers exiting the site and attempting to merge into the left-turn lane or through/left-turn lane on eastbound Hoen Avenue would need to wait at the driveway until there is a gap in the eastbound traffic approaching the driveway location, though they would not be impeded by the queue.

A copy of the HCM queue length calculations is enclosed.

### Sight Distance

Sight distance along Hoen Avenue at the project driveway was evaluated based on sight distance criteria contained in the *Highway Design Manual*, 6<sup>th</sup> Edition published by Caltrans. The recommended sight distance for driveway approaches is based on stopping sight distance, with the approach travel speed used as the basis for determining the recommended sight distance.

Hoen Avenue, which has a posted speed of 35 mph, requires a minimum stopping sight distance of 250 feet. Based on a review of existing field conditions, sight lines for the proposed project driveway at Hoen Avenue extend more than 400 feet to the west and more than 250 feet to the east, both of which are adequate for the posted speed limit.

**Finding** – Sight distance at the project driveway is adequate.

### Emergency Access

The site consists of multiple apartment buildings separated by a 26-foot drive aisle with perpendicular parking spaces. An emergency vehicle turnaround area would be provided to accommodate emergency vehicle maneuverability, as shown on the site plan.

**Finding** – Emergency access is expected to operate acceptably.

## Conclusions and Recommendations

- The proposed Lago Fresco project would be expected to generate an average of 272 daily trips, including 18 a.m. peak hour trips and 22 p.m. peak hour trips.
- The project would be expected to have a less-than-significant transportation impact on vehicle miles traveled.
- Pedestrian, bicycle, and transit facilities serving the project site are adequate.
- Although the proposed supply of 65 vehicle parking spaces would not be adequate to meet the City requirements, the supply would be adequate to accommodate the anticipated demand based on ITE parking demand rates. There is also enough on-street parking available to accommodate any excess parking demand that may occur.
- The proposed bicycle parking supply would be adequate to meet the City's required bicycle parking.
- Sight distance at the project driveway is adequate for existing conditions and can be retained by ensuring that new landscaping does not impede sight lines from existing or proposed driveways or side streets.
- Emergency access is expected to operate acceptably.
- Parking demand management techniques should be incorporated into the project.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Jade Kim  
Assistant Planner

Dalene J. Whitlock, PE, PTOE  
Senior Principal

DJW/jk/SRO576.L1

Enclosures: VMT Summary, On-Street Parking Survey, Planned Lane Configuration, Queuing Calculations

**OPR Residential VMT Threshold**

- 16.53 VMT/Capita Sonoma Countywide Average
- 14.05 OPR and City of Santa Rosa Threshold = 15% below Countywide Average

**Base Unadjusted Project VMT**

- 17.39 Base VMT/Capita from SCTA Model - Project in TAZ 605 (June 2021 model)
- 50 Multi Family Units 2.34 Occupancy/Unit 117 Residents
- ADU Units 1.5 Occupancy/Unit 0 Residents
- 2035 Base Unadjusted Project VMT (mi) 117 Residents ("capita")

**VMT Adjustments and Potential Mitigation Measures**

- 17.39 Base VMT/Capita from SCTA Model - Project in TAZ 605 (June 2021 model)
- 14.05 OPR and City of Santa Rosa Threshold = 15% below Countywide Average
- 19.2% Project VMT Reduction Required to meet OPR Threshold

A. Density Adjustment

- 50 Project Units including ADU
- 30.0% VMT Reduction
- 5.22 Adjustment to Base Project VMT/Capita

Source: CAPCOA 2021 Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity

1.3 Project Acres 38.2 Project Density

**Combined VMT Adjustments and Mitigation Measures (A through D)**

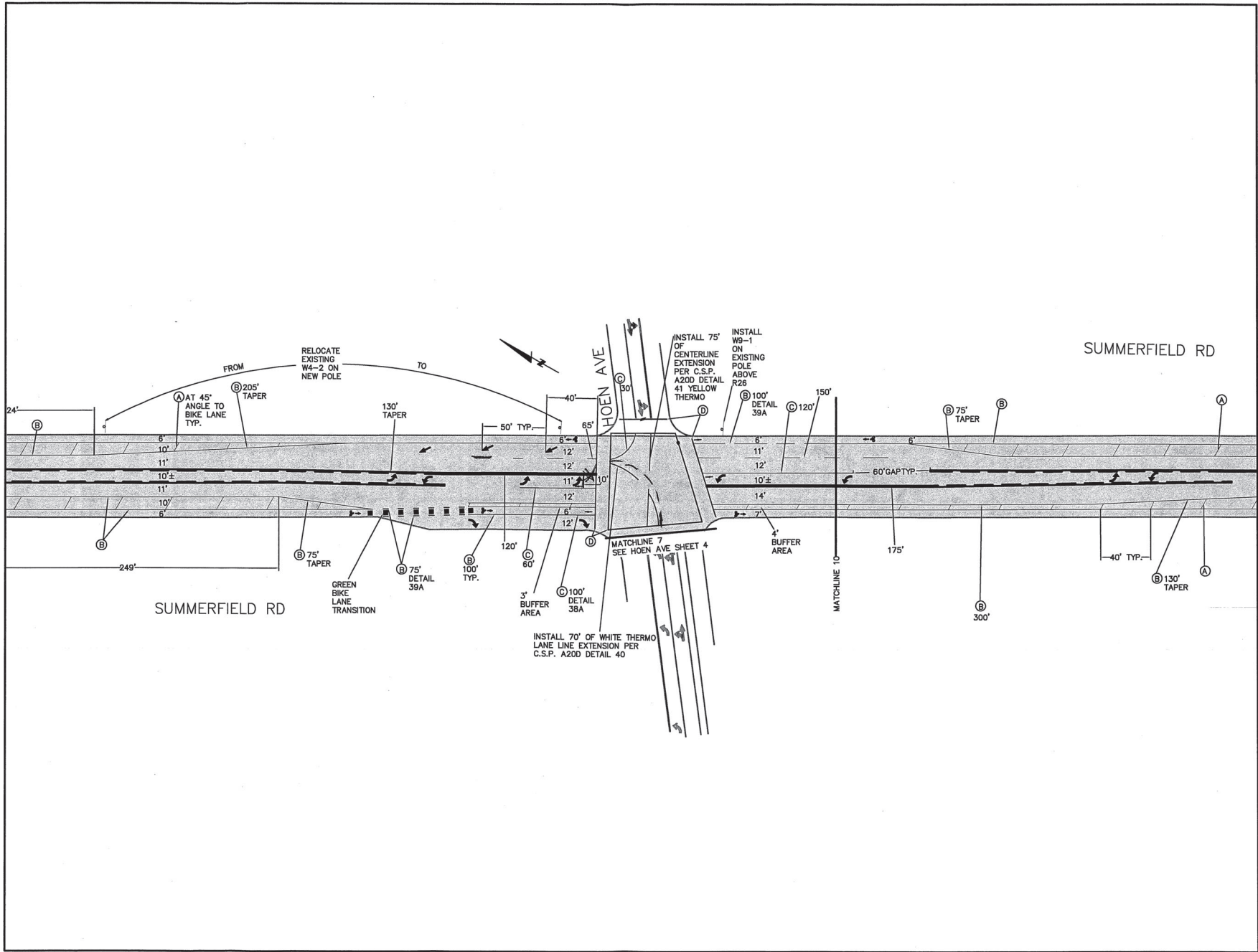
- 30.0% VMT Reduction by Density Adjustment
- 5.22 Adjustment to Base Project VMT/Capita

**VMT Projections After Adjustments and Mitigation**

- 17.39 Base VMT/Capita from SCTA Model 2035 Unadjusted Base Residential VMT (mi)
- 5.22 Adjustment to Base Project VMT/Capita -610 VMT Reduction with Adjustments and Mitigation
- 12.17 Project VMT/Capita with Adjustments & Mitigation 1424 Project VMT (mi) with Adjustments and Mitigation
- 14.05 OPR Significance Threshold
- YES** Is threshold met with adjustments and mitigation?







Queues

1: Summerfield Rd & Hoen Ave

08/05/2021



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	216	222	109	98	82	170	408	33	338	315
v/c Ratio	0.54	0.55	0.32	0.32	0.25	0.62	0.27	0.20	0.65	0.55
Control Delay	28.4	28.5	10.6	31.3	10.2	42.8	15.4	34.5	28.3	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	28.5	10.6	31.3	10.2	42.8	15.4	34.5	28.3	9.5
Queue Length 50th (ft)	75	77	0	34	0	62	45	12	114	15
Queue Length 95th (ft)	168	172	46	93	38	#204	120	44	233	87
Internal Link Dist (ft)		1652		1461			868		788	
Turn Bay Length (ft)	155		155		105	120		120		120
Base Capacity (vph)	1168	1184	337	794	729	274	1724	213	847	1181
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.19	0.32	0.12	0.11	0.62	0.24	0.15	0.40	0.27

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Queues

1: Summerfield Rd & Hoen Ave

08/05/2021



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	249	251	133	72	57	105	263	61	331	292
v/c Ratio	0.57	0.56	0.40	0.24	0.18	0.43	0.21	0.32	0.65	0.49
Control Delay	27.6	27.4	11.5	31.3	8.9	36.2	18.0	36.6	28.9	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	27.4	11.5	31.3	8.9	36.2	18.0	36.6	28.9	8.1
Queue Length 50th (ft)	89	90	1	26	0	38	40	23	117	13
Queue Length 95th (ft)	187	188	52	75	27	#112	80	70	232	75
Internal Link Dist (ft)		1652		1461			868		788	
Turn Bay Length (ft)	155		155		105	120		120		120
Base Capacity (vph)	1158	1175	363	822	743	284	1778	221	877	1168
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.21	0.37	0.09	0.08	0.37	0.15	0.28	0.38	0.25

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.