Draft Traffic Impact Analysis Report

Traffic Impact Analysis for Proposed Development at Dunslee Way and Scotts Valley Drive

Scotts Valley, CA

April 8, 2015

TJKM
Transportation
Consultants

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Executive Summary

This report describes the results of the Traffic Impact Analysis (TIA) for the proposed mixed-use development located on the northwest corner of the Dunslee Way/Scotts Valley Drive intersection in the City of Scotts Valley. The project proposes to construct 25 residential townhomes with one of the three following additional developments:

1. 5,000 sq-ft office building; or
2. 10,000 sq-ft office building; or
3. 5,000 sq-ft restaurant

From the above alternatives, in an effort to analyze the worst-case scenario, this report evaluates the trips that are estimated to be generated from 25 residential townhomes and a 5,000 sq-ft restaurant. The site is currently an unoccupied parcel of land with no existing infrastructure. The vicinity map, **Figure 1**, shows the study area and project site, and **Figure 2** displays the proposed site plan. To evaluate the impacts on transportation infrastructure due to addition of traffic from the project, the study intersections were evaluated in accordance with the standards set forth by the level of service (LOS) policies of the City of Scotts Valley.

Roadway system operations were evaluated under the following scenarios:

Existing Traffic Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square operates at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Existing plus Project Conditions

The project is expected to generate 781 net additional daily trips, including 65 net additional trips during the a.m. peak hour and 62 net additional trips during the p.m. peak hour. Under this scenario, the intersection of Scotts Valley Drive and Victor Square operates at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Background Traffic Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to operate at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Background plus Project Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to continue operating as in Background Conditions with the exception of the intersection of Scotts Valley Drive and Victor Square. The LOS at this intersection drops to LOS F from LOS E during the a.m. peak hour and continues to operate at LOS F during the p.m. peak hour.

A peak hour signal warrant analysis was conducted at the intersection of Scotts Valley Drive and Victor Square. The results indicated that the peak warrant were not met. Therefore, the impacts at this intersection are not considered to be significant.

Cumulative 2035 Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to operate at an unacceptable LOS F during both the peak hours.

Cumulative 2035 plus Project Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to continue operating at an unacceptable LOS F during both the peak hours.

On-Site Circulation

TJKM reviewed the project site plan to evaluate on-site access, circulation and parking within the project site. The proposed project site will be accessed by four full-access driveways: two (on Dunslee Way) exclusively for the housing portion and two (one on Dunslee Way and one on Scotts Valley Drive) for the commercial development. Overall, the on-site circulation and parking spaces are considered adequate. TJKM recommends the installation of Stop Control at the project driveways with appropriate pavement delineation and signing.

Introduction

This report describes the results of the TIA for the proposed mixed-use development located on the northwest corner of the Dunslee Way/Scotts Valley Drive intersection in the City of Scotts Valley. The project proposes to construct 25 residential townhomes with one of the three following additional developments:

1. 5,000 sq-ft office building; or
2. 10,000 sq-ft office building; or
3. 5,000 sq-ft restaurant

In an effort to analyze the worst-case scenario, this report evaluates the trips that are estimated to be generated from 25 residential townhomes and a 5,000 sq-ft restaurant. The site is currently an unoccupied parcel of land with no existing infrastructure. The vicinity map, **Figure 1**, shows the study area and project site, and **Figure 2** displays the proposed site plan.

The purpose of this TIA is to evaluate the potential traffic impacts, identify short-term and long-term roadway circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process. The scope of work was prepared in consultation with the City of Scotts Valley staff.

Study Intersections and Scenarios

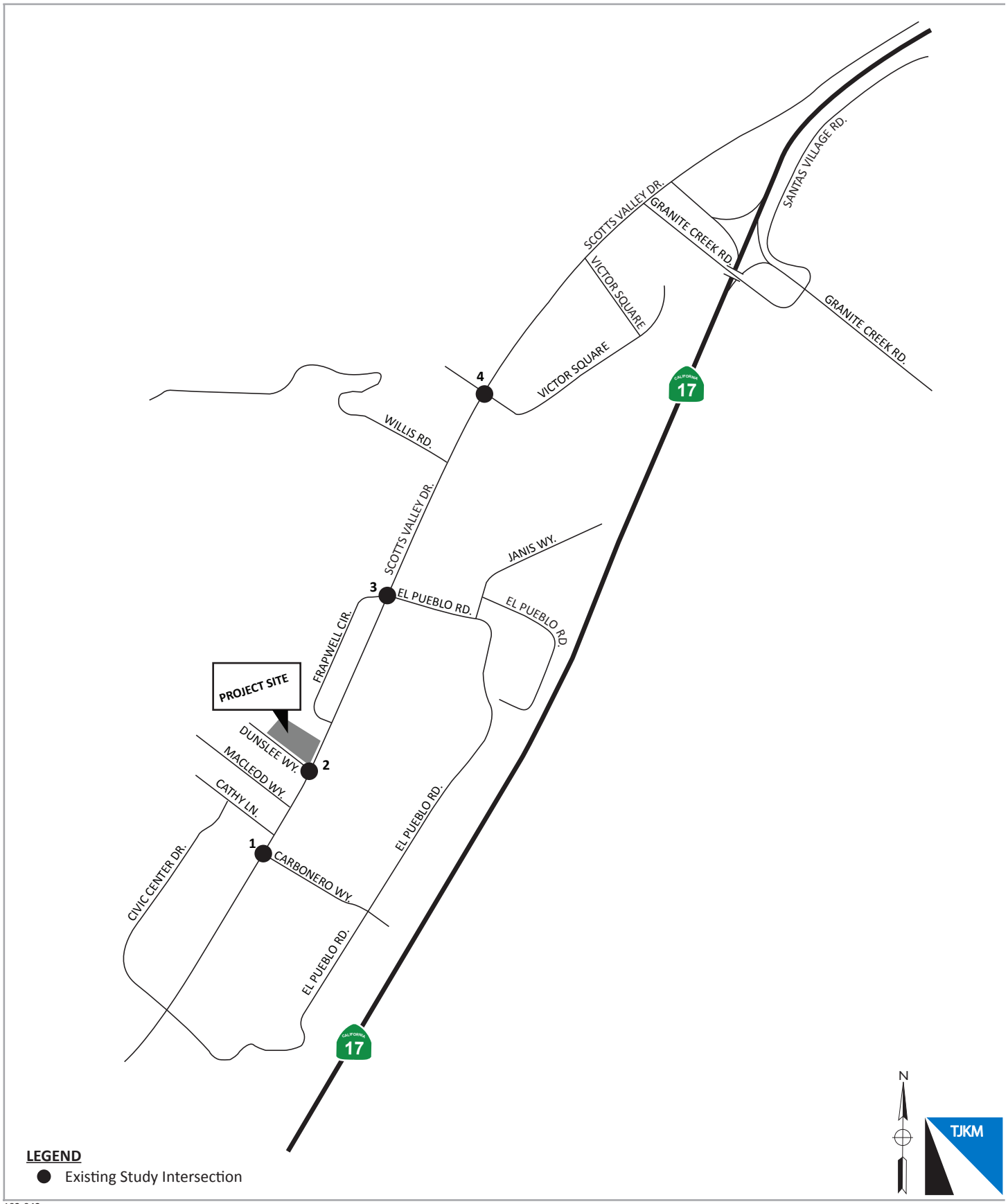
TJKM evaluated traffic conditions at the study intersections during a.m. and p.m. peak hours for a typical weekday. The study intersections were selected in consultation with the City staff. The peak periods observed were between 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 6:00 p.m. It is to be noted that there are multiple access points between the study intersections and this creates gaps in volume between them. The study intersections and associated traffic controls are as follows:

1. Scotts Valley Drive/Carbonero Way (Signal)
2. Scotts Valley Drive/Dunslee Way (Two-Way Stop)
3. Scotts Valley Drive/El Pueblo Road (Signal)
4. Scotts Valley Drive/Victor Square (Two-Way Stop)

The following six scenarios are addressed in this study:

1. *Existing Conditions* – This scenario evaluates the study intersections based on existing traffic counts, lane geometry and traffic controls.
2. *Existing plus Project* – This scenario is identical to Existing Conditions, but with the addition of traffic generated by the proposed development.
3. *Existing plus Approved/Pending Project (Background) Conditions* – This scenario is similar to the Existing Conditions, but with the addition of traffic from the approved and pending developments near the project site.
4. *Background plus Project Conditions* – This scenario is identical to Background Conditions, but with the addition of traffic from the proposed development.
5. *Cumulative 2035 Conditions* – This scenario is similar to Existing Conditions, but with the projected growth rate of 1% per year over 20 years for the Cumulative Year 2035.
6. *Cumulative 2035 plus Project Conditions* – This scenario is identical to Cumulative 2035 Conditions, but with the addition of traffic generated by the proposed development.

Vicinity Map



LEGEND

● Existing Study Intersection

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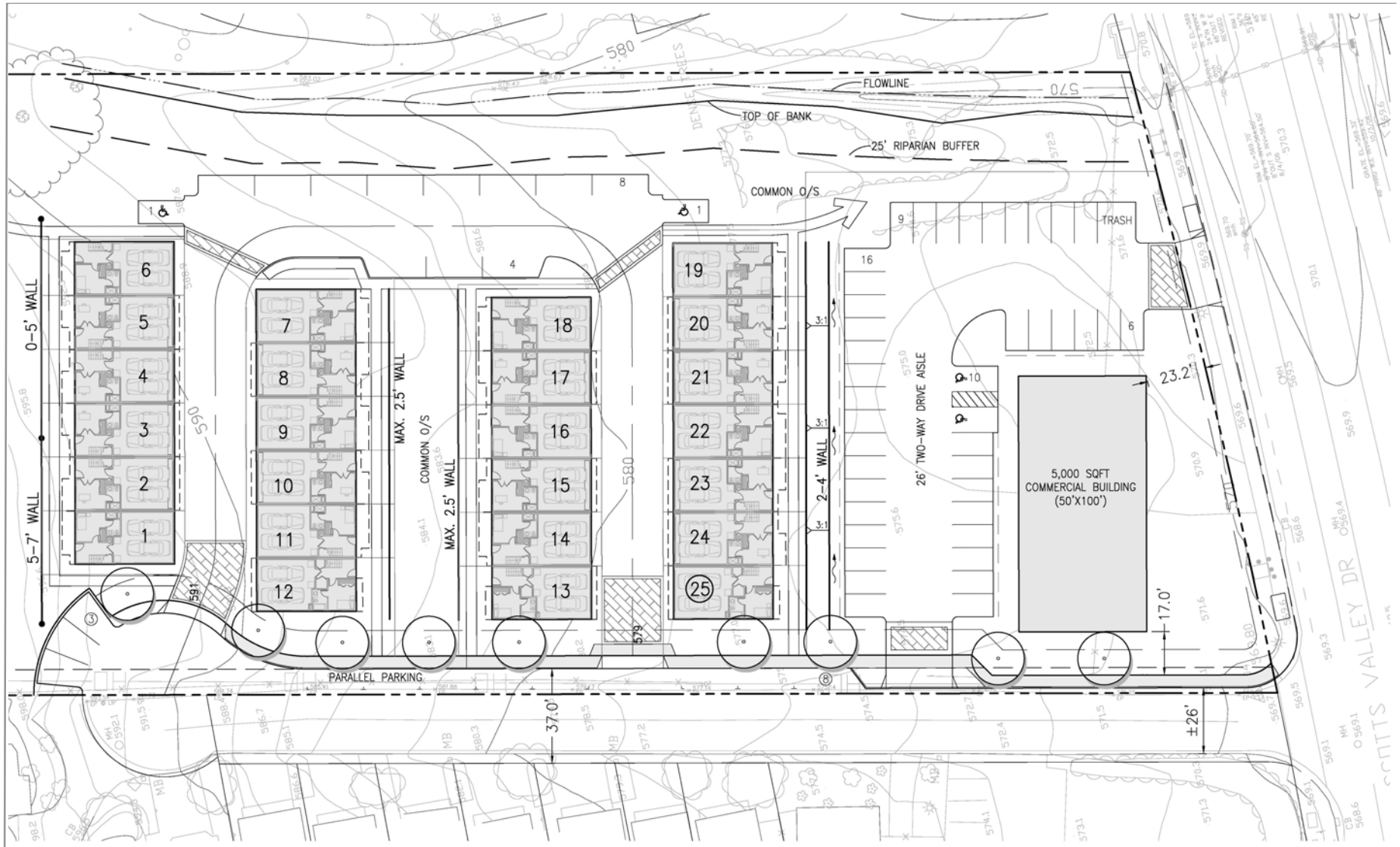
Figure 1

Site Plan



Source: RJA

102-042

Figure 2

Study Methodology

Level of Service Analysis Methodology

Traffic impacts on the study intersection were quantified through the determination of level of service (LOS), a qualitative measure describing operational conditions within a traffic stream. There are six levels of service defined for each type of facility (i.e., roadway or intersections). LOS has letter designations ranging from A to F, with LOS A representing free flow traffic with little or no delay and LOS F representing jammed conditions with excessive delay and long back-ups. Procedures for analyzing each type of facility are based on the Highway Capacity Manual 2010 (HCM 2010). The LOS methodology is described in detail in **Appendix A**. The City maintains a target LOS at the transition between LOS C and LOS D on street facilities. This report, therefore, considers LOS C to represent the threshold for all study intersections.

Criteria of Significance

According to City of Scotts Valley standards, a project-generated increase in traffic is considered to have a significant impact if it meets either of the following criteria:

- Intersection operations degrade from acceptable conditions (LOS C or better) under no Project Conditions to unacceptable conditions (i.e., LOS D, E or F) under plus Project Conditions for any study scenario; or
- An increase of one percent in the critical volume-to-capacity ratio between no Project and plus Project Conditions under any study scenario for intersections already operating at unacceptable conditions (i.e., LOS D, E or F) under Existing Conditions.

For unsignalized intersections, a project is considered to have a significant impact if the intersection meets the peak hour signal warrant per California MUTCD.

Existing Conditions

Existing Peak Hour Traffic Volumes

Vehicle, bicycle, and pedestrian movement counts for all study intersections were collected during February of 2015. The existing turning movement volumes, lane geometry, and traffic controls are illustrated in **Figure 3**.

Intersection Level of Service Analysis – Existing Conditions

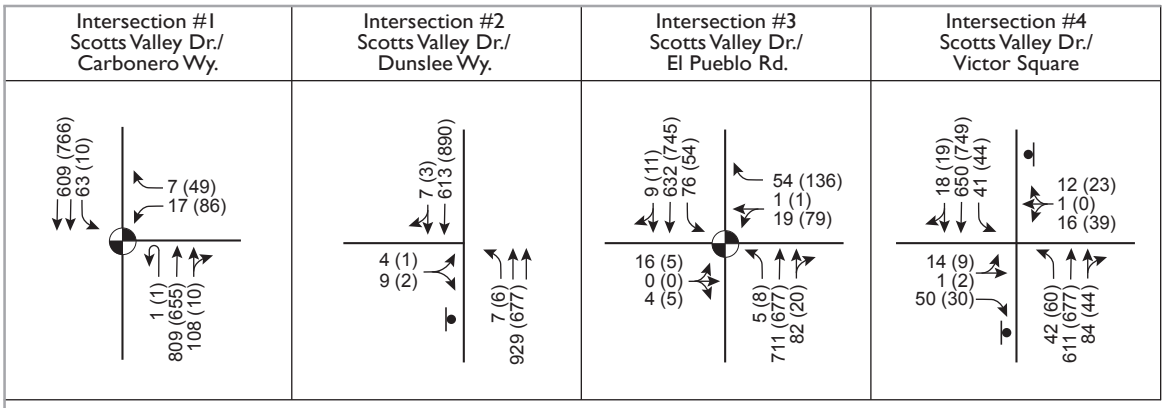
Table 1 below summarizes peak hour levels of service at the study intersections under Existing Conditions. Existing traffic count sheets and LOS worksheets are provided in **Appendices B** and **C** respectively. Under Existing Conditions, the study intersections operate at LOS C or better except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS E and F during the a.m. and p.m. peak hours respectively.

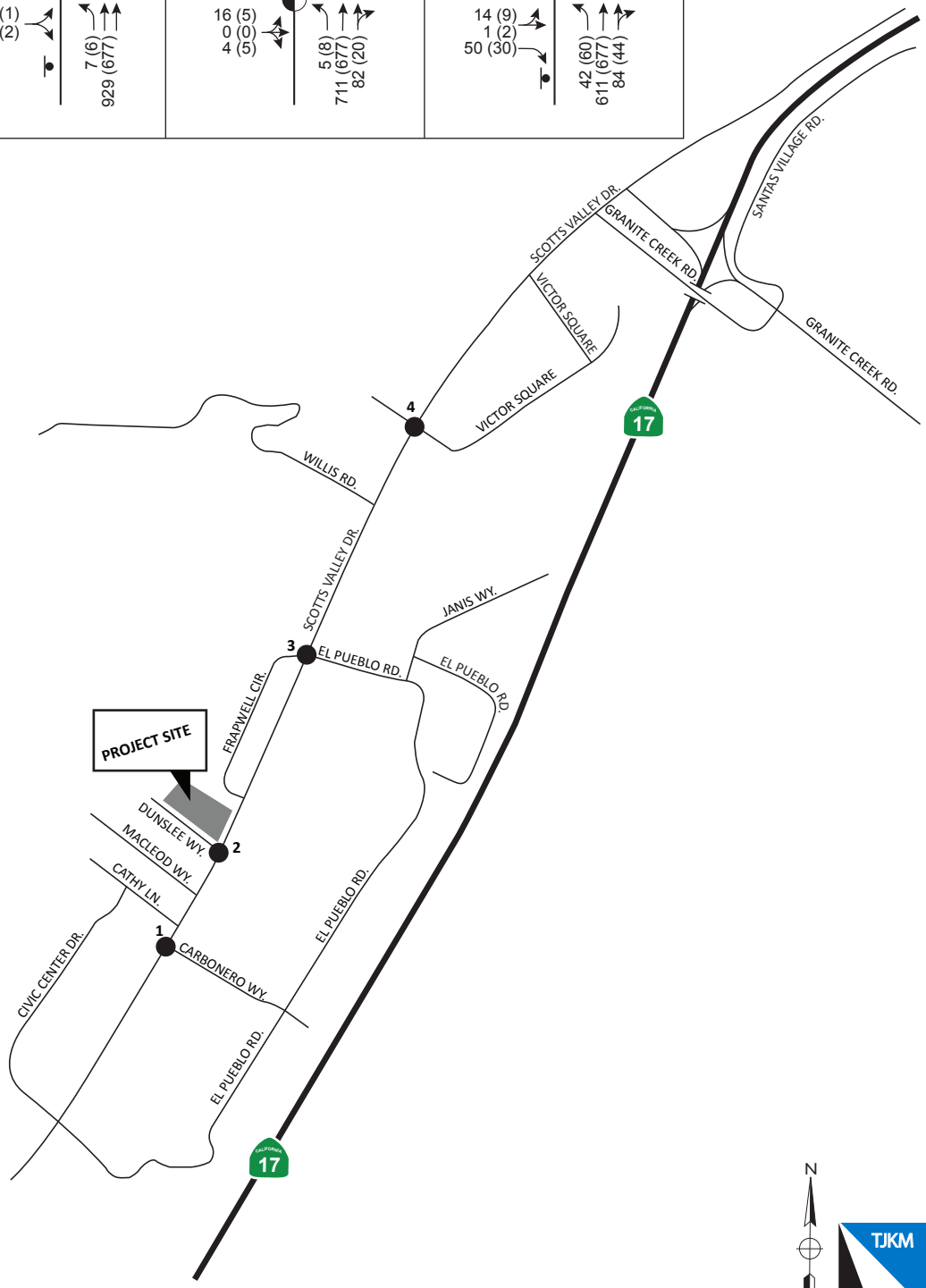
Table 1: Peak Hour Intersection Level of Service - Existing Conditions

ID	*Intersection*	*Control*	*Existing Conditions*			
			A.M. Peak Hour		*P.M. Peak Hour*	
			Delay	*LOS*	*Delay*	*LOS*
1	Scotts Valley Drive/Carbonero Way	Signal	5.8	A	7.3	A
2	Scotts Valley Drive/Dunslee Way	TWSC	12.9	B	15.1	C
3	Scotts Valley Drive/El Pueblo Road	Signal	10.9	B	13.9	B
4	Scotts Valley Drive/Victor Square	TWSC	**42.1**	**E**	**140.5**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

Existing Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

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Figure 3

Existing plus Project Conditions

This scenario is identical to Existing Conditions, but with the addition of traffic generated by the proposed development.

Project Description

The project proposes to construct 25 residential townhomes with one of the three following additional developments:

1. 5,000 sq-ft office building; or
2. 10,000 sq-ft office building; or
3. 5,000 sq-ft restaurant

In an effort to analyze the worst-case scenario, this report evaluates the trips that are estimated to be generated from 25 residential townhomes and a 5,000 sq-ft restaurant. The site is currently an unoccupied parcel of land with no existing infrastructure. The project is located at the northern quadrant of the intersection of Scotts Valley Drive and Dunslee Way. The current parcel consists of undeveloped land.

As shown in **Figure 2**, the proposed project's access will be via driveways on both Scotts Valley Drive and Dunslee Way.

Project Trip Generation

TJKM estimated trips for the proposed project based on *Trip Generation (9th Edition)*, published by the Institute of Transportation Engineers (ITE). The proposed development is expected to generate 781 net additional daily trips, including 65 net additional trips during the a.m. peak hour and 62 net additional trips during the p.m. peak hour.

TJKM utilized the trip rates for Residential Condo/Townhouse (ITE land use code 230) and High-Turnover Restaurant (ITE land use code 932) on this project. **Table 2** shows the expected trip generation for the proposed project based on ITE trip generation rates.

Table 2: Summary of Proposed Project Trip Generation

Land Use (ITE Code)	*Size*	*Units*	*Daily*		*A.M. Peak Hour*					*P.M. Peak Hour*				
			Rate	*Trips*	*Rate*	*In:Out %*	*In Trips*	*Out Trips*	*Total Trips*	*Rate*	*In:Out %*	*In Trips*	*Out Trips*	*Total Trips*
Residential Condo/ Townhouse (ITE code 230)	25	d.u.	5.81	145	0.44	17:83	2	9	11	0.52	67:33	9	4	13
High-Turnover Restaurant (ITE code 932)	5.0	ksf	127.2	636	10.81	55:45	30	24	54	9.85	60:40	29	20	49
Net New Trips				**781**			**32**	**33**	**65**			**38**	**24**	**62**

Notes: d.u. = Dwelling Units
ksf = Thousand Square Feet
Source: ITE Trip Generation Manual, 9th Edition, 2012

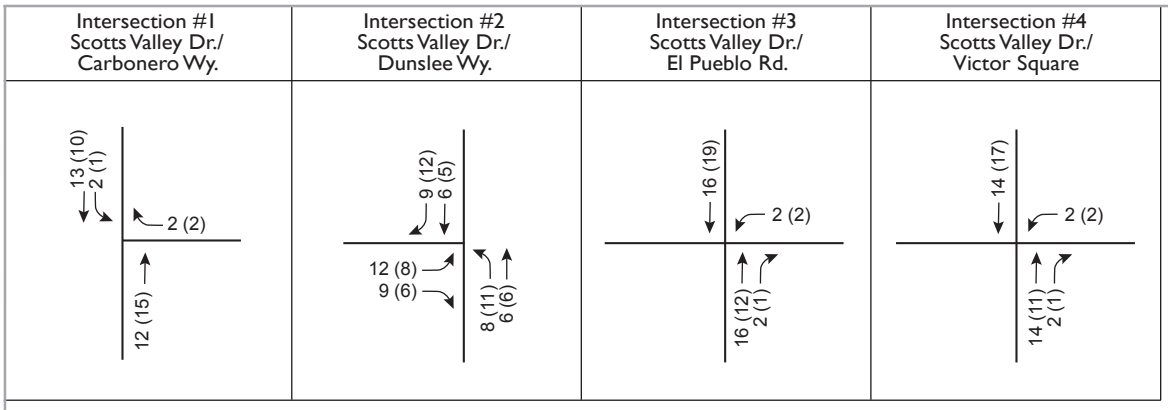
Project Trip Distribution

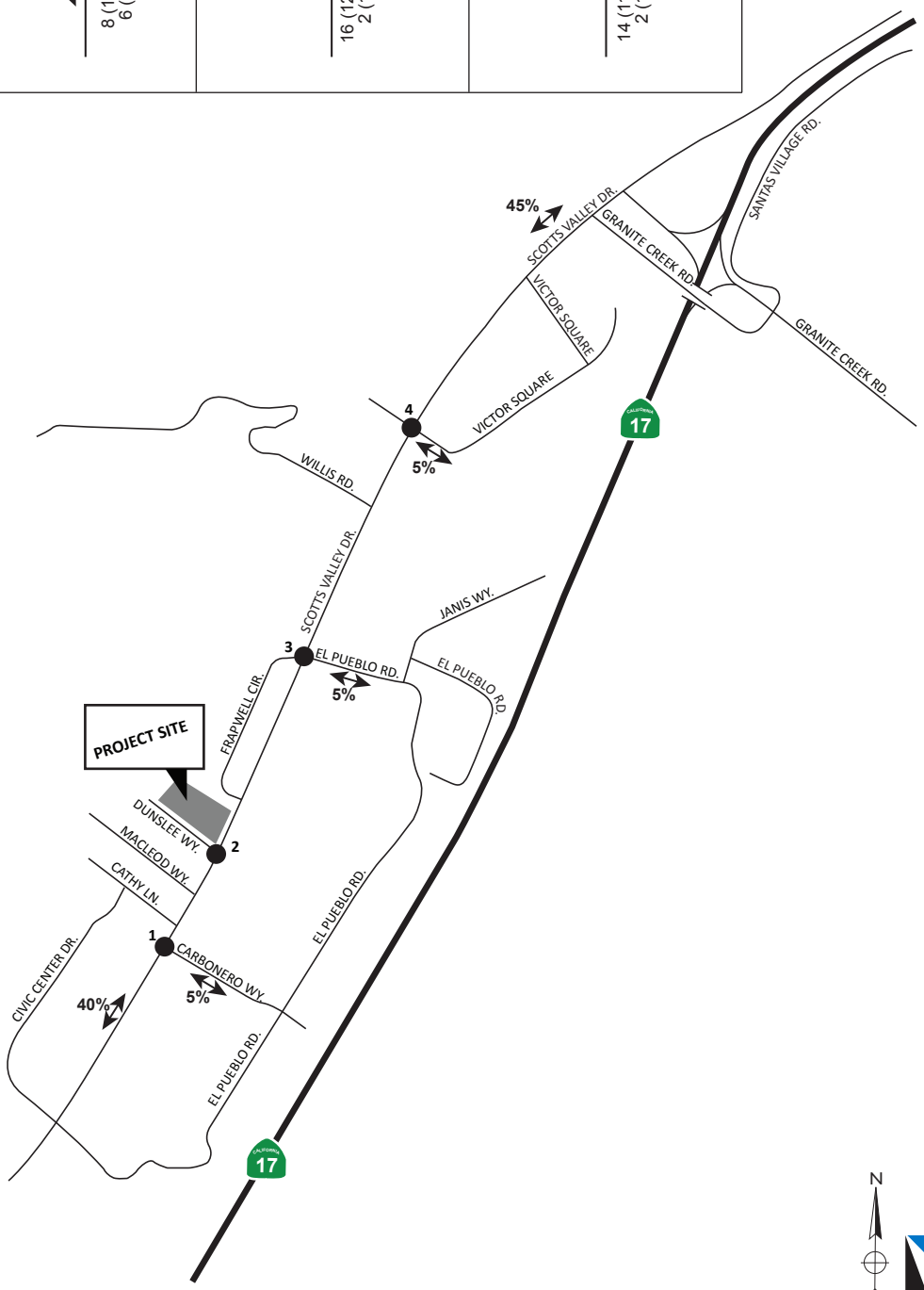
Trip distribution assumptions for the proposed project were developed based on knowledge of the study area, existing travel patterns. The distribution assumptions are as follows:

1. 45 percent to/from north of Scotts Valley Drive/Granite Creek intersection
2. 40 percent to/from south of Scotts Valley Drive/Carbonero Way intersection
3. 5 percent to/from east of Scotts Valley Drive/Victor Square intersection
4. 5 percent to/from east of Scotts Valley Drive/El Pueblo Road intersection
5. 5 percent to/from east of Scotts Valley Drive/Carbonero Way intersection

The projected peak hour project trip distribution and trip assignment at the study intersections are shown in **Figure 4**.

Project Peak Hour Trip Distribution and Assignment





LEGEND

- ● Existing Study Intersection
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes
- XX% Trip Distribution

N

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Figure 4

Intersection Level of Service Analysis – Existing plus Project Conditions

Figure 5 shows Existing plus Project Conditions turning movement volumes, lane geometry, and traffic controls at the study intersections and project driveways. **Table 3** below summarizes peak hour levels of service at the study intersections under Existing plus Project Conditions. LOS worksheets are provided in **Appendix D**. Under Existing plus Project Conditions, the study intersections operate at LOS C or better except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS E and F during the a.m. and p.m. peak hours respectively.

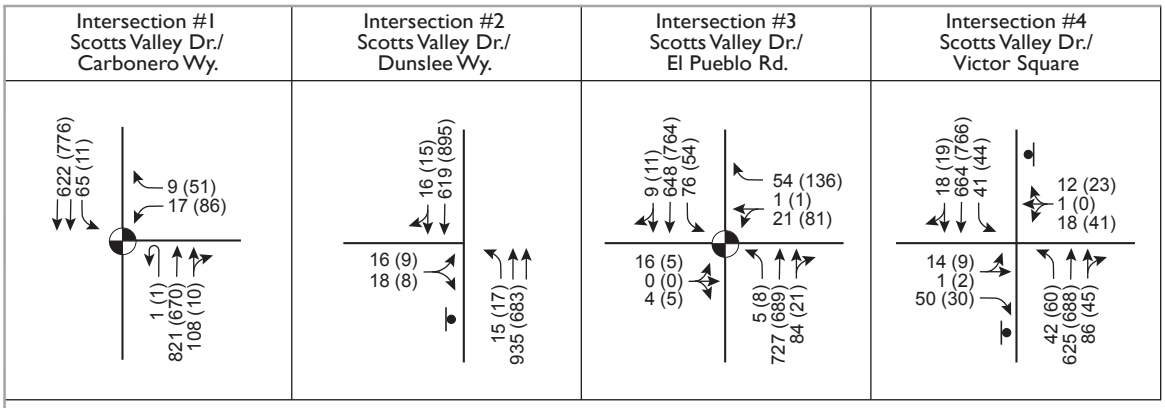
Table 3: Peak Hour Intersection Level of Service - Existing plus Project Conditions

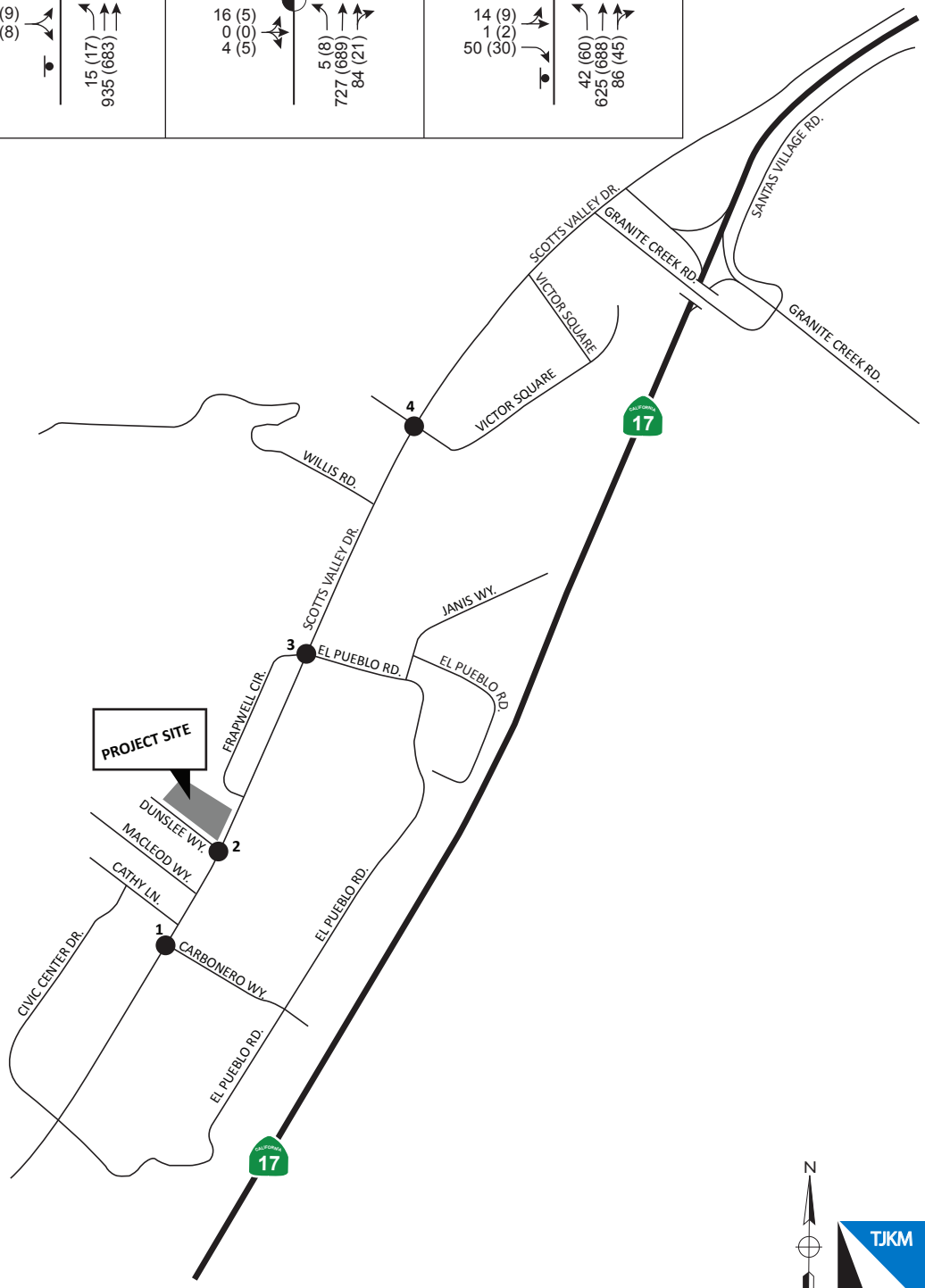
ID	*Intersection*	*Control*	*Peak Hour*	*Existing Conditions*		*Existing plus Project Conditions*	
				Average Delay[2]	*LOS[1]*	*Average Delay[2]*	*LOS[1]*
1	Scotts Valley Drive/Carbonero Way	Signal	A.M.	5.8	A	5.9	A
			P.M.	7.3	A	7.3	A
2	Scotts Valley Drive/Dunslee Way	TWSC	A.M.	12.9	B	15.6	C
			P.M.	15.1	C	18.7	C
3	Scotts Valley Drive/El Pueblo Road	Signal	A.M.	10.9	B	11.0	B
			P.M.	13.9	B	13.9	B
4	Scotts Valley Drive/Victor Square	TWSC	A.M.	**42.1**	**E**	**48.5**	**E**
			P.M.	**140.5**	**F**	**166.7**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

A peak hour signal warrant analysis was performed at the intersection of Scotts Valley Drive and Victor Square. The warrant is not met based on the major and minor street volumes, or stopped time delay, minor-street approach volume, and total entering volume, therefore mitigation is not required. The peak hour signal warrant analysis is attached in **Appendix J**.

Existing plus Project Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

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Figure 5

Existing plus Approved/Pending Project (Background) Conditions

This scenario evaluates existing volumes plus traffic from approved but not yet constructed developments in the area.

Approved/Pending Project Assumptions and Trip Generation

The City of Scotts Valley provided a list of approved/pending projects in the vicinity of the proposed project that could potentially impact the study intersections. The list of projects was reviewed and, based on size and location, trip generation estimates were calculated for each land use. **Table 4** summarizes the trip generation for each of the approved/pending projects. **Appendix I** contains the list of approved/pending projects and associated maps provided by the City.

Table 4: Summary of Approved/Pending Project Trip Generation

City Map Number/ID	*ITE Code*	*Size*	*Unit*	*Daily*		*AM Peak Hour*				*PM Peak Hour*			
				Rate	*Total*	*Rate*	*In*	*Out*	*Total*	*Rate*	*In*	*Out*	*Total*
A1	210	1	d.u.	9.52	10	0.75	0	1	1	1.00	1	0	1
A2	310	119	rooms	8.17	972	0.53	37	26	63	0.60	36	35	71
A4	210	8	d.u.	9.52	76	0.75	1	5	6	1.00	5	3	8
A5	710	5.3	ksf	11.03	58	1.56	7	1	8	1.49	1	7	8
B1	230	3	d.u.	5.81	17	0.44	0	1	1	0.52	1	1	2
B2	230	6	d.u.	5.81	35	0.44	1	2	3	0.52	2	1	3
B5	210	4	d.u.	9.52	38	0.75	1	2	3	1.00	3	1	4
B6	210	1	d.u.	9.52	10	0.75	0	1	1	1.00	1	0	1
B7	210	2	d.u.	9.52	19	0.75	0	2	2	1.00	1	1	2
B9	210	1	d.u.	9.52	10	0.75	0	1	1	1.00	1	0	1
B11	210	3	d.u.	9.52	29	0.75	0	2	2	1.00	2	1	3
B12	210	40	d.u.	9.52	381	0.75	8	22	30	1.00	25	15	40
B13	210	3	d.u.	9.52	29	0.75	0	2	2	1.00	2	1	3
B14	230	5	d.u.	5.81	29	0.44	1	1	2	0.52	2	1	3
B15	220	2	d.u.	6.65	13	0.51	0	1	1	0.67	1	0	1
B16	210	1	d.u.	9.52	10	0.75	0	1	1	1.00	1	0	1
B17	814	9.1	ksf	64.03	583	3.81	18	17	35	6.82	31	31	62
Net Total				**-**	**2319**	**-**	**74**	**88**	**162**	**-**	**116**	**98**	**214**

Notes: d.u. = Dwelling Unit(s)
ksf = Thousand Square Feet
Source: ITE Trip Generation Manual, 9th Edition, 2012

Intersection Level of Service Analysis – Background Conditions

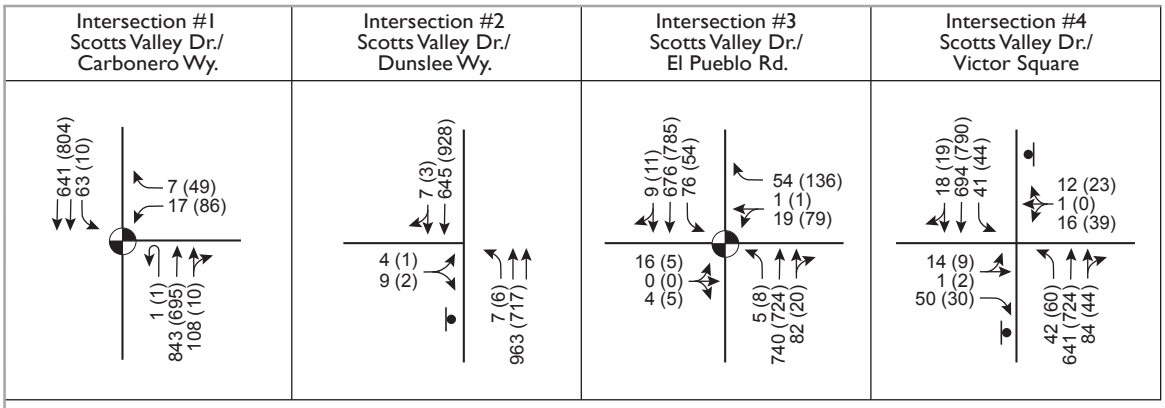
Figure 6 shows Background Conditions turning movement volumes, lane geometry, and traffic controls at the study intersections. **Table 5** below summarizes peak hour levels of service at the study intersections under Background Conditions and LOS worksheets can be found in **Appendix E**. Under Background Conditions, the study intersections operate at LOS C or better except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS E and F during the a.m. and p.m. peak hours respectively.

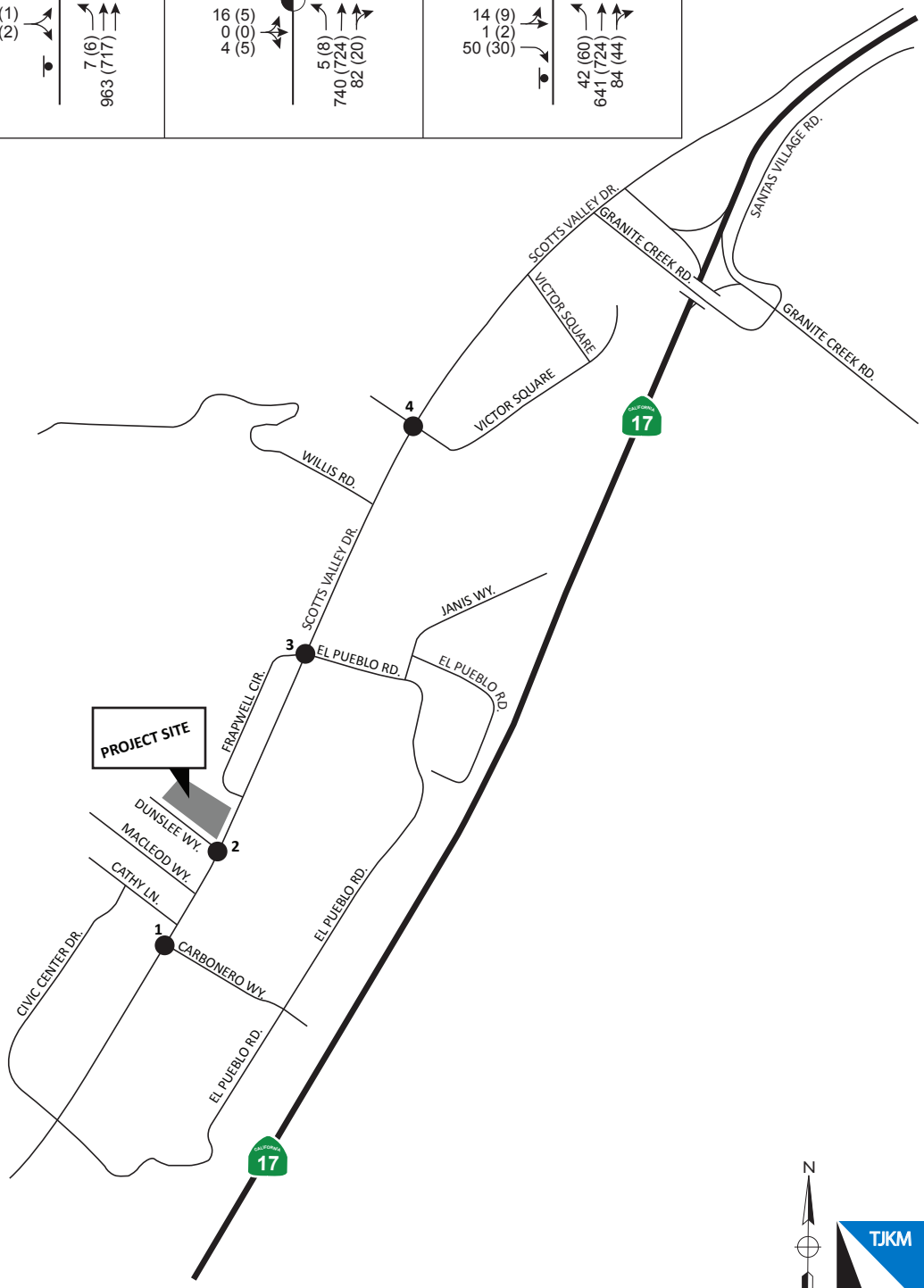
Table 5: Peak Hour Intersection Level of Service - Background Conditions

ID	*Intersection*	*Control*	*Background Conditions*			
			A.M. Peak Hour		*P.M. Peak Hour*	
			Delay	*LOS*	*Delay*	*LOS*
1	Scotts Valley Drive/Carbonero Way	Signal	5.8	A	7.3	A
2	Scotts Valley Drive/Dunslee Way	TWSC	13.2	B	15.6	C
3	Scotts Valley Drive/El Pueblo Road	Signal	10.9	B	14.0	B
4	Scotts Valley Drive/Victor Square	TWSC	**48.8**	**E**	**186.3**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

Background Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

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Figure 6

Background plus Project Conditions

This scenario is identical to Background Conditions, but with the addition of traffic generated by the proposed development.

Intersection Level of Service Analysis – Background plus Project Conditions

Figure 7 shows Background plus Project Conditions turning movement volumes, lane geometry, and traffic controls at the study intersections and project driveways. **Table 6** below summarizes peak hour levels of service at the study intersections under Background plus Project Conditions and LOS worksheets are provided in **Appendix F**. Under Background plus Project Conditions, the study intersections operate at LOS C or better except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS F during both peak hours.

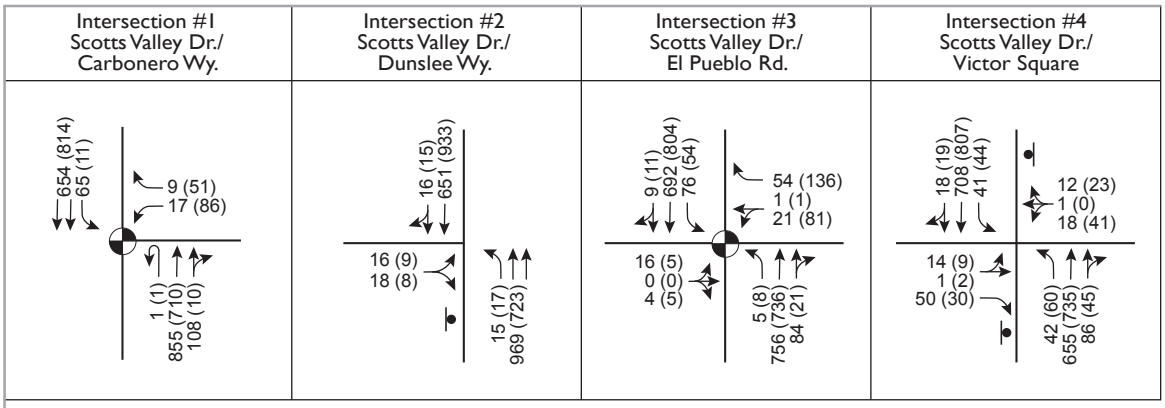
Table 6: Peak Hour Intersection Level of Service - Background plus Project Conditions

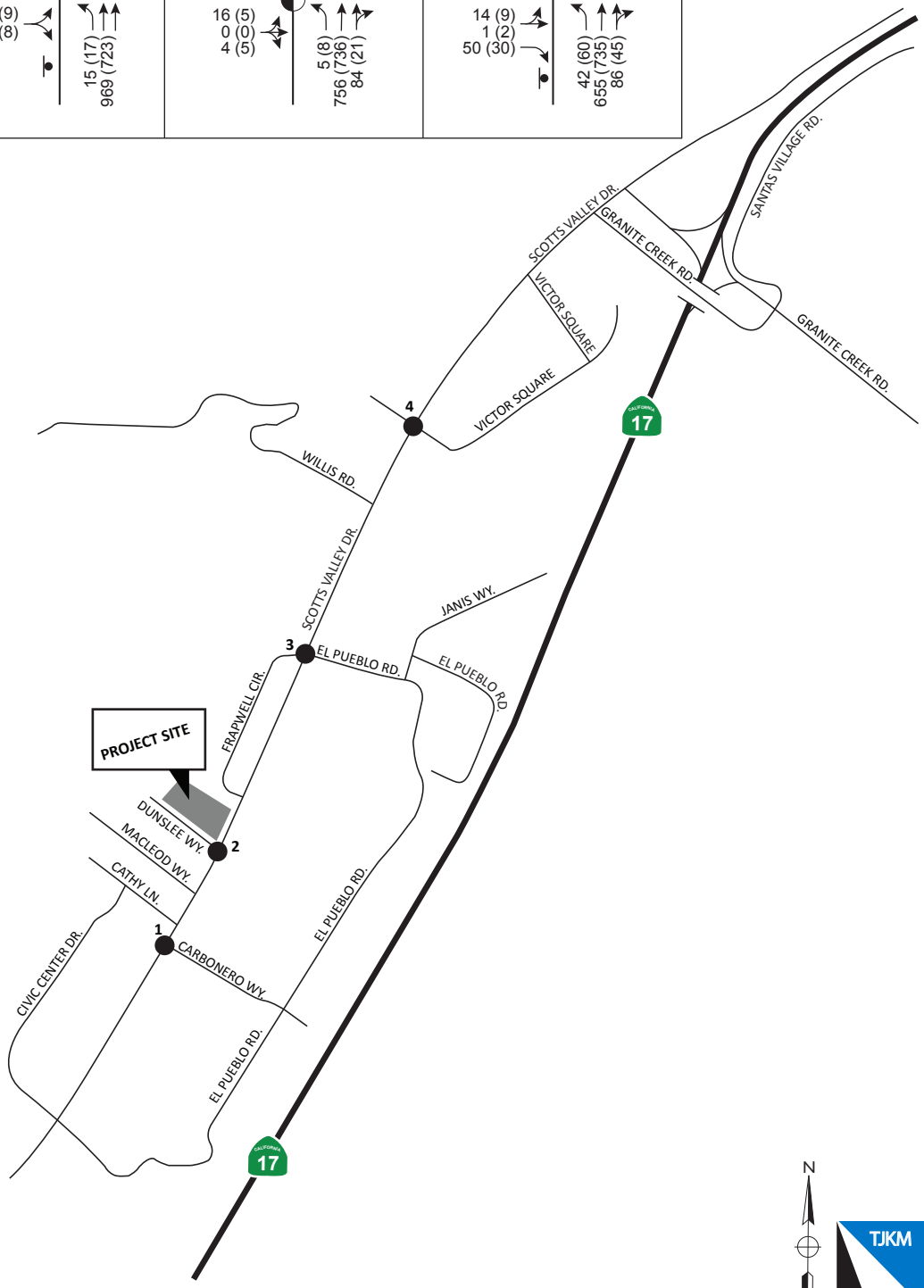
ID	*Intersection*	*Control*	*Peak Hour*	*Background Conditions*		*Background plus Project Conditions*	
				Average Delay[2]	*LOS[1]*	*Average Delay[2]*	*LOS[1]*
1	Scotts Valley Drive/Carbonero Way	Signal	A.M.	5.8	A	5.9	A
			P.M.	7.3	A	7.3	A
2	Scotts Valley Drive/Dunslee Way	TWSC	A.M.	13.2	B	16.1	C
			P.M.	15.6	C	19.6	C
3	Scotts Valley Drive/El Pueblo Road	Signal	A.M.	10.9	B	11.0	B
			P.M.	14.0	B	14.1	B
4	Scotts Valley Drive/Victor Square	TWSC	A.M.	**48.8**	**E**	**54.9**	**F**
			P.M.	**186.3**	**F**	**224.7**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

A peak hour signal warrant analysis was performed at the intersection of Scotts Valley Drive and Victor Square. The warrant is not met based on the major and minor street volumes, or stopped time delay, minor-street approach volume, and total entering volume, therefore mitigation is not required. The peak hour signal warrant analysis is attached in **Appendix J**.

Background plus Project Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

TJKM

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Figure 7

Cumulative 2035 Conditions

This scenario evaluates traffic volumes and roadway conditions based on the year 2035 without the proposed project. The Cumulative 2035 Conditions traffic volumes were estimated using the projected growth rate of 1% per year over 20 years applied to the Existing Conditions traffic volumes.

Intersection Level of Service Analysis – Cumulative 2035 Conditions

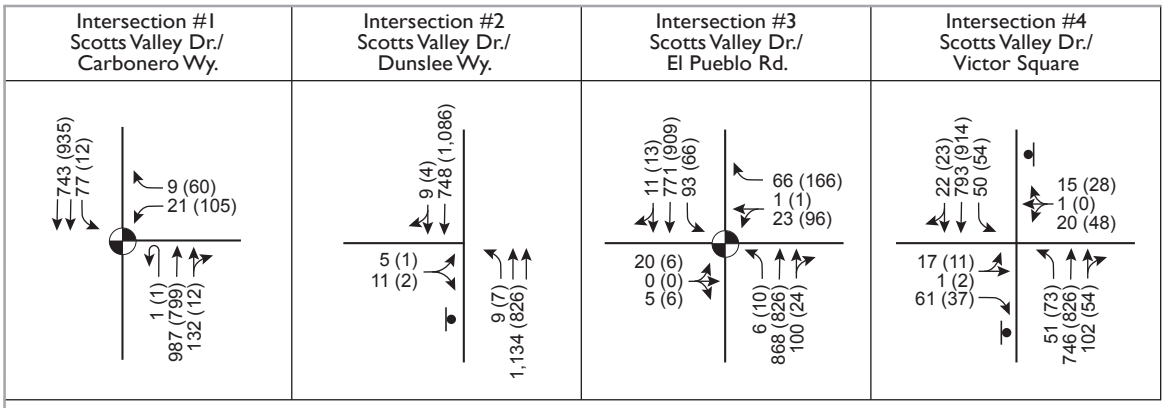
Figure 8 shows Cumulative 2035 Conditions turning movement volumes, lane geometry, and traffic controls at the study intersections. **Table 7** below summarizes peak hour levels of service at the study intersections under Cumulative 2035 Conditions and LOS worksheets are provided in **Appendix G**. Under Cumulative 2035 Conditions, the study intersections operate at LOS C or better, which is within acceptable City standards, except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS F during both peak hours.

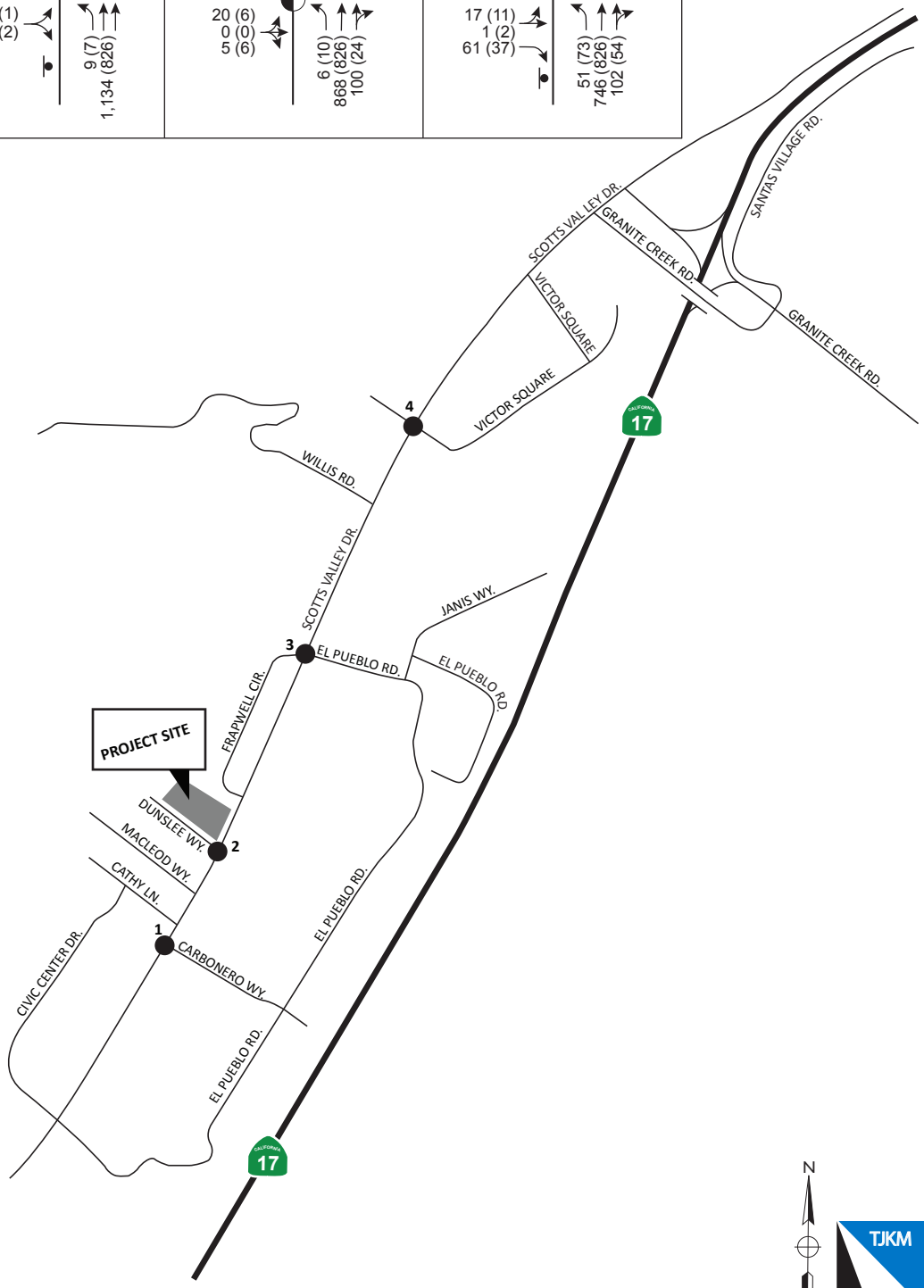
Table 7: Peak Hour Intersection Level of Service - Cumulative 2035 Conditions

ID	*Intersection*	*Control*	*Cumulative 2035 Conditions*			
			A.M. Peak Hour		*P.M. Peak Hour*	
			Delay	*LOS*	*Delay*	*LOS*
1	Scotts Valley Drive/Carbonero Way	Signal	6.5	A	6.9	A
2	Scotts Valley Drive/Dunslee Way	TWSC	14.1	B	16.7	C
3	Scotts Valley Drive/El Pueblo Road	Signal	10.6	B	14.3	B
4	Scotts Valley Drive/Victor Square	TWSC	**63.4**	**F**	**300.4**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

Cumulative 2035 Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

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Figure 8

Cumulative 2035 plus Project Conditions

This scenario is identical to Cumulative 2035 Conditions, but with the addition of traffic generated by the proposed development.

Intersection Level of Service Analysis and Mitigation Measures – Cumulative 2035 plus Project Conditions

Figure 9 shows Cumulative 2035 plus Project Conditions turning movement volumes, lane geometry, and traffic controls at the study intersections and project driveways. **Table 8** below summarizes peak hour levels of service at the study intersections under Cumulative 2035 plus Project Conditions and LOS worksheets are found in **Appendix H**. Under Cumulative 2035 plus Project Conditions, the study intersections operate at LOS C or better, which is within acceptable City standards, except the intersection of Scotts Valley Drive and Victor Square, which operates at LOS F during both peak hours.

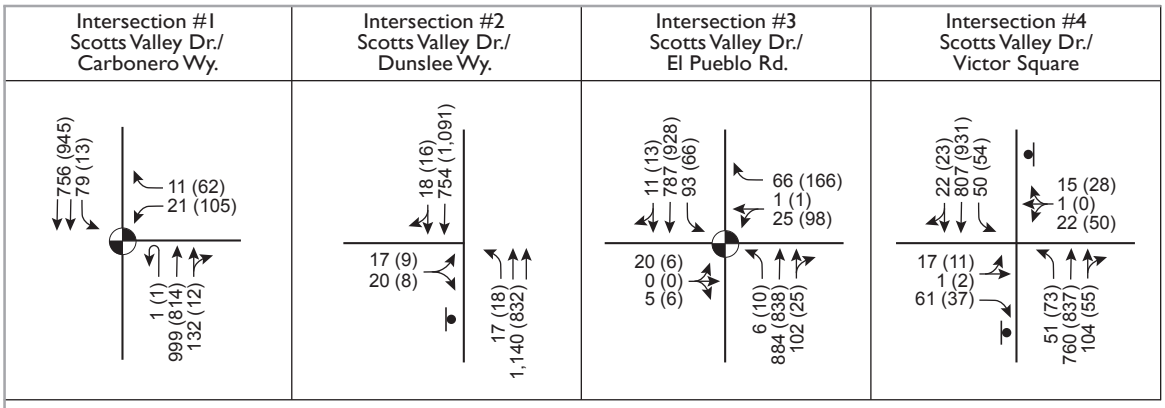
Table 8: Peak Hour Intersection Level of Service - Cumulative 2035 plus Project Conditions

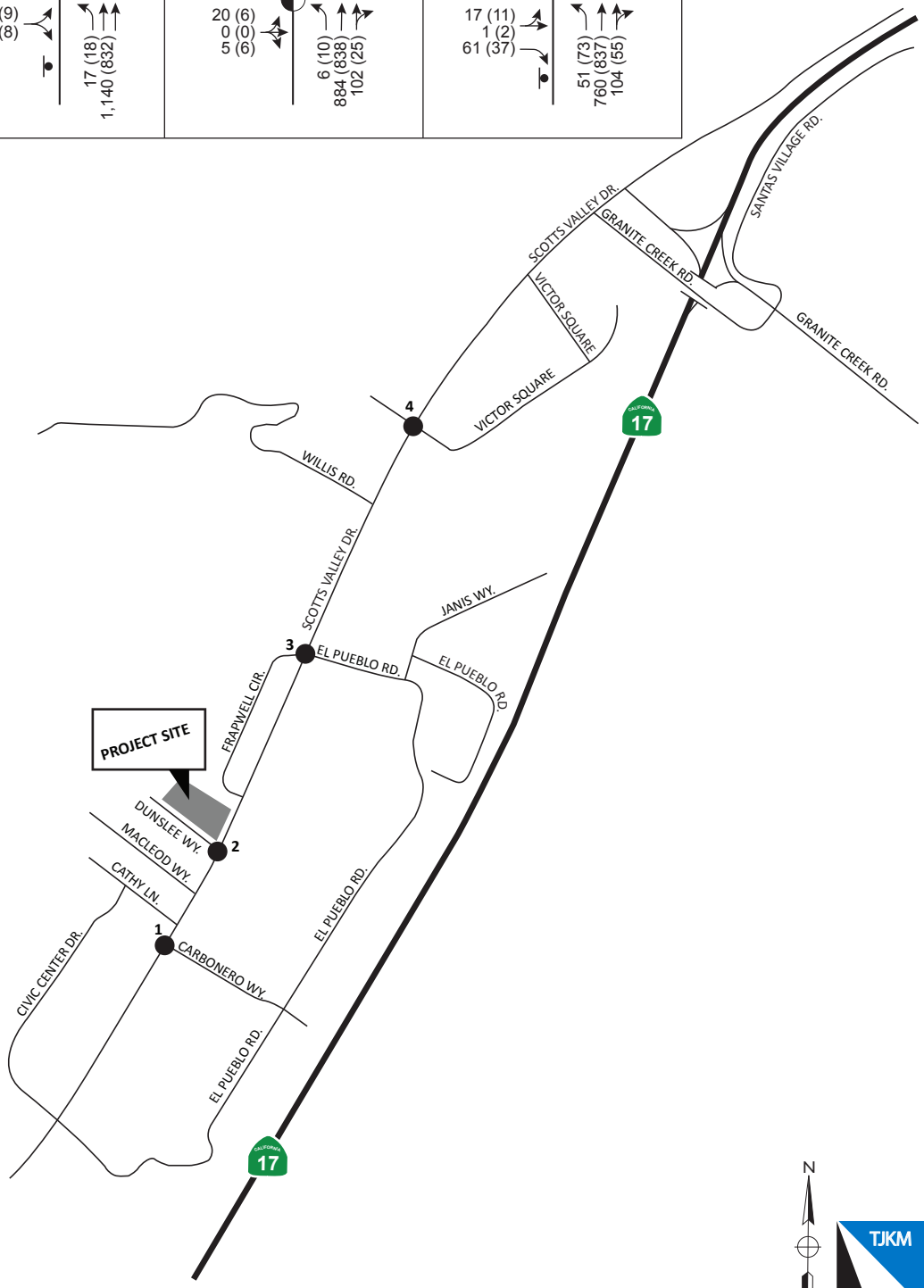
ID	*Intersection*	*Control*	*Peak Hour*	*Cumulative Conditions*		*Cumulative plus Project Conditions*	
				Average Delay[2]	*LOS[1]*	*Average Delay[2]*	*LOS[1]*
1	Scotts Valley Drive/Carbonero Way	Signal	A.M.	6.5	A	6.7	A
			P.M.	6.9	A	7.0	A
2	Scotts Valley Drive/Dunslee Way	TWSC	A.M.	14.1	B	16.4	C
			P.M.	16.7	C	20.1	C
3	Scotts Valley Drive/El Pueblo Road	Signal	A.M.	10.6	B	10.7	B
			P.M.	14.3	B	14.4	B
4	Scotts Valley Drive/Victor Square	TWSC	A.M.	**63.4**	**F**	**71.5**	**F**
			P.M.	**300.4**	**F**	**341.6**	**F**

Notes: 1. LOS = Level of Service;
2. Average intersection delay expressed in seconds per vehicle for signalized intersections. Total control delay for the worst approach is presented for Two-Way Stop Controlled (TWSC) intersections.
Bold indicates intersections that operate at an unacceptable LOS.

A peak hour signal warrant analysis was performed at the intersection of Scotts Valley Drive and Victor Square. The warrant is not met based on the major and minor street volumes, or stopped time delay, minor-street approach volume, and total entering volume, therefore mitigation is not required. The peak hour signal warrant analysis is attached in **Appendix J**.

Cumulative 2035 plus Project Conditions Traffic Volumes, Lane Geometry, and Controls





LEGEND

- ● Existing Study Intersection
- Traffic Signal
- Stop Sign
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes

N

TJKM

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Figure 9

Project Site Circulation and Access

TJKM reviewed the project site plan to evaluate on-site access, circulation and parking within the project site. Four full-access driveways are proposed for the site, with two (on Dunslee Way) accessing the residential section and two (one on Dunslee Way and one on Scotts Valley Drive) accessing the commercial section. There is no connection between the commercial and residential areas. Overall, the on-site circulation and parking spaces are considered adequate. TJKM recommends the installation of Stop Control at the project driveways with appropriate pavement delineation and signing.

Conclusions and Recommendations

TJKM has reached the following conclusions for the proposed mixed-use development at the Dunslee Way/Scotts Valley Drive intersection in the City of Scotts Valley, which proposes construction of 25 townhomes and a conservatively assumed 5,000 sq-ft restaurant.

Existing Traffic Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square operates at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Existing plus Project Conditions

The project is expected to generate 781 net additional daily trips, including 65 net additional trips during the a.m. peak hour and 62 net additional trips during the p.m. peak hour. Under this scenario, the intersection of Scotts Valley Drive and Victor Square operates at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Background Traffic Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to operate at an unacceptable LOS E and F during the a.m. and p.m. peak hours respectively.

Background plus Project Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to continue operating at an unacceptable LOS F during both the peak hours.

Cumulative 2035 Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to operate at an unacceptable LOS F during both the peak hours.

Cumulative 2035 plus Project Conditions

Under this scenario, the intersection of Scotts Valley Drive and Victor Square is expected to continue operating at an unacceptable LOS F during both the peak hours.

On-Site Circulation

TJKM reviewed the project site plan to evaluate on-site access, circulation and parking within the project site. The proposed project site will be accessed by four full-access driveways: two (on Dunslee Way) exclusively for the housing portion and two (one on Dunslee Way and one on Scotts Valley Drive) for the commercial development. Overall, the on-site circulation and parking spaces are considered adequate. TJKM recommends the installation of Stop Control at the project driveways with appropriate pavement delineation and signing.