

Rolling Hills Multifamily

Transportation Impact Study

Prepared For: City of Paso Robles

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6

Morro Bay, CA 93442

(805) 316-0101

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Executive Summary

This study evaluates the potential transportation impacts of the Rolling Hills residential project located on Creston Road in the City of Paso Robles. The project includes 135 multi-family housing units estimated to generate 941 trips per weekday, including 65 trips during the AM peak hour and 79 trips during the PM peak hour. An alternative project description includes 64 single family housing units. The single-family alternative would generate less vehicle trips than the multi-family alternative.

The multi-family project is consistent with the City's General Plan and would have a less-than-significant impact to vehicle miles traveled (VMT).

With construction of a single lane roundabout at Creston Road/Rolling Hills Road (#2) all study locations would operate acceptably under Existing Plus Project Conditions. Under Cumulative Conditions, the intersection would operate acceptably; however, westbound queues are expected to reach the Creston Road/Melody Drive (#3) intersection during peak periods. However, no additional lanes are recommended as the entire corridor experiences congestion during the school drop off and pick up and congestion is minimal during off peak times.

We recommend the Creston Road driveway be limited to left-in, right-in, right-out only. We also recommend a small median in the two-way left turn lane to allow left turns into the site and the driveway across Creston Road but restrict outbound left turns on to Creston Road.

We also recommend the project construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study:

- Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive.
- Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk.
- Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk.
- Replace existing overhead flashing beacons with overhead and pole mounted rectangular rapid flashing beacons (RRFB).

The City's Pedestrian and Bicycle Master Plan includes buffered Class II bike lanes on Creston Road and Class II bike lanes on Rolling Hills Road adjacent to the project site. We recommend the project frontage improvements incorporate the width to accommodate the future Class II facilities.

Contents

1.0	Introduction	4
2.0	CEQA Transportation Analysis	6
3.0	Local Transportation Analysis	9
4.0	References	17
Table 1: City of Paso Robles Mobility Deficiency Criteria.....		9
Table 2: Project Trip Generation		11
Table 3: Existing Weekday Plus Project Intersection Levels of Service		14
Table 4: Existing Weekday Plus Project Intersection Queues.....		15
Figure 1: Site Plan		5
Figure 2: Existing Volumes and Lane Configurations.....		10
Figure 3: Project Trip Distribution and Assignment		12
Figure 4: Existing Plus Project Volumes.....		13
Appendix A: Traffic Counts		
Appendix B: Intersection Calculation Sheets		
Appendix C: Signal Warrant		

1.0 Introduction

This study evaluates the potential transportation impacts of the Rolling Hills residential development located on Creston Road just west of Rolling Hills Road in the City of Paso Robles. The project includes two alternatives including 135 multi-family housing units or 64 single-family housing units. The multi-family alternative would generate more vehicle trips and was analyzed in this report. The project site plan is shown on **Figure 1**.

The following intersections were analyzed during the weekday AM and PM peak hour:

1. Creston Road/Orchard Drive
2. Creston Road/Rolling Hills Road
3. Creston Road/Melody Drive
4. Creston Road/Shopping Center (Williams Plaza)
5. Creston Road/Golden Hill Road
6. Golden Hill Road/Rolling Hills Road

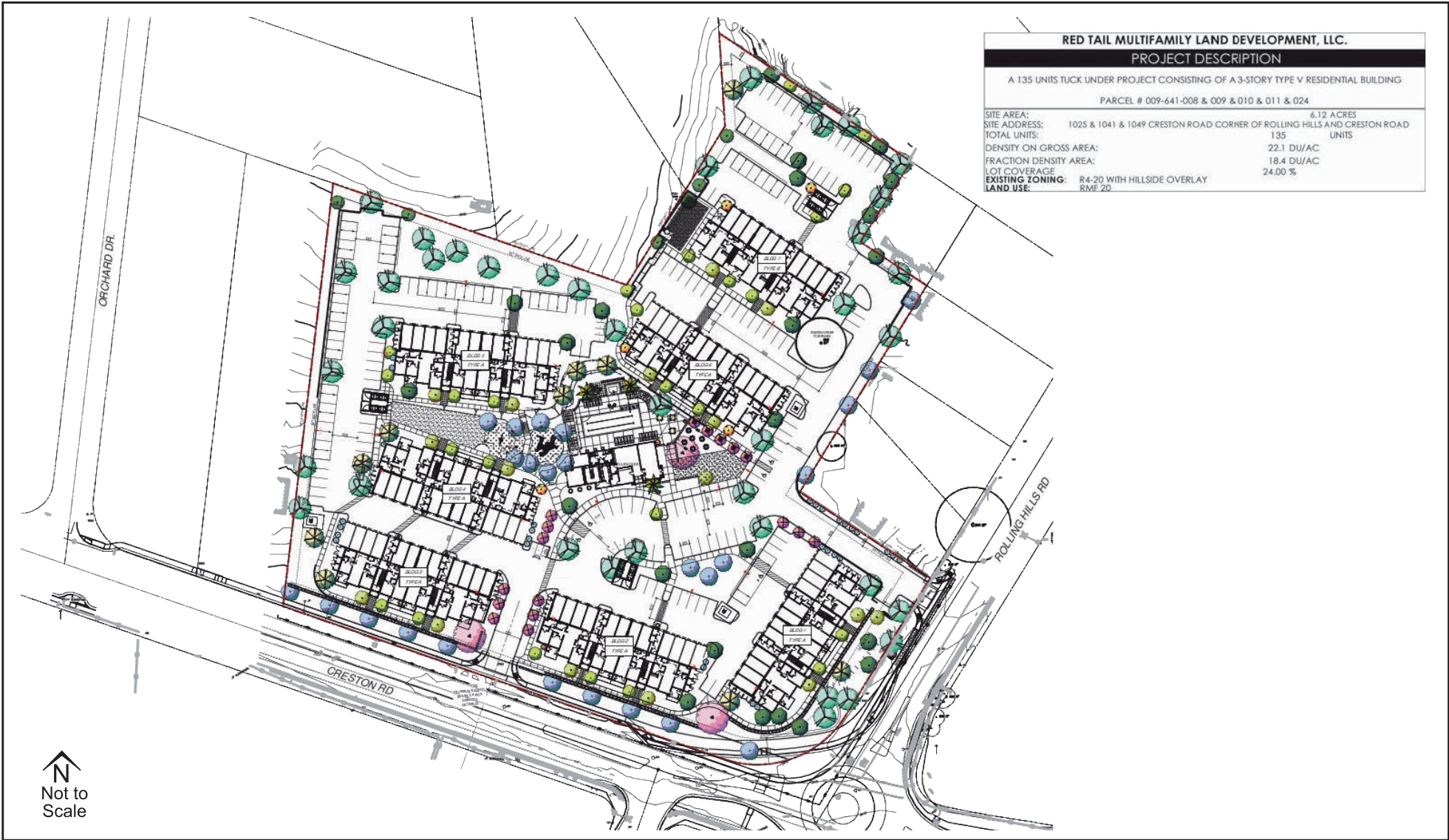
The study locations were evaluated under these scenarios:

- **Existing Conditions** reflect recent traffic counts and the existing transportation network.
- **Existing Plus Project** adds project-generated traffic to Existing Conditions volumes.

Each scenario is described in more detail in the appropriate chapter. The proposed project does not require a General Plan amendment and cumulative analysis is not required.

This study also evaluates vehicle miles traveled (VMT), safety, emergency access, and consistency with regional plans as required under the California Environmental Quality Act (CEQA).

Figure 1: Site Plan



Source: Architects Orange



2.0 CEQA Transportation Analysis

This section presents analysis relevant to the California Environmental Quality Act (CEQA), notably analysis of the existing setting, vehicle miles traveled (VMT), emergency access, and safety.

The City's 2022 Transportation Impact Analysis (TIA) Guidelines Supplement provides VMT and safety thresholds consistent with guidance from the State Office of Planning and Research (OPR). Residential projects may have a significant impact if the residential VMT per capita exceeds 85 percent of the regional average. Residential VMT captures all home-based productions (all trips to and from homes).

Projects may have a significant impact if they exacerbate an existing high-priority or similar safety location, introduce a design feature that substantially increases hazards, or propose features that do not meet City design standards.

2.1 EXISTING CIRCULATION NETWORK

The existing roadways in the project vicinity are described below.

- *Creston Road* is an arterial with two travel lanes, Class II bike lanes, and a sidewalk and parking on the south side adjacent to the project. East of Rolling Hills Road, the roadway transitions to four travel lanes with a sidewalk on both sides, Class II bike lanes, and no on-street parking. The speed limit is 35 miles per hour (MPH) with supplemental 25 MPH school signage.
- *Orchard Drive* is a two-lane local road with minimal striping, no bikeways, and no posted speed limit.
- *Rolling Hills Road* is a two-lane collector with a center left-turn lane and continuous sidewalk on the eastside, and no marked bikeways. The posted speed limit is 40 MPH.
- *Melody Drive* is a two-lane collector with sidewalks on both sides, on-street parking, and no bikeways. The posted speed limit is 25 MPH.
- *Golden Hill Road* is an arterial with three to four travel lanes, a center turn lane, and intermittent sidewalks and Class II bike lanes in the project vicinity. The speed limit is 45 MPH north of Creston Road.

Marked crosswalks and pedestrian signals are provided on all legs of the Creston Road/Melody Drive (#3) and Creston Road/Golden Hill Road (#5) signalized intersections. Additionally, there is an uncontrolled crosswalk on Creston Road at Orchard Drive.

The Paso Express provides fixed route and dial-a-ride transit service for the City of Paso Robles. The fixed route service operates Routes A and B, which run clockwise and counterclockwise, respectively. The stops at the project site are located on Creston Road at the intersection with Melody Drive for both the A and B routes. The San Luis Obispo Regional Transit Authority (RTA) provides regional fixed-route service throughout San Luis Obispo County. Route 9 serves the North County region, providing regional access between San Luis Obispo, Santa Margarita, Atascadero, Templeton, and Paso Robles. The closest stop to the project site is located over a mile away at the Paso Robles transit center at the intersection of Pine Street and 8th Street, which is served on weekdays with hourly service.

2.2 VEHICLE MILES TRAVELED (VMT)

The SLOCOG Travel Demand Model was applied to estimate VMT. The regional average residential VMT per capita is 13.40, and 85 percent of this level corresponds to a threshold of 11.39 residential VMT per capita. The project was added to the SLOCOG model in an existing Traffic Analysis Zone (TAZ) which also includes

existing single family residences. With the project the project TAZ generates 6.22 residential VMT per capita, well below the threshold. The project would have a less-than-significant impact to VMT.

2.3 EMERGENCY ACCESS

The project proposes access at two entryways with one approach from Creston Road and one from Rolling Hills Road. Emergency access is adequate as proposed.

2.4 COLLISIONS

Creston Road/Golden Hill Road (#5) was included in the City's Local Road Safety Plan as a high incident location. There is a pattern of drivers making left-turns failing to yield to oncoming traffic and rear-end collisions from unsafe speeds. Recommendations include:

- Replace or upgrade signal backplates with retroreflective border.
- Upgrade 8" signal heads to 12" signal heads.
- Install near side signal head on east corner luminaire pole
- Install Signal Warning Beacon on southbound Golden Hill Road approach.
- Implement adaptive signal controls with advanced dilemma zone detection.

In addition, we recommend the City review the signal timing including pedestrian, bicycle, yellow, and red clearance intervals.

Collision data was obtained from the Statewide Integrated Traffic Records System (SWITRS) for 2017 through 2021 for the remainder of the unsignalized study intersections as described below.

- Creston Road/Orchard Drive (#1): Four collisions occurred near the intersection, three were rear end due to unsafe speed and one was an auto right of way collision during rainy conditions.
- Creston Road/Rolling Hills Road (#2): Three collisions occurred near the intersection due to an auto right-of-way violation, driving under the influence, and unsafe speed.
- Creston Road/Shopping Center (#4): Two auto right of way collisions occurred near the driveway on Creston Road.
- Golden Hill Road/Rolling Hills Road (#6): Six collisions were reported at the intersection. Four broadside collisions occurred with an eastbound driver on Rolling Hills Road and a southbound driver on Golden Hill Road, one of these was an eastbound driver failing to yield to a southbound cyclist.

At least four or five collisions, susceptible to correction by installation of multi-way stop control, must occur during a 12-month period to meet California Manual on Uniform Traffic Control Devices (CAMUTCD) guidelines for installation.

Twelve collisions occurred near the signalized intersection of Creston Road/Melody Drive (#3). Five broadside collisions occurred due to auto right-of-way violations and four rear end collisions occurred due to unsafe speeds. The westbound left turn phase does not meet the recommendations for protective phasing. Reflective borders, signal timing updates, and video detection should be considered.

Installation of a roundabout at Creston Road/Rolling Hills Road (#2) should reduce collisions at the intersection and slow corridor speeds.

2.5 RTP CONSISTENCY

SLOCOG's 2019 Regional Transportation Plan (RTP) serves as the blueprint for regional development patterns. It includes visions, goals, and policies relevant to the proposed project. These include support for a

mix of housing options in new residential developments and support for infill development near existing transit services and activity centers. The proposed project is on an infill site near goods and services.

2.6 CRESTON ROAD COMPLETE AND SUSTAINABLE STREETS STUDY

The Creston Road Complete and Sustainable Streets Project utilized a community-driven effort to develop a plan for creating a vibrant, pedestrian and bicycle-friendly, green street environment for residents, businesses, and visitors. The plan included the following recommendations:

- Trigo Lane to Orchard Drive:
 - Addition of RRFBs at the crosswalks at Trigo Lane, Ivy Lane, and Orchard Drive
 - Installation of continuous painted bike lanes and crossing lanes
 - Additional and increased pedestrian sidewalk area, mainly around intersections
 - Incorporation of a two-way center turn lane
 - Allocation of on-street parking between Ivy Lane and Orchard Drive
- Orchard Drive to Melody Drive:
 - Addition of a roundabout at Rolling Hills Road and Creston Road intersection
 - Increased sidewalk area around roundabout
 - New pedestrian crosswalks at Rolling Hills Road

With installation of a roundabout at Creston Road/Rolling Hills Road (#2) and the recommended frontage improvements, the project is consistent with the Creston Road Complete and Sustainable Streets Study.

In addition, the proposed roundabout is consistent with the City's Circulation Element.

3.0 Local Transportation Analysis

The remaining sections of this report present additional analysis relevant to City transportation policy.

3.1 DEFICIENCY THRESHOLDS

The City's TIA Guidelines provide criteria for identifying mobility deficiencies reflecting the City's Circulation Element Goals as shown in **Table 1**.

Table 1: City of Paso Robles Mobility Deficiency Criteria

City of Paso Robles Mobility Deficiency Criteria ¹	
Study Element	Deficiency Determination
On-site Circulation and Parking	Project designs fail to meet City or industry standard guidelines, fail to provide adequate truck access, will result in unsafe conditions, or will create parking demand or supply above code requirements.
Pedestrian, Bicycle, Transit Facilities	Project fails to provide safe and accessible connections, conflicts with adopted plans, or adds trips to facility that doesn't meet current design standards.
Traffic Operations	Project causes vehicle queues that exceed turn pocket lengths, increases safety hazards, causes stop-controlled intersection to operate below LOS D and meet signal warrants, or causes vehicle demand greater than the roadway capacity.
1. Summary based on Table 5 of City's Transportation Impact Study Guidelines.	

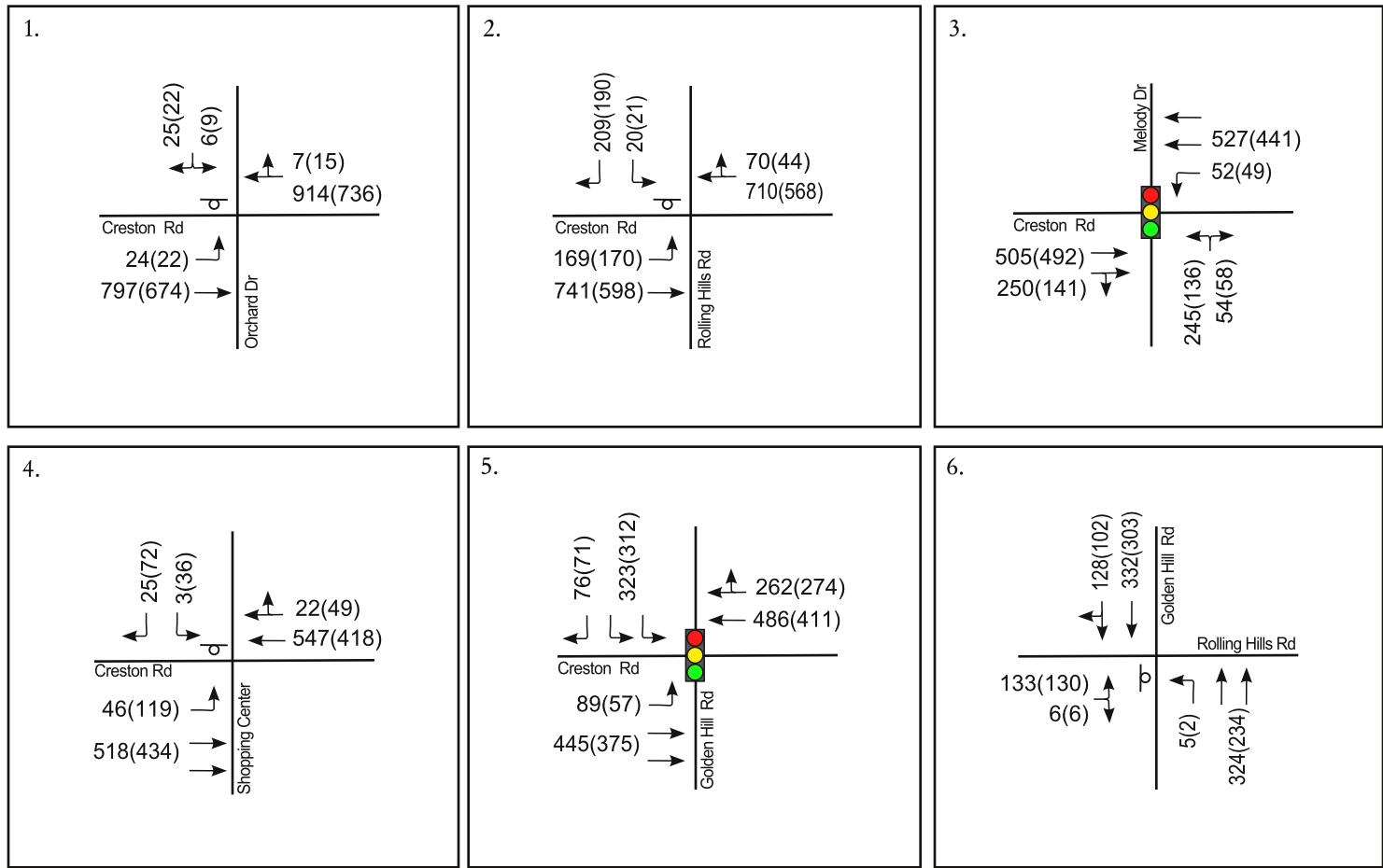
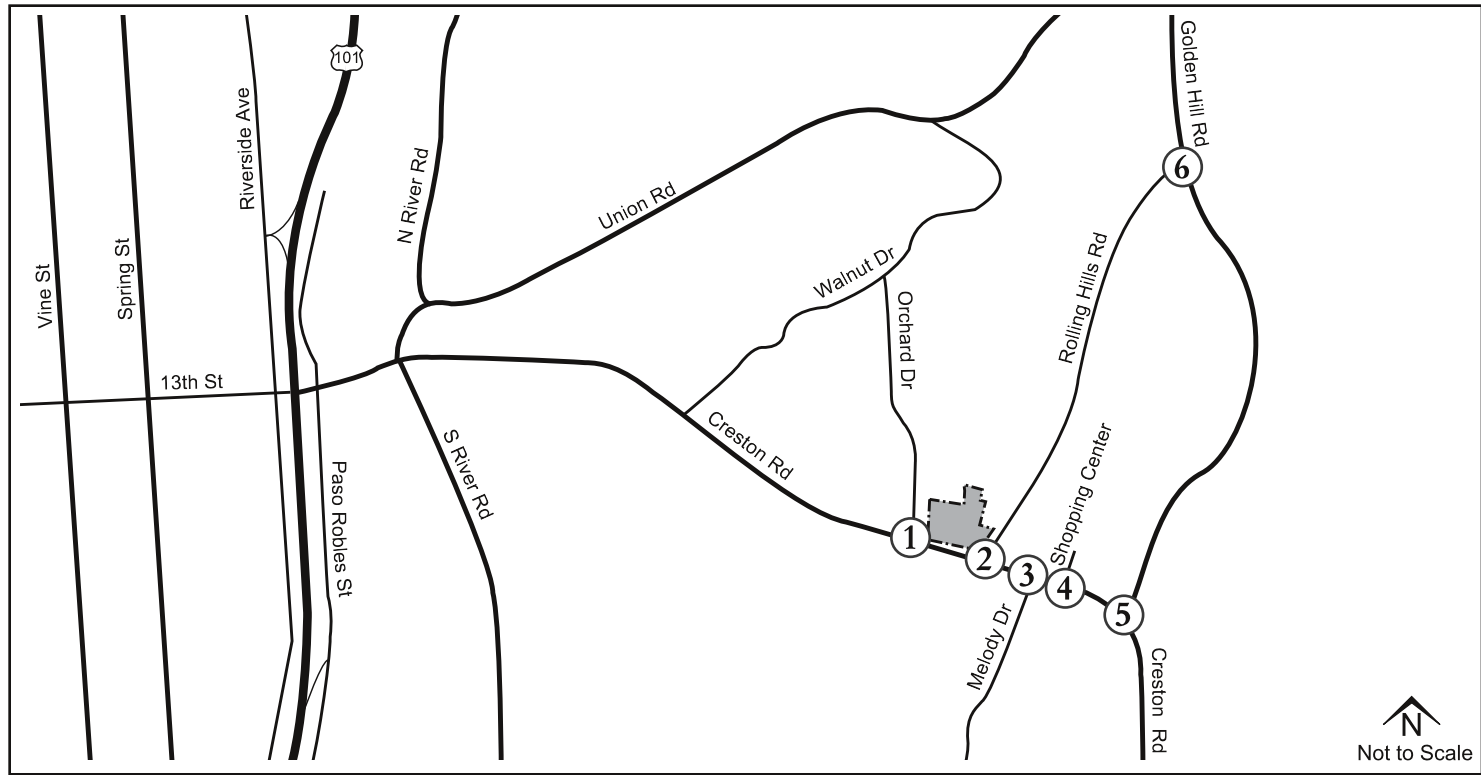
3.2 EXISTING TRAFFIC VOLUMES

Intersection turning movement counts were collected at the study intersections in August 2022 during the weekday AM and PM peak hours when local schools were in session. The existing intersection volumes and lane configurations are shown in **Figure 2**. The traffic count data sheets are included as **Appendix A**.

The Creston Road corridor currently experiences congestion during the school pick up and drop off periods.

Intersection operations are discussed in detail under the Existing Plus Project Conditions section of this report.

Figure 2: Existing Volumes and Lane Configurations



Legend:

- Project Site
- Traffic Signal
- Stop Sign
- AM(PM) Peak Hour Traffic Volumes
- Study Intersection

3.3 EXISTING PLUS PROJECT CONDITIONS

This section evaluates the effects of the proposed project on the surrounding transportation network. The amount of project traffic affecting the study locations is estimated in three steps: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of trips generated by the site. Trip distribution identifies the general origins and destination of these trips, and trip assignment specifies the routes taken to reach these origins and destinations.

3.3.1 Project Trips

Project trip generation was estimated using data from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* 11th Edition as shown in **Table 2**.

Table 2: Project Trip Generation

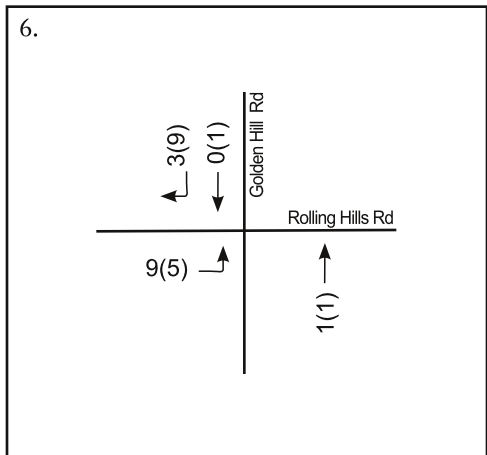
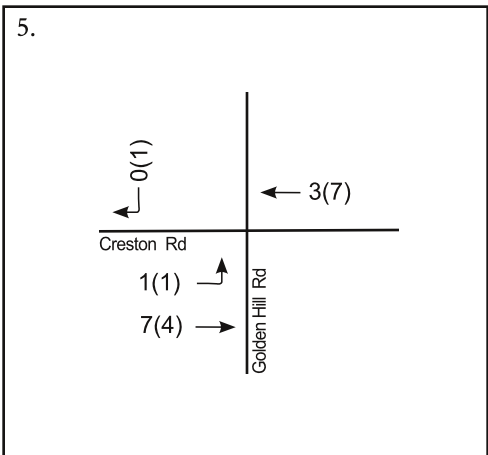
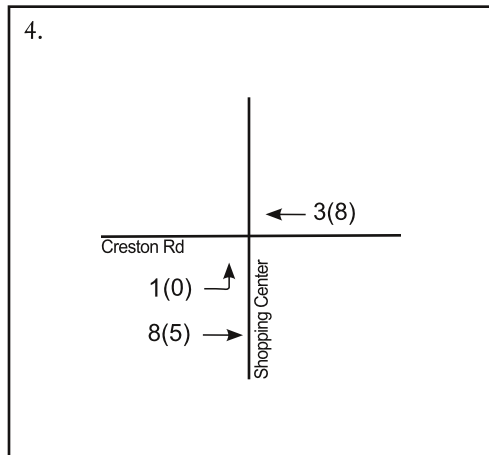
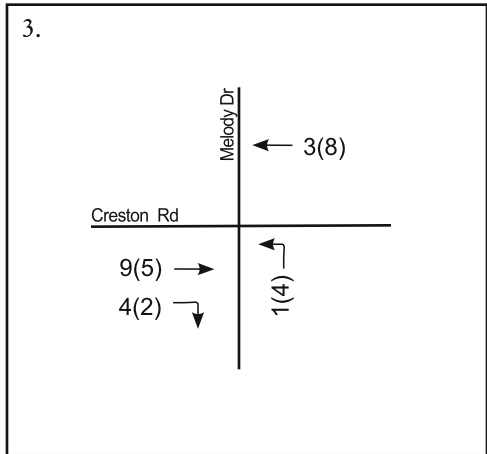
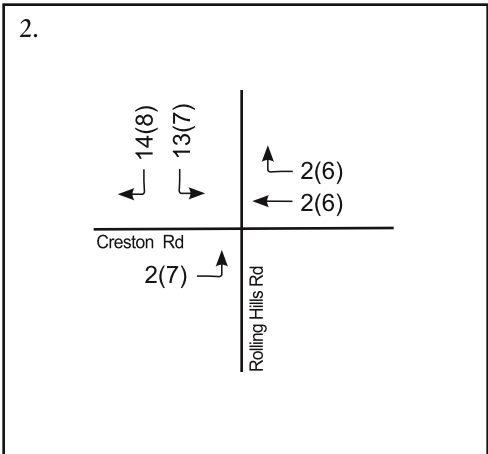
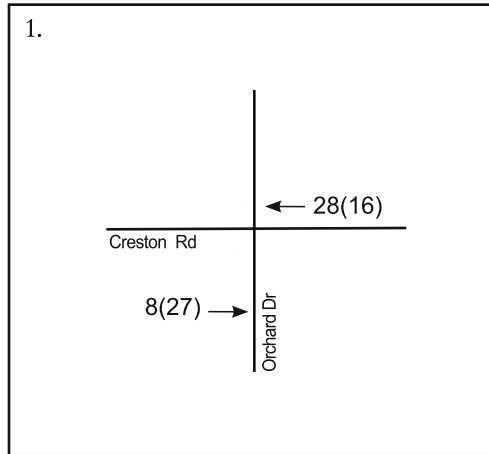
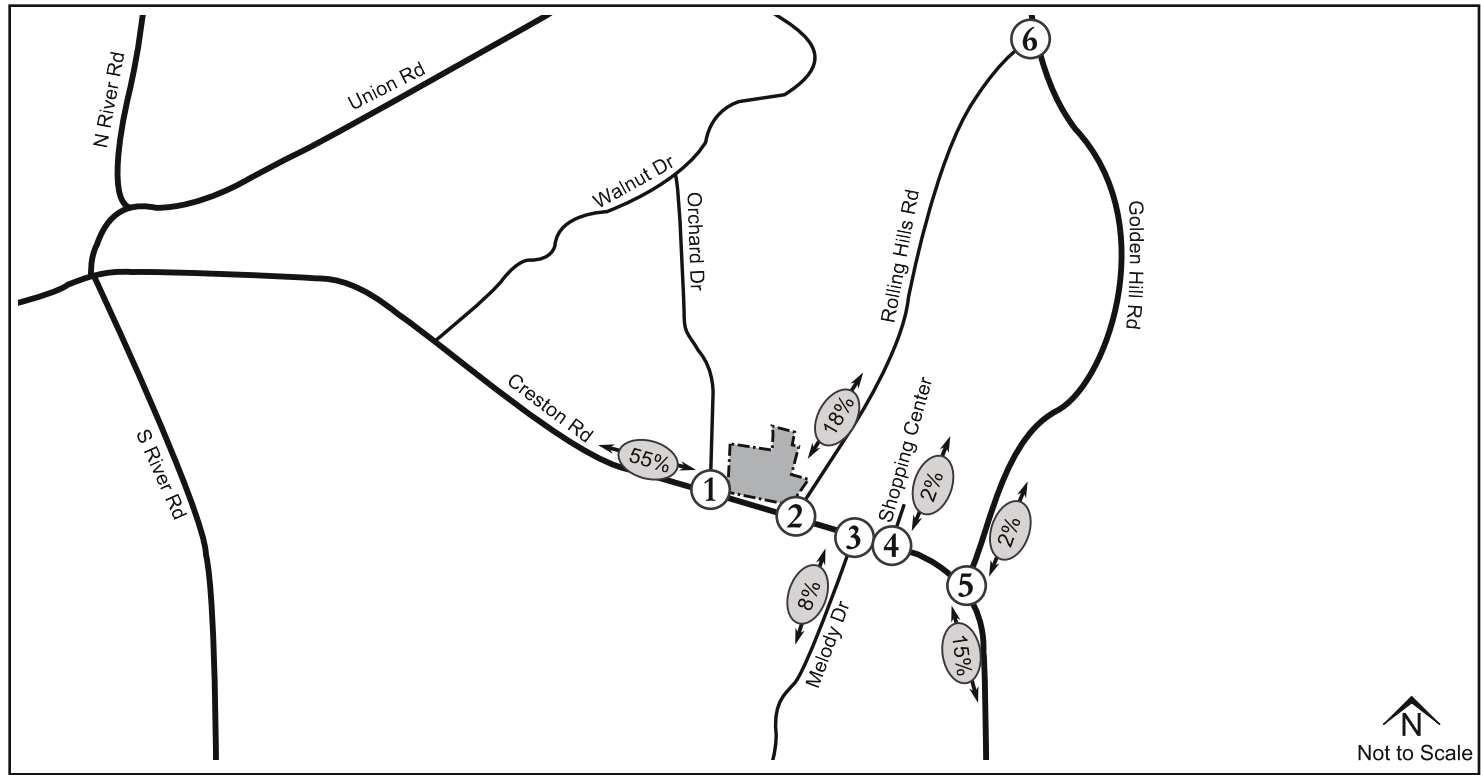
Project Trip Generation								
Land Use	Size	Daily Total	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing ¹	135 DU	941	15	50	65	50	29	79
Net New Vehicle Trips		941	15	50	65	50	29	79
Use. 1. ITE LU Code #220, Multi-Family (Low-Rise). Fitted curve equations used. Source: ITE Trip Generation Manual, 11th Edition.								

The project is estimated to generate 941 trips per weekday, including 65 trips during the AM peak hour and 79 trips during the PM peak hour. Project trip distribution and assignment was derived using the SLOCOG model and is shown on **Figure 3**.

3.3.2 Existing Plus Project Intersection Operations

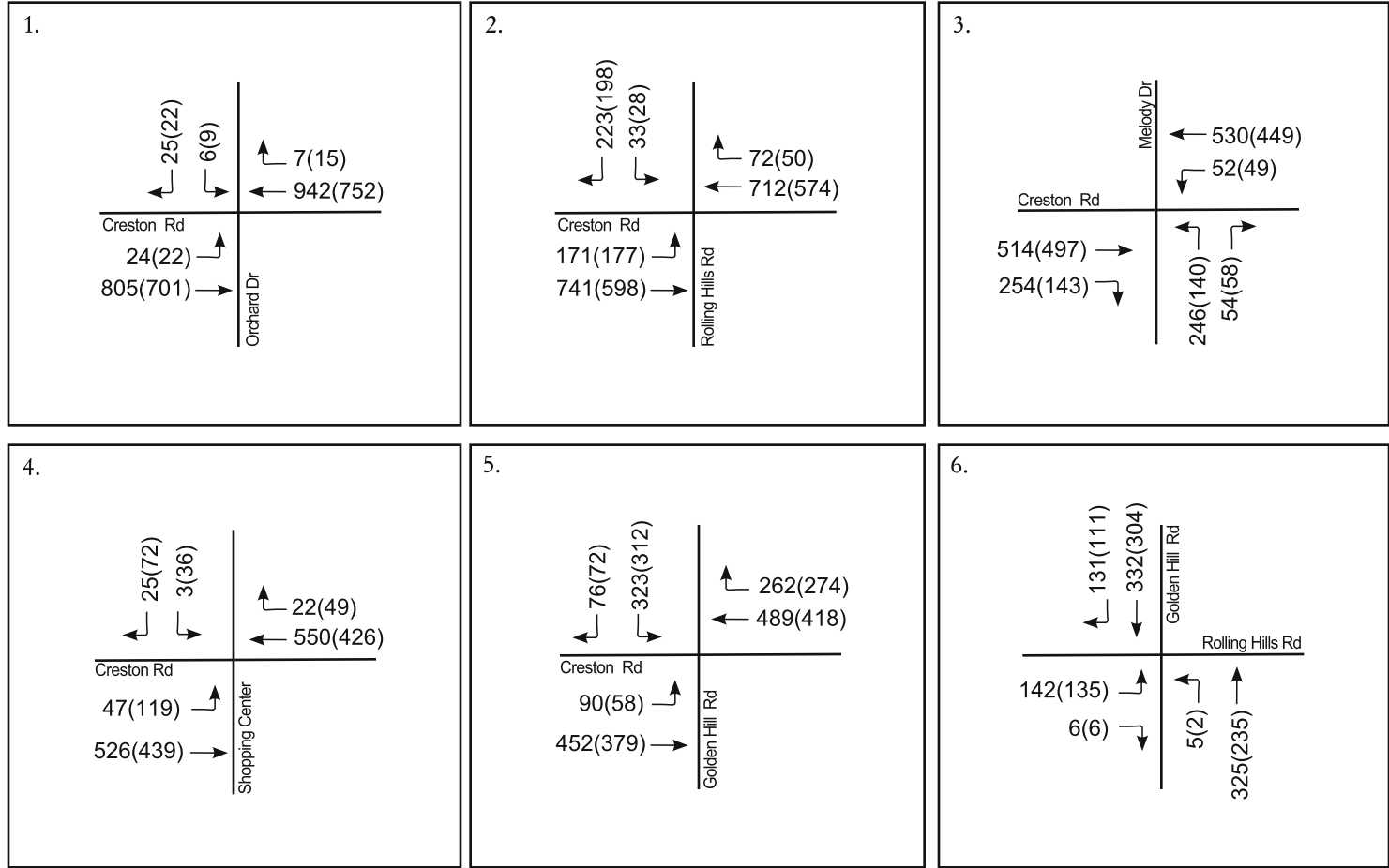
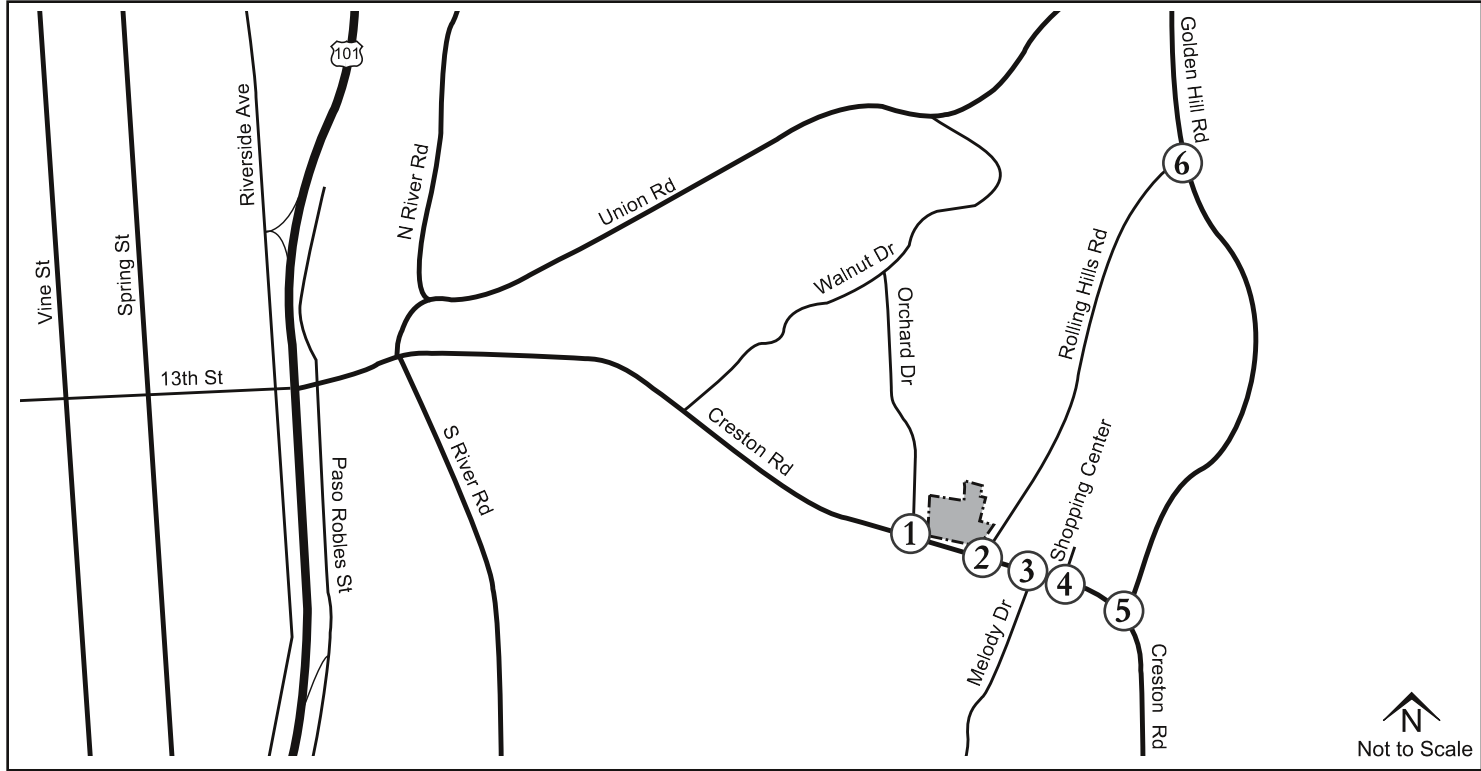
The study intersections were analyzed using Synchro 11 and the Highway Capacity Manual (HCM) 6 edition methodology. **Table 3** presents the LOS for the study intersections under Existing and Existing Plus Project Conditions and **Table 4** summarizes the key queues. Existing Plus Project volume are shown on **Figure 4**. Detailed calculation sheets are included in **Appendix B**. Note that the project proposes a single-lane roundabout at the Creston Road/Rolling Hills Road (#2) intersection, but it was evaluated under its current stop-control in the following tables.

Figure 3: Project Trip Distribution and Assignment



Legend:

- Project Site
- Project Trip Distribution
- xx - AM(PM) Peak Hour Traffic Volumes
- (X) - Study Intersection



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Legend:

- Project Site

xx - AM(PM) Peak Hour Traffic Volumes

- Study Intersection

Table 3: Existing Weekday Plus Project Intersection Levels of Service

Existing and Existing Plus Project Levels of Service					
Intersection	Peak Hour	Existing		Existing + Project	
		Delay ¹	LOS	Delay ¹	LOS
1. Creston Rd/ Orchard Dr	AM	0.5(21.9)	-(C)	0.5(22.6)	-(C)
	PM	0.5(16.7)	-(C)	0.5(17.1)	-(C)
2. Creston Rd/ Rolling Hills Rd	AM	6(41.7)	-(E)	8.9(60.3)	-(F)
	PM	4.5(26.2)	-(D)	5.4(30.6)	-(D)
3. Creston Rd/ Melody Dr	AM	8.4	A	8.4	A
	PM	5.8	A	5.9	A
4. Creston Rd/ Shopping Center	AM	0.7(12.1)	-(B)	0.7(12.2)	-(B)
	PM	2.4(15.5)	-(C)	2.4(15.7)	-(C)
5. Creston Rd/ Golden Hill Rd	AM	19.3	B	19.3	B
	PM	15.3	B	15.2	B
6. Golden Hill Rd/ Rolling Hills Rd	AM	2.4(15.7)	-(C)	2.6(16.1)	-(C)
	PM	2.6(14.5)	-(B)	2.6(14.7)	-(B)
1. HCM 6th average control delay in seconds per vehicle. For two-way stop controlled (TWSC) intersections the worst approach's delay is reported in parentheses next to the overall delay. HCM 2000 used for yield controlled intersections. 2. Intersection was assumed to be two-way stop controlled under project conditions. Unacceptable operations shown in bold text.					

Table 4: Existing Weekday Plus Project Intersection Queues

Existing and Existing Plus Project Intersection Queues					
Intersection	Movement	Storage Length (ft)	Peak Hour	95th percentile Queue	
				Existing	Existing+Project
1. Creston Rd/Orchard Dr	SBL/R	-	AM	13	13
			PM	8	8
2. Creston Rd/Rolling Hills Rd	SBL	-	AM	45	83
			PM	33	48
	SBR	100	AM	108	125
			PM	65	73
3. Creston Rd/Melody Dr	WBL	115	AM	33	33
			PM	30	30
4. Creston Rd/Shopping Center	SBL	200	AM	3	3
			PM	18	18
	SBR	60	AM	3	3
			PM	10	10
5. Creston Rd/Golden Hill Rd	EBL	125	AM	133	134
			PM	84	85
6. Golden Hill Rd/Rolling Hills Rd	EB	-	AM	35	38
			PM	30	33
1. Queue length in feet that would not be exceeded 95 percent of the time. # 95th percentile volume exceeds capacity, queue may be longer. m Volume for 95th percentile queue is metered by upstream signal. Bold indicates queue length longer than storage length.					

The following City intersections operate below LOS D or show queue deficiencies:

- Creston Road/Rolling Hills Road (#2): During the AM peak hour, the intersection operates at LOS E without the project and LOS F with the project and the current side-street-stop control. In addition, the southbound right turn queue exceeds the turn pocket length under Existing Conditions with and without the project during the AM peak hour. Modifying the intersection to a single lane roundabout as proposed by the project would improve operations to LOS C or better during both peak hours and eliminate queue deficiencies. A traffic signal is warranted under Existing Conditions and would also operate acceptably with acceptable queues with an additional westbound approach lane. The roundabout is preferred in the Creston Corridor Plan. The signal warrant is included in **Appendix C**.
- Creston Road/Golden Hill Road (#5): The eastbound left turn queue exceeds the turn pocket length under Existing Conditions with and without the project during the AM peak hour. The project would exacerbate the queue by less than one vehicle and the impact would be less than significant. Additional storage is also available in the bay taper to accommodate the queues.

Although analysis of Cumulative Conditions was not required in this report, operations at Creston Road/Rolling Hills Road (#2) were estimated to determine future right-of-way needs. Under Cumulative Conditions, westbound queues would be expected to reach or exceed the Creston Road/Melody Drive (#3)

intersection during peak periods. However, no additional lanes are recommended as the entire corridor experiences congestion during the school drop off and pick up and congestion is minimal during off peak times.

3.4 SITE ACCESS AND ON-SITE CIRCULATION

The American Association of State Highway and Transportation Officials (AASHTO) states that, “ideally, driveways should not be located within the functional area of an intersection or the influence area of an adjacent driveway.” In addition, the City’s Circulation Element calls for limited access on arterial roadways consistent with access management best practices.

The project proposes a driveway on Creston Road and a driveway on Rolling Hills Road. We recommend full access at the Rolling Hills Road driveway. We recommend the Creston Road driveway be limited to left-in, right-in, right-out. Additional uncontrolled left turns to Creston Road are not recommended consistent with access management best practices. To accommodate left turns into the site on Creston Road and reduce conflicts points on the corridor, a short median in the two-way left turn lane is recommended. The median would allow left turns into the site and the driveway across Creston Road but would restrict outbound left turns.

We also recommend the project construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study to provide an accessible connection to area schools:

- Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive.
- Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk.
- Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk.
- Replace existing overhead flashing beacons at Orchard Drive with overhead and pole mounted rectangular rapid flashing beacons (RRFB).

The study also contained a median in the two-way left turn lane at the Orchard Drive crosswalk. We do not recommend installing the median to continue to allow for two-stage gap acceptance for southbound left turn drivers at Orchard Drive.

The City’s Pedestrian and Bicycle Master Plan includes buffered Class II bike lanes on Creston Road and Class II bike lanes on Rolling Hills Road adjacent to the project site. We recommend the project frontage improvements incorporate the width to accommodate the future Class II facilities.

4.0 References

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