

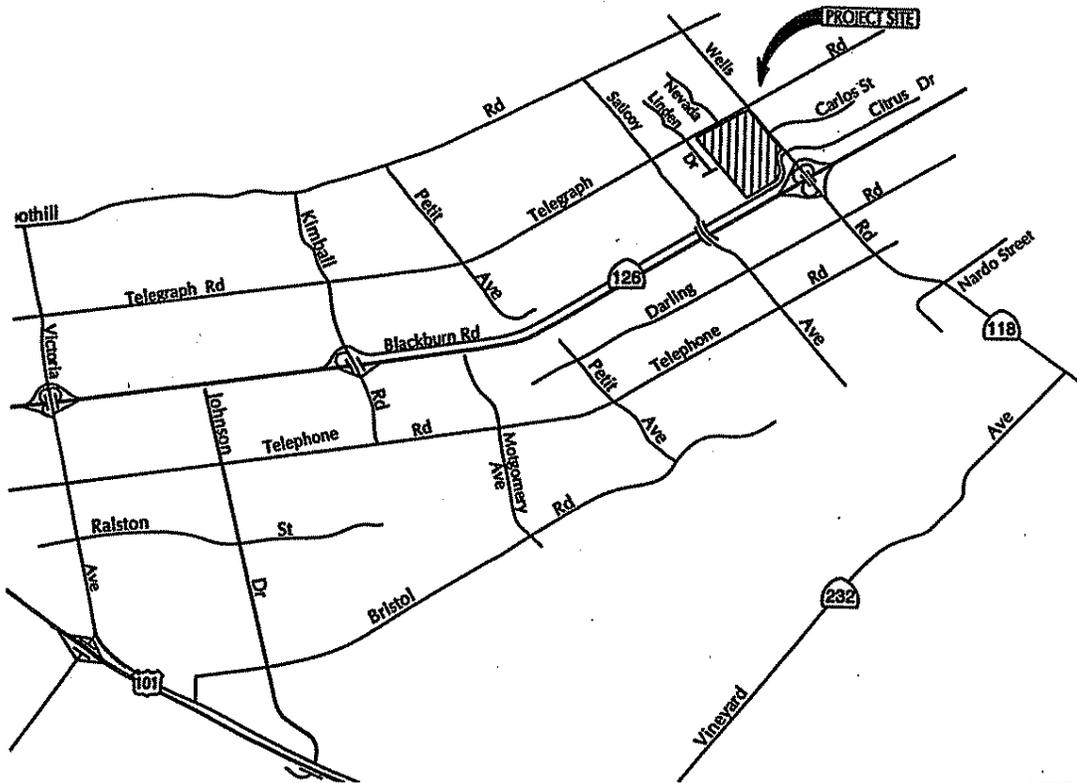
Appendix H

Traffic Report



**PARKLANDS PROJECT
CITY OF VENTURA, CALIFORNIA**

REVISED TRAFFIC AND CIRCULATION STUDY



September 3, 2008

ATE #08088

Prepared for:

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September 3, 2008

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REVISED TRAFFIC AND CIRCULATION STUDY FOR THE PARKLANDS PROJECT, CITY OF VENTURA, CALIFORNIA

Associated Transportation Engineers (ATE) has prepared the following revised traffic and circulation study for the Parklands Project, located in the City of Ventura. The study addresses potential traffic and circulation impacts associated with the project and identifies improvements where appropriate. A review of the site access and internal circulation system is also provided. It is our understanding that the results of this study will be used by the City of Ventura to process the project's development application.

We appreciate the opportunity to assist you with this project. Please contact our office if you have any questions or comments regarding the contents of this study.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

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INTRODUCTION

The following revised study contains an analysis of potential traffic and circulation impacts associated with the Parklands Project, located in the City of Ventura. The report provides information relative to existing and future traffic conditions within the study-area adjacent to the project site and addresses site access, circulation, and parking issues. An analysis of the project's potential impacts to the Ventura County Regional Roadway network is also provided.

PROJECT DESCRIPTION

The 66.7-acre project site is bounded by Telephone Road on the north, Blackburn Road on the south, Wells Road on the east and Linden Drive on the west. Figure 1 shows the location of the project site within the City of Ventura. The site is currently occupied by agricultural uses. The project is proposing to construct a total of 499 residential units (216 single family units and 283 condominium/townhouse units), a 6,560 square feet (S.F.) community building and 25,000 S.F. of commercial space on the site. The remainder of the site is designated for public parkland and open space. Figure 2 illustrates the site plan developed for the Parklands. The commercial space and 173 condominium units are located east of the Brown Barranca in the northeast corner of the site. The remaining 326 residential units and the community building are located west of the Brown Barranca.

Vehicular access to the site is proposed via street connections to Telegraph Road, Wells Road and Blackburn Road. Additional access is proposed with an extension of Carlos Street, which currently terminates at Wells Road on the eastern boundary of the site. Frontage improvements would include widening of Wells Road and Telegraph Road and construction of a raised median on these roadways along the project's boundary.

STUDY-AREA INTERSECTIONS

Table 1 lists the intersection that were identified by City staff the traffic study.

Table 1
Study-Area Intersections

Intersections	
1. Foothill Road/Wells Road	10. Wells Road/State Route 126 Eastbound Ramps
2. Telegraph Road/Kimball Road	11. Wells Road/Darling Road
3. Telegraph Road/Petit Avenue	12. Telephone Road/Kimball Road
4. Telegraph Road/Saticoy Avenue	13. Telephone Road/Montgomery Avenue
5. Telegraph Road/Nevada Avenue	14. Telephone Road/Petit Avenue
6. Telegraph Road/Wells Road	15. Telephone Road/Saticoy Avenue
7. Wells Road/Carlos Street	16. Telephone Road/Wells Road
8. Wells Road/Citrus Drive-Blackburn Road	17. Wells Road/Nardo Street
9. Wells Road/State Route 126 Westbound Ramps	18. Los Angeles Avenue/Vineyard Avenue

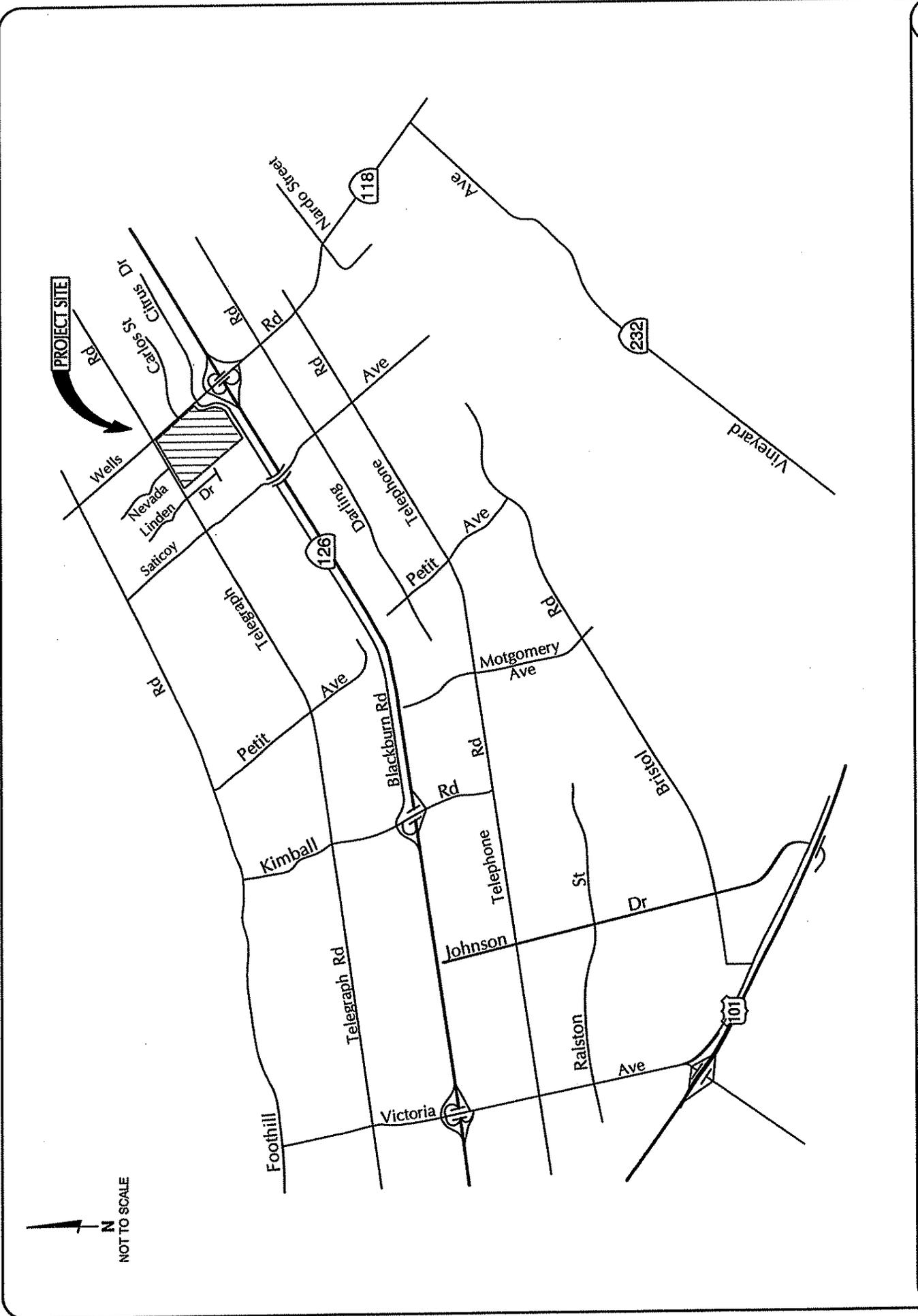
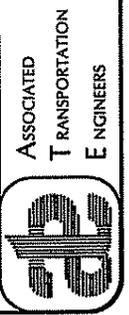


FIGURE 1

EXISTING STREET NETWORK AND PROJECT LOCATION

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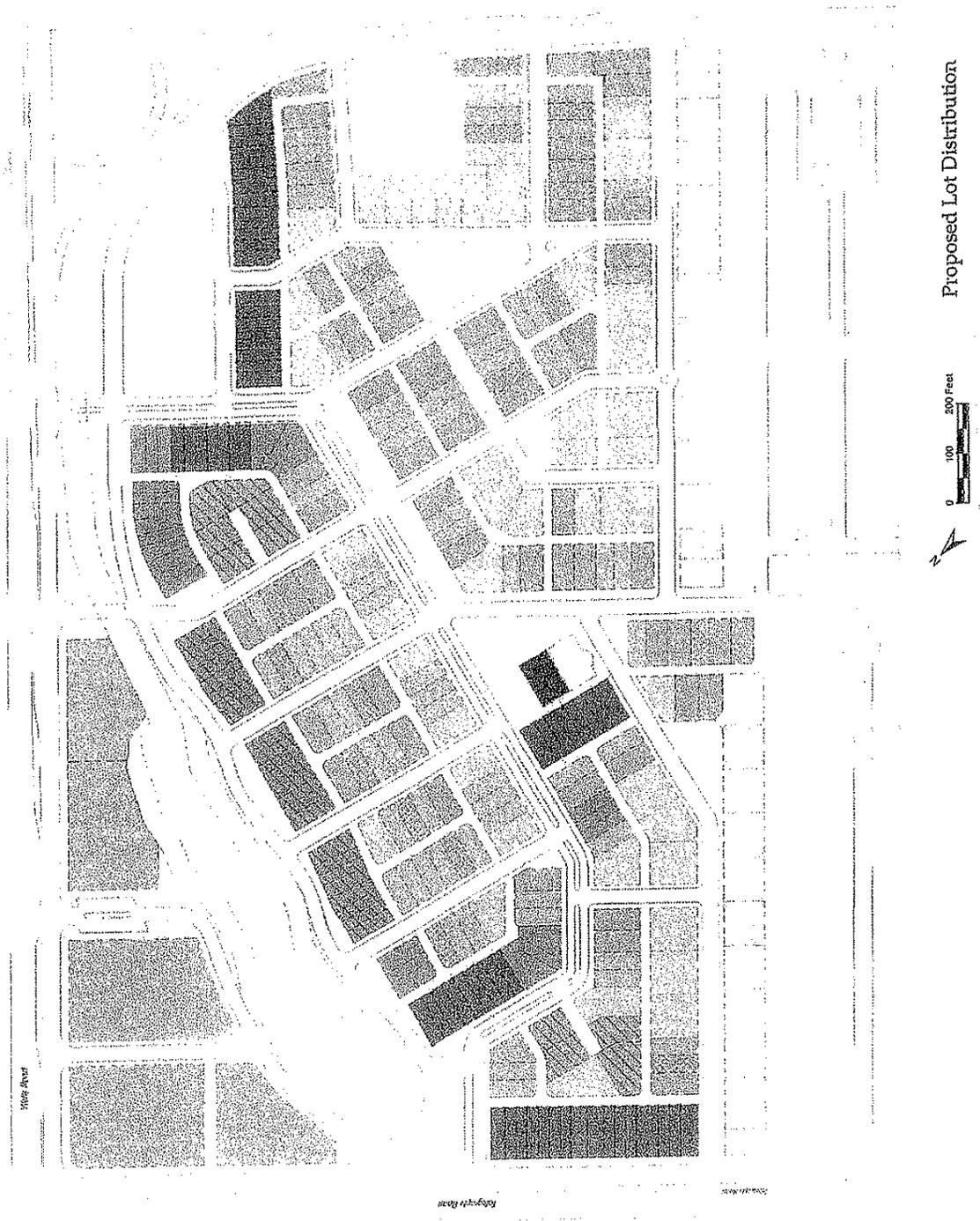


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PROJECT SITE PLAN

FIGURE 2

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Unit Count by Building Type	Quantity	Unit Size
Courtyard Housing and Live/Work	173 units	860-1,300
22' x 52' Rowhouse	62 units	1,360-2,050
22' x 62' Triplex	24 units	1,360-2,050
22' x 92' Quadplex	24 units	1,360-2,050
35' x 92' SFH 2-story	68 units	1,600-2,460
35' x 92' SFH 1.5-story + Bonus Room	18 units	1,600-2,460
45' x 92' SFH 2-story	60 units	2,000-3,050
49' x 75' Burglary Court	10 units	2,800-3,200
52' x 64' SFH 2-story	25 units	2,850-3,250
52' x 64' SFH 2-story	19 units	3,000-3,600
52' x 84' SFH 1.5-story	7 units	2,800-3,250
59' x 64' SFH 1.5-story	18 units	3,000-3,600
TOTAL	499 units	
Community Building		

EXISTING CONDITIONS

Street Network

The project site is served by a network of highways, arterial streets and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the major components of the study-area street network.

State Route 126, located south of the project site, is a four-lane east-west freeway that extends from U.S. Highway 101 to Santa Paula. East of Santa Paula the freeway becomes a conventional highway and extends to Interstate 5 in Santa Clarita (Los Angeles County). State Route 126 provides regional access to the project site via the State Route 126/Wells Road Interchange. The Wells Road/State Route 126 Eastbound Ramp intersection is controlled by a traffic signal, and the Wells Road/State Route 126 Eastbound Ramps intersection is controlled by a stop-sign on the off ramp approach .

Wells Road is a Primary Arterial that extends south from Foothill Road until it becomes Los Angeles Avenue at a point south of Telephone Road in the County of Ventura. South of State Route 126 the roadway is also a state facility (State Route 118). Wells Road would provide access to the project site via a total of four street connections. The roadway contains five travel lanes and a raised median from State Route 126 to Carlos Street. North of Carlos Street the roadway gradually narrows to two travel lanes and a median two-way left-turn lane. The speed limit adjacent the project site is 40 miles per hour (mph). The intersections of Wells Road with Telegraph Road, Citrus Drive - Blackburn Road, Darling Road, Telephone Road, and Nardo Street are signalized. The Wells Road/Carlos Street intersection is controlled by a stop sign on Carlos Street.

Telegraph Road, located along the site's north frontage, is an east-west Primary Arterial that connects the residential and commercial uses in the eastern part of Ventura to downtown. Telegraph Road extends from Main Street through the study-area to the City of Santa Paula. It contains four travel lanes east of Kimball Road, and two travel lanes and a median two-way left-turn lane between Petit Avenue and Wells Road. The posted speed limit adjacent the site is 45 to 55 mph. The roadway would provide access to the project site via three street connections. The intersections of Telegraph Road with Kimball Road, Petit Avenue and Saticoy Avenue are controlled by traffic signals. The Telegraph Road/Nevada Avenue intersection is controlled by stop signs on Nevada Avenue.

Telephone Road, located south of State Route 126, is a four- to six-lane Primary Arterial that extends north from Olivas Park Drive to U.S. Highway 101, from where it extends easterly until it terminates at Wells Road. Telephone Road would provide a connection between the project site and the commercial and residential areas located south of State Route 126. The intersections of Telephone Road with Kimball Road, Montgomery Avenue, Petit Avenue and Saticoy Avenue are controlled by traffic signals.

Blackburn Road, which borders the site on the south, is a two-lane undivided Local Street that serves as a frontage roadway to State Route 126. The roadway extends westerly from Kimball Road to Wells Road. It would provide access to the project site via four street connections.

Intersection Operations

Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. In rating intersection operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). The City considers LOS E acceptable at freeway interchange intersections, and LOS D acceptable at the "Principal Intersections" within the City. Principal Intersections are intersections that are regularly monitored by the City as a gauge of the operation of the City's circulation system. The City does not have a level of service standard for non-Principal Intersections, except for those that are located on the CMP¹ network, at which the CMP level of service standard of LOS E is applicable.

Figures 3 and 4 show the existing A.M. and P.M. peak hour traffic volumes for the study-area intersections. The peak hour volumes were obtained from counts conducted by ATE in September 2005, August 2008, and from counts provided by City staff. Levels of service for the signalized intersections were calculated based on the "Intersection Capacity Utilization" (ICU) methodology parameters outlined in the City's 2005 Ventura General Plan EIR². Levels of service for the unsignalized intersections were calculated using the Highway Capacity Software (HCS), which implements the Highway Capacity Manual (HCM) methodology³ to determine the total delay in seconds experienced by vehicles at a stop-controlled intersection, which is then related to a level of service.

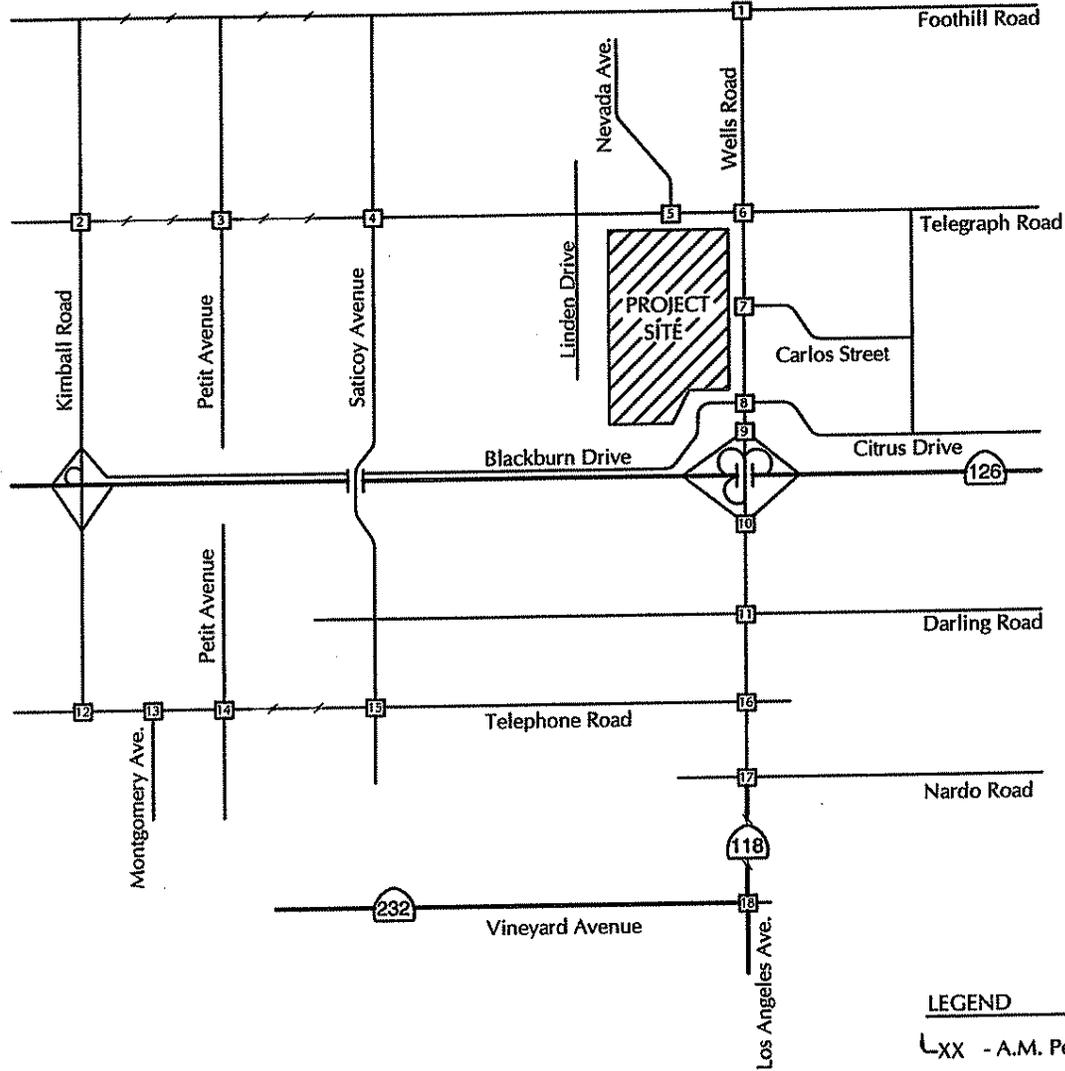
Level of service calculation worksheets and a brief discussion of the procedures used to calculate intersection levels of service are contained in the Technical Appendix. Table 2 presents the existing peak hour levels of service for the study-area intersections. The intersection numbering correlates with the numbering system used in the Technical Appendix.

¹ 2004-2005 Ventura County Congestion Management Program, Ventura County Transportation Commission, 2005.

² City of Ventura 2005 General Plan, Final Environmental Impact Report, City of Ventura, August 2005.

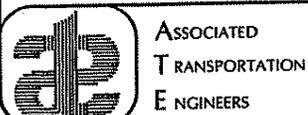
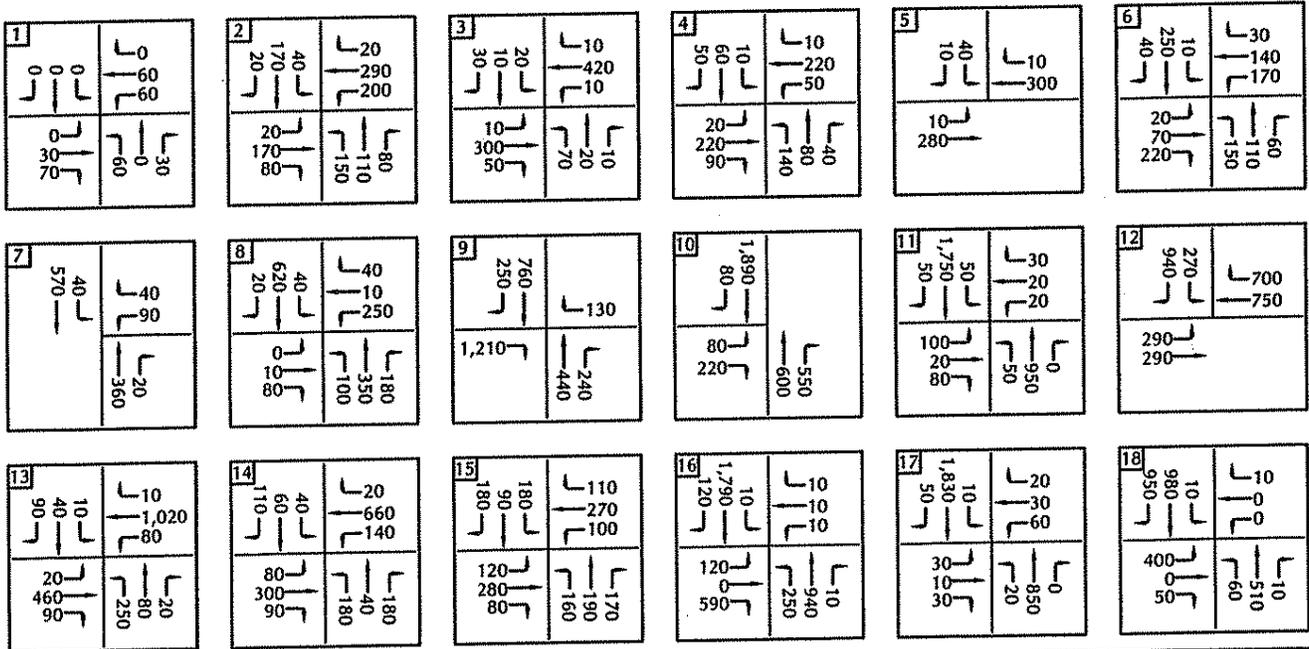
³ Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2000.

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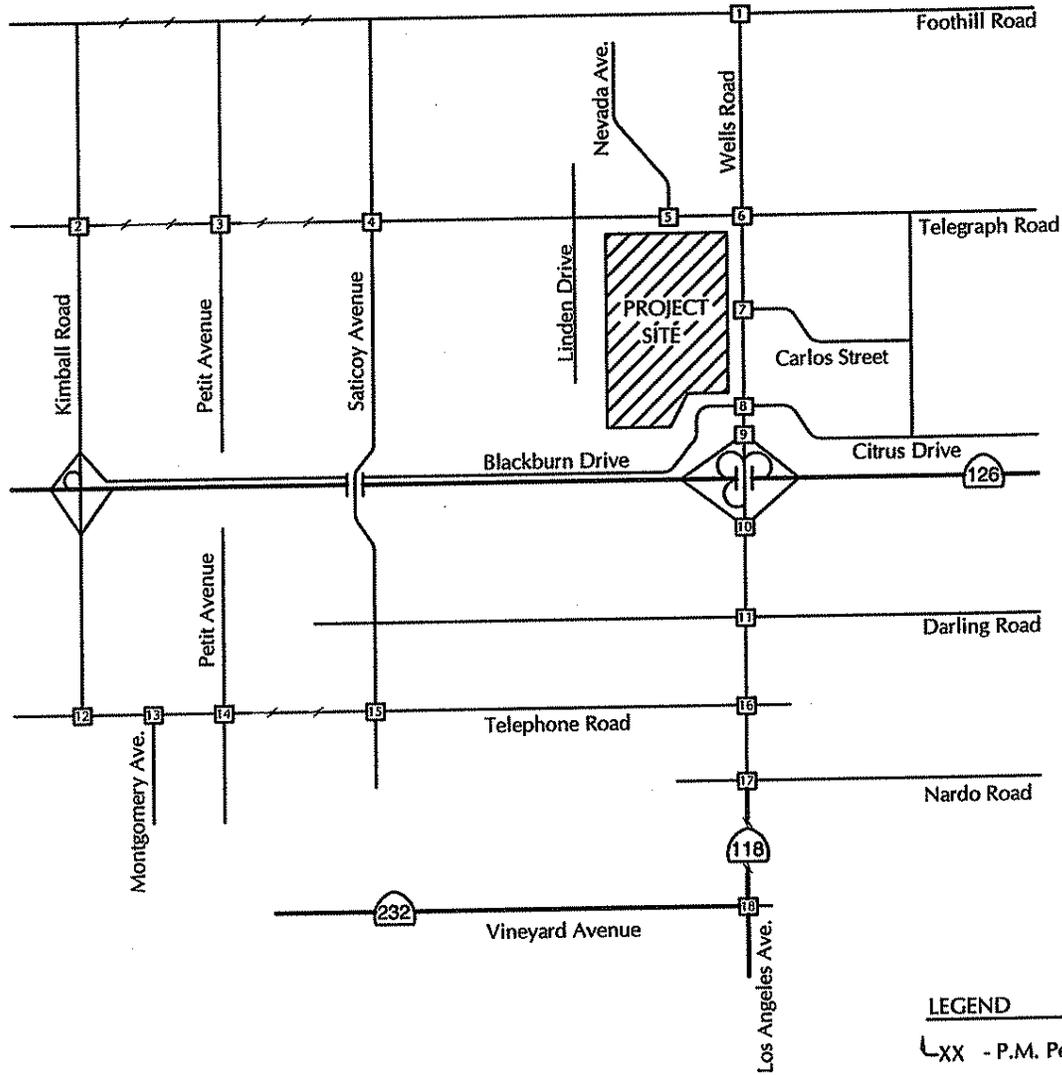
XX - A.M. Peak Hour Volume



EXISTING A.M. PEAK HOUR VOLUMES

FIGURE 3

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└XX - P.M. Peak Hour Volume

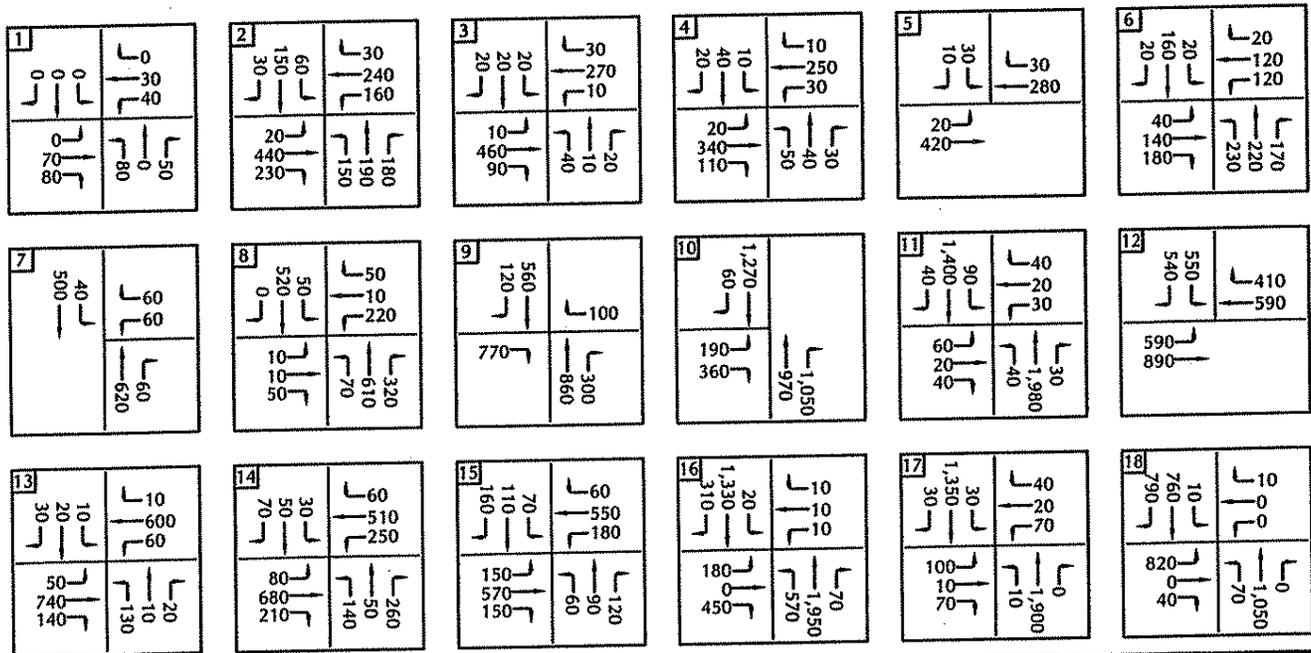
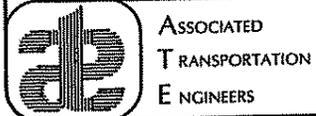


FIGURE 4



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EXISTING P.M. PEAK HOUR VOLUMES

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**Table 2
Existing A.M. and P.M. Peak Hour Intersection Levels of Service**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		ICU/Delay	LOS	ICU/Delay	LOS
1. Foothill Road/Wells Road ^a	Stop-Sign	8.9 sec.	LOS A	9.2 sec	LOS A
2. Telegraph Road/Kimball Road	Signal	0.21	LOS A	0.30	LOS A
3. Telegraph Road/Petit Avenue	Signal	0.34	LOS A	0.24	LOS A
4. Telegraph Road/Saticoy Avenue	Signal	0.38	LOS A	0.37	LOS A
5. Telegraph Road/Nevada Avenue ^a	Stop-Sign	10.7 sec.	LOS B	10.5 sec.	LOS B
6. Telegraph Road/Wells Road	Signal	0.54	LOS A	0.52	LOS A
7. Carlos Street/Wells Road ^a	Stop-Sign	12.5 sec.	LOS B	12.2 sec.	LOS B
8. Citrus Dr.-Blackburn Rd/Wells Road	Signal	0.33	LOS A	0.34	LOS A
9. State Route 126 WB Ramps/Wells Road ^a	Stop-Sign	10.5 sec.	LOS B	12.5 sec.	LOS B
10. State Route 126 EB Ramps/Wells Road	Signal	0.73	LOS C	0.63	LOS C
11. Darling Road/Wells Road	Signal	0.72	LOS C	0.78	LOS C
12. Telephone Road/Kimball Road	Signal	0.69	LOS B	0.53	LOS A
13. Telephone Road/Montgomery Avenue	Signal	0.57	LOS A	0.38	LOS A
14. Telephone Road/Petit Avenue	Signal	0.41	LOS A	0.49	LOS A
15. Telephone Road/Saticoy Avenue	Signal	0.39	LOS A	0.41	LOS A
16. Telephone Road/Wells Road	Signal	0.78	LOS C	0.72	LOS C
17. Nardo Street/Wells Road	Signal	0.64	LOS B	0.71	LOS C
18. Los Angeles Avenue/Vineyard Avenue	Signal	0.56	LOS A	0.61	LOS B

^a Unsignalized intersection; level of service determined by average delay per vehicle.

The data presented in Table 2 indicate that all of the study-area intersections operate at LOS C or better under existing conditions, which is considered acceptable based on the City's and County's level of service standards.

IMPACT THRESHOLDS

The City's traffic impact thresholds were used to assess the significance of the traffic impacts generated by the Parklands Project. These guidelines are outlined in the following text.

Performance Standard: Level of service E (peak hour ICU less than or equal to 1.00) for freeway ramp intersections and non-Principal Intersections that are located in the CMP network. Level of service D (peak hour ICU less than or equal to 0.90) for all other Principal Intersections.

Threshold of Significance: For an intersection that is forecast to operate worse than its performance standard, the impact of a project is considered to be significant if the project increases the ICU by more than 0.01.

If the above guidelines are exceeded, the project developer may be required to construct improvements or implement other methods to reduce the level of impact to insignificance. The thresholds of significance identified above assume full contribution to the Traffic Mitigation Fee Fund.

PLANNED ROADWAY NETWORK IMPROVEMENTS

Several long-term roadway and intersection improvement projects have been identified in the City's 2005 General Plan EIR that would be required to maintain the City's performance standards under Year 2025 conditions. Table 3 lists the committed improvements (those that are funded and planned for implementation) that would affect the study-area roadway network.

**Table 3
City of Ventura Committed Roadway Network Improvements**

Roadways/Intersections	Improvement
Telegraph Road (Saticoy Avenue to Wells Road)	Widen to four lanes (a)
Wells Road (State Route 126 to City limits)	Widen to six Lanes
Wells Road (Carlos Street to Citrus Drive)	Widen to four lanes
"A" Street (Saticoy Avenue to Wells Road)	New two-lane roadway
Wells Road/State Route 126 EB Ramps intersection	Add third NB and SB through lanes
Wells Road/Darling Road intersection	Add third NB and SB through lanes
Wells Road/Telephone Road intersection	Add third NB and SB through lanes
Wells Road/Nardo Street	Add third NB and SB through lanes

(a) This improvement has been re-evaluated, no widening is proposed on Telegaraph Road

The new roadway "A" Street, programmed to extend from Saticoy Avenue to Wells Road, would connect to the existing segment of Carlos Street located north of the Country Estates Mobile Home Park and west of the project site. When fully constructed, this roadway provides a direct connection between the Parklands Project and Saticoy Avenue.

It is noted that the segment of Telegraph Road from Saticoy Avenue to Wells Road and the segment of Wells Road between Telegraph and Carlos Street were originally expected to be widened to four lanes as part of the 2005 General Plan. However, the need for additional capacity was reevaluated as part of the Wells Saticoy Community Plan process, and it was determined that the roadways do not need to be widened. The project is therefore proposing

a general plan amendment to modify the roadway designation of Wells Road from a four-lane arterial to collector standards, while the general plan amendment and designation change for Telegraph Road will be conducted as part of another project located nearby.

Based on City staff direction, the committed roadway and intersection improvements listed in Table 3, including the general plan amendments discussed above, were assumed in the Year 2025 analysis provided in this traffic study.

PROJECT GENERATED TRAFFIC VOLUMES

Trip Generation

Trip generation estimates were calculated for the Parklands Project using the City approved Single Family Residential, Condominium, and Community Shopping trip generation rates. Pursuant to the City's traffic analysis guidelines, a pass-by factor of 30% was applied to the trip generation estimates for the Community Shopping component. Table 4 shows the trip generation estimates developed for the project.

**Table 4
Project Trip Generation**

Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Single Family Residential	216 Units	9.57	2,067	0.75	162	1.01	218
Condominium/Townhouse	283 Units	5.86	1,658	0.44	125	0.54	147
Community Shopping	25 KSF ^a	104.77	2,619	2.60	65	9.46	237
(Primary Trips - 70%)			(1,833)		(45)		(166)
(Pass-By Trips - 30%)			(786)		(20)		(71)
TOTAL			6,344		352		602
Total Primary Trips			5,558		332		531

^a KSF = 1,000 S.F.

The data in Table 3 indicate that the project is expected to generate 6,344 average daily trips (ADT), with 352 trips during the A.M. peak hour and 602 trips during the P.M. peak hour. Of these trips, 5,558 ADT, 332 A.M. peak hour trips and 531 P.M. peak hour trips would be new to the adjacent roadway system.

Trip Distribution

Table 5 and Figure 5 show the distribution percentages developed for the residential and commercial components of the project. The distribution pattern for the residential component was developed based on information presented in existing traffic studies, existing traffic

volumes measured in the study area, and the access locations shown on the project site plan. The commercial component is expected to function as a "Neighborhood Center" which would generate traffic from within the Parklands site and the local area immediately adjacent to the site. The distribution pattern for the commercial uses was therefore developed based on the location of the residential areas within the vicinity of the site.

**Table 5
Project Trip Distribution Percentages**

Origin/Destination	Direction	Residential Component Distribution %	Commercial Component Distribution %
State Route 126	West	30%	3%
State Route 126	East	10%	2%
State Route 118	South	10%	0%
Vineyard Avenue (to Oxnard/U.S. 101 SB)	South	10%	0%
Victoria Avenue	Southwest	10%	0%
Telegraph Rd	West	10%	5%
Local Area (West of Saticoy Ave)	West	15%	10%
Local Area (East of Saticoy Ave)	-	5%	80%
Total		100%	100%

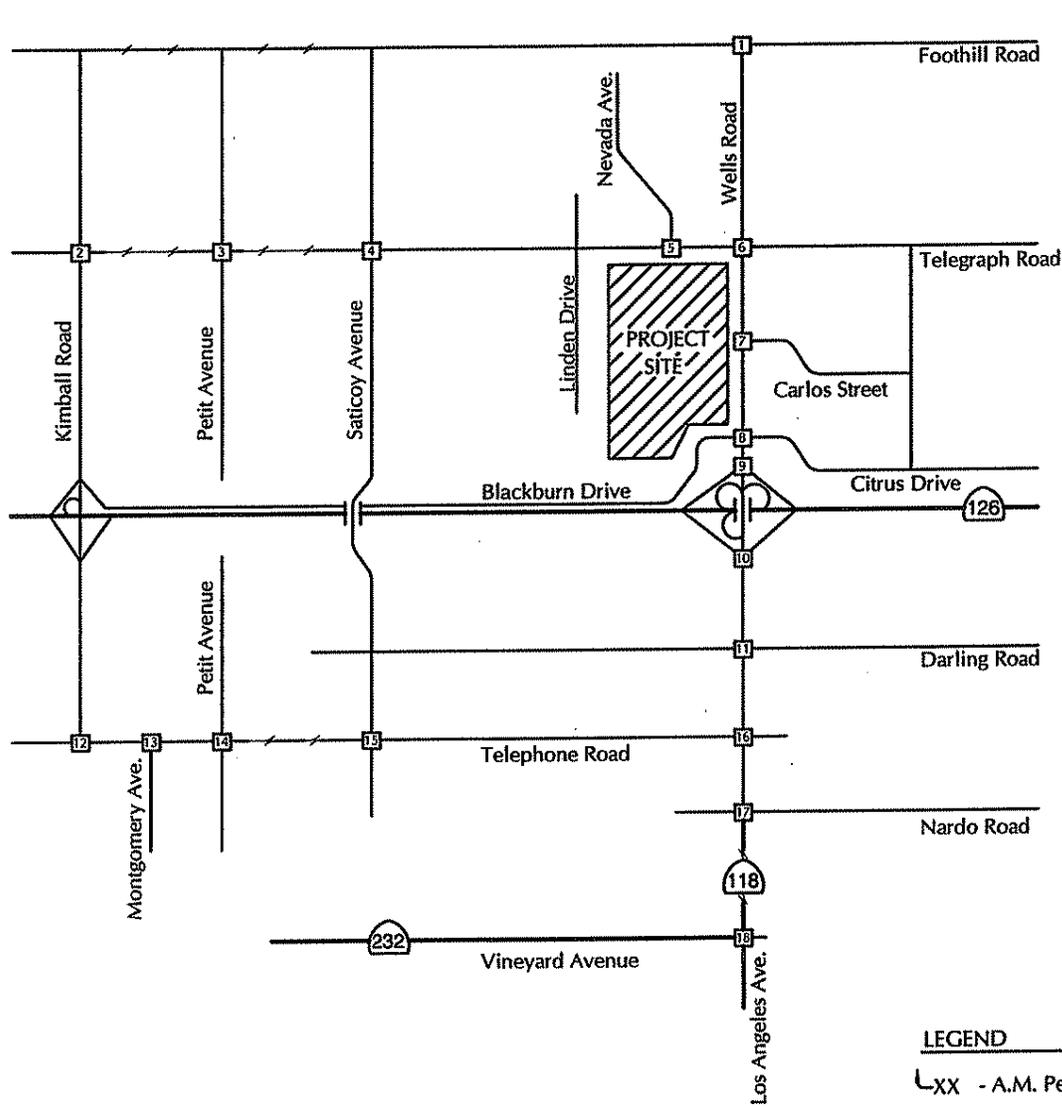
Project-generated traffic was assigned to the study-area street system based on the distribution percentages shown in Table 5. The project-added peak hour traffic volumes at the study-area intersections are illustrated in Figures 6 and 7. The project traffic assignment to the project access roadways is shown in Figures 6A and 6B.

PROJECT-SPECIFIC IMPACTS

Intersection Impacts

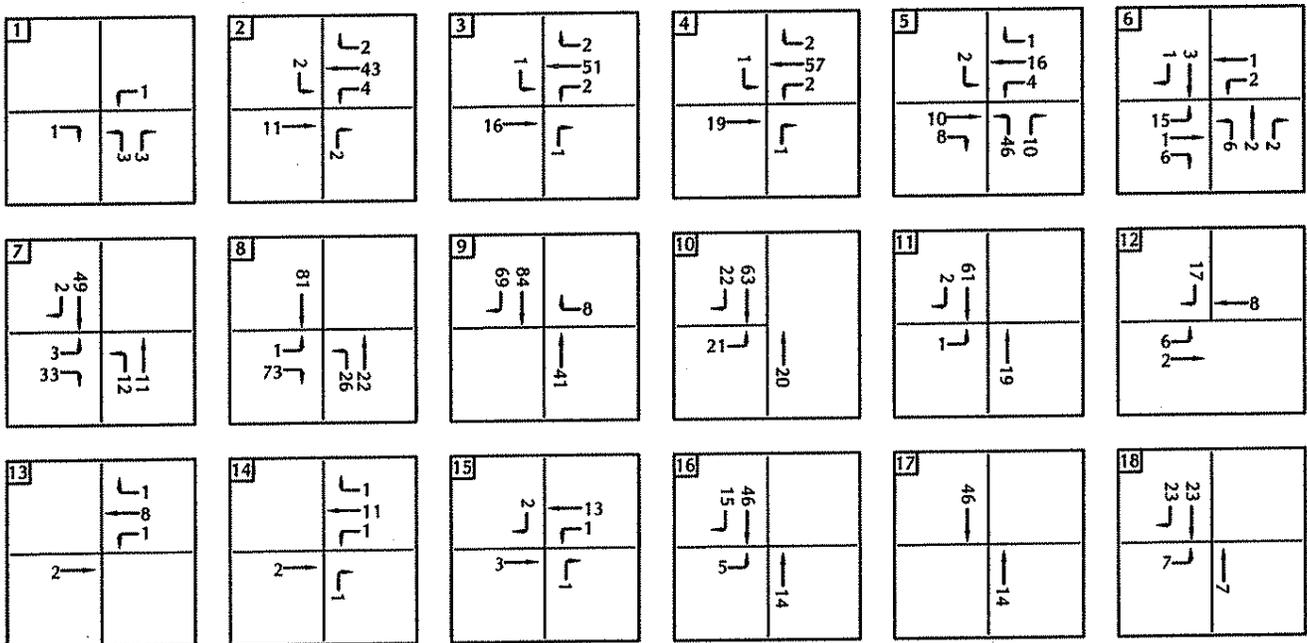
Levels of service were calculated for the study-area intersections assuming the Existing+Project peak hour traffic forecasts illustrated in Figures 8 and 9. Tables 6 and 7 compare the Existing and Existing+Project levels of service for the study-area intersections and identify project-specific impacts based on the City's thresholds.

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└XX - A.M. Peak Hour Volume

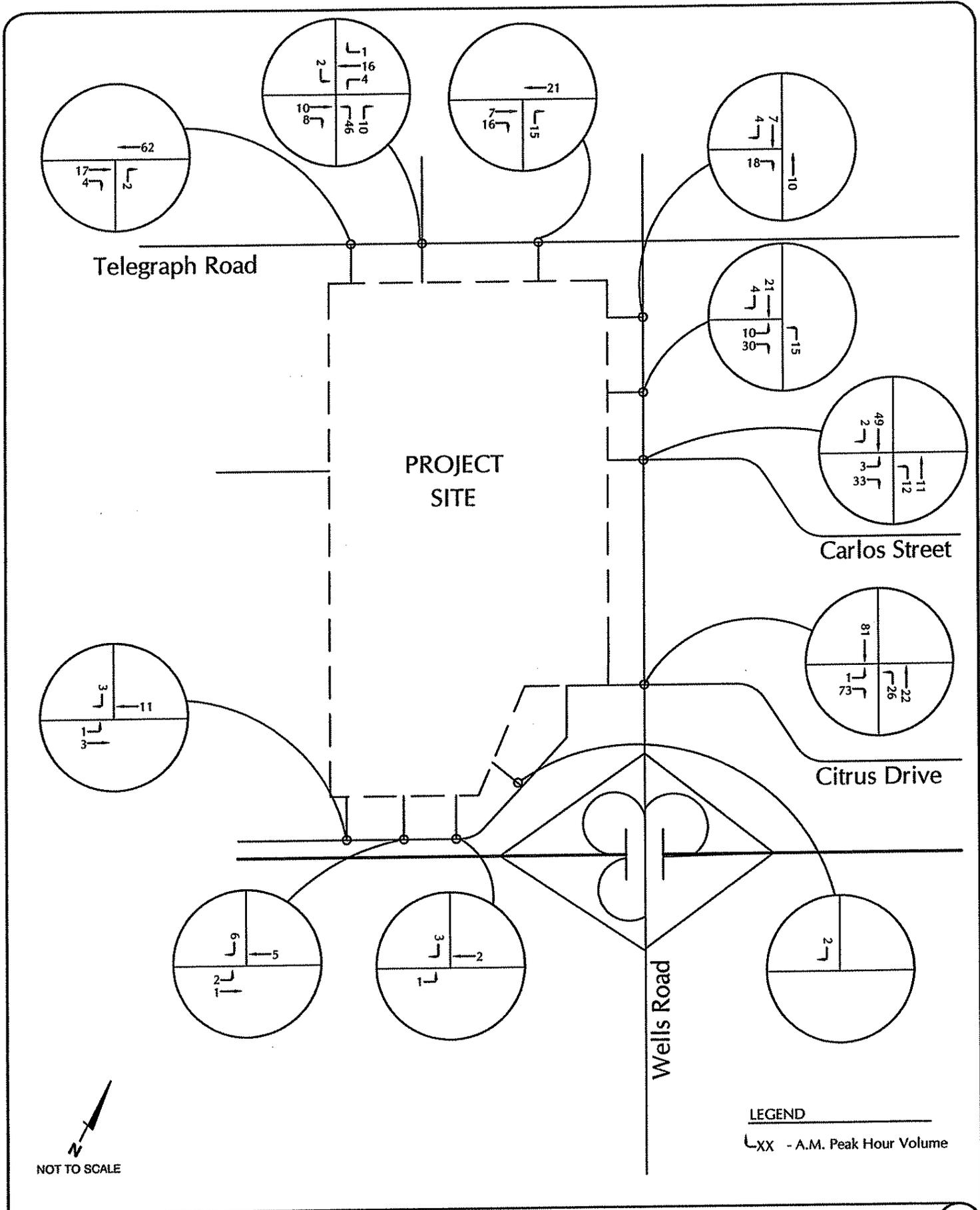


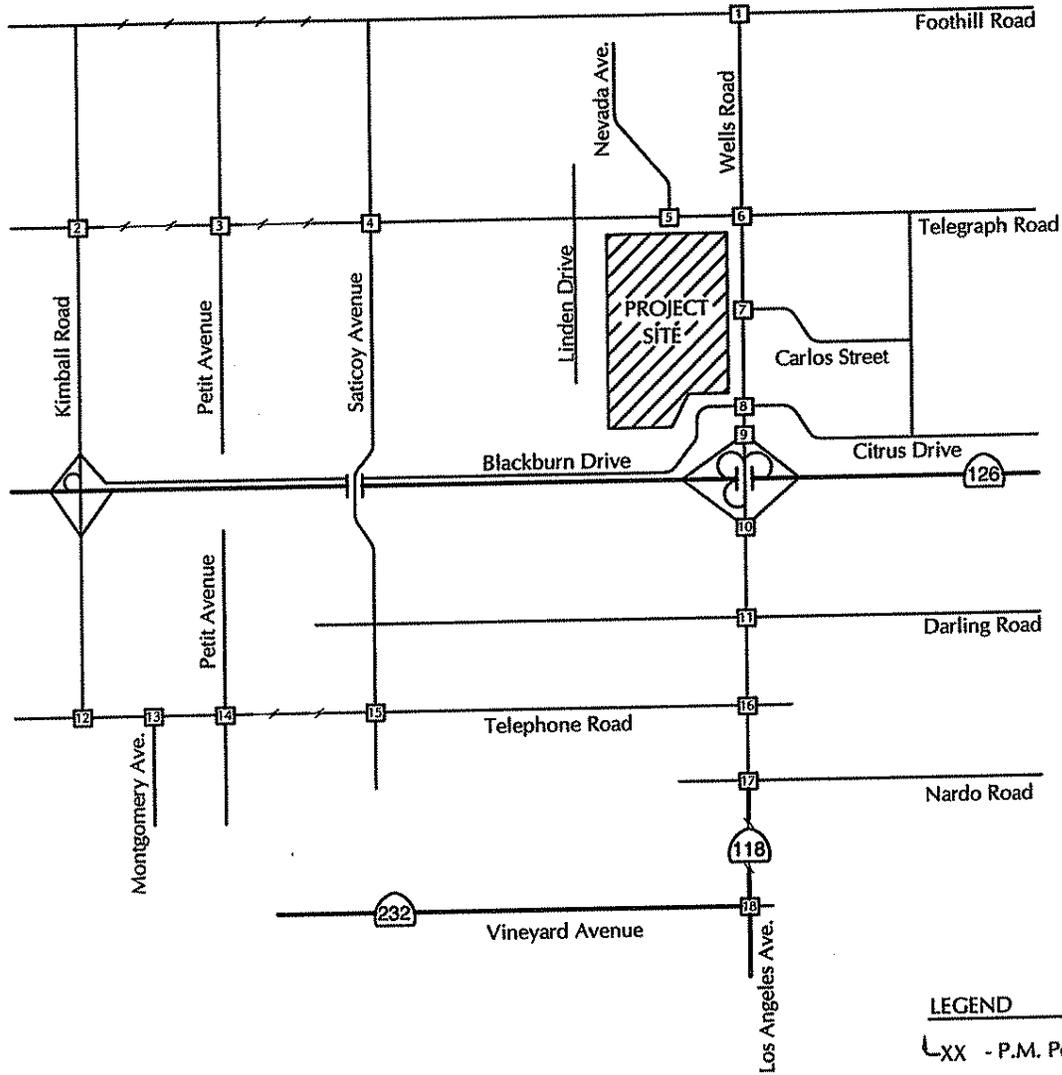
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PROJECT-ADDED A.M. PEAK HOUR VOLUMES

FIGURE 6

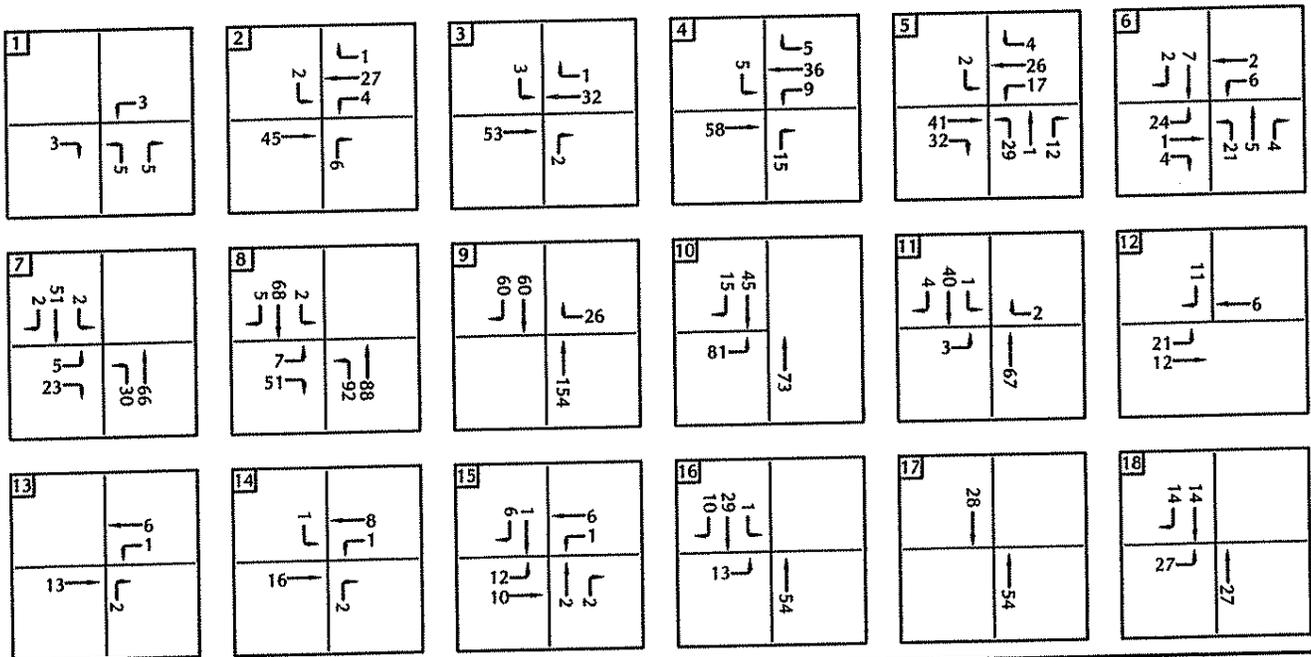
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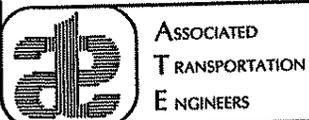
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└XX - P.M. Peak Hour Volume

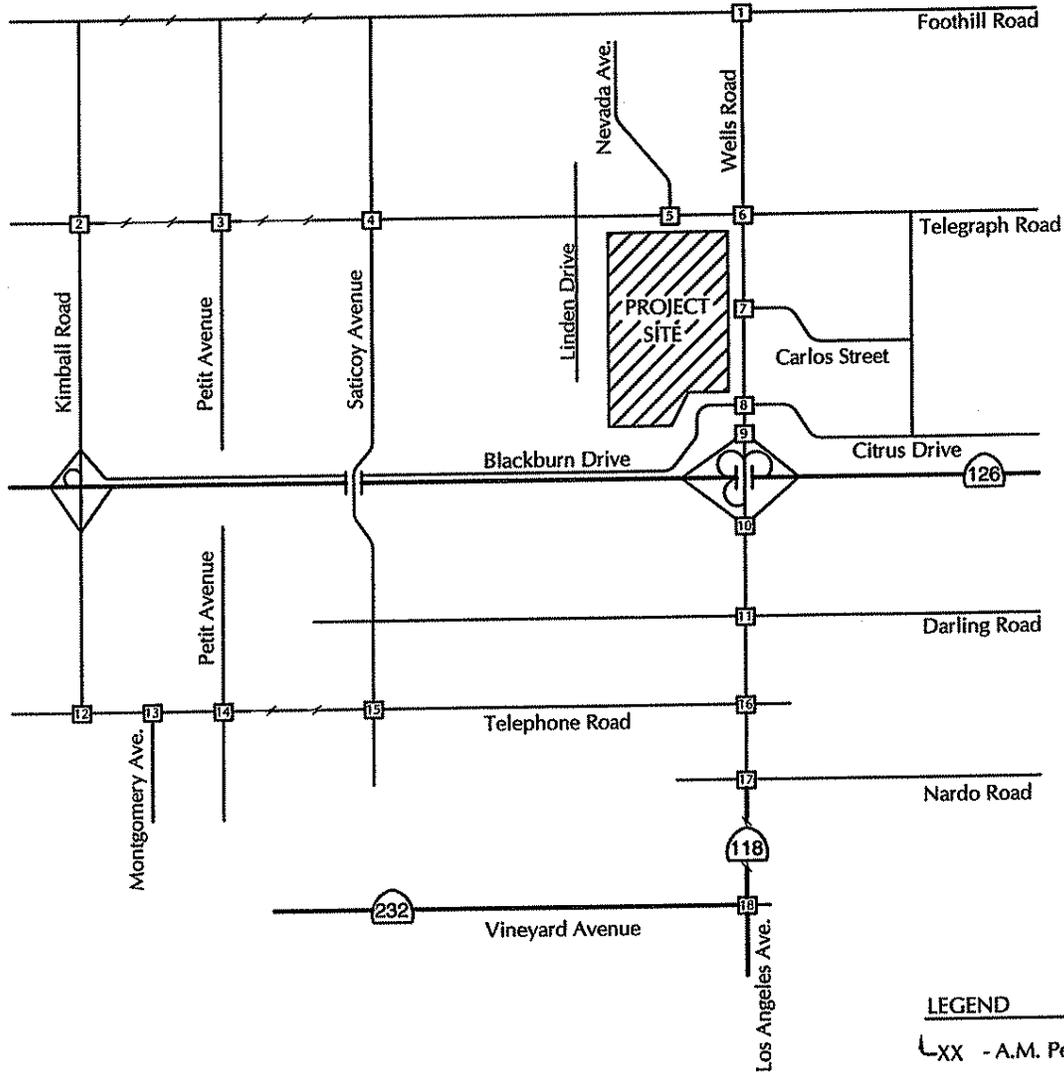


PROJECT-ADDED P.M. PEAK HOUR VOLUMES

FIGURE 7

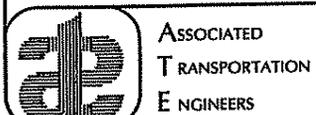


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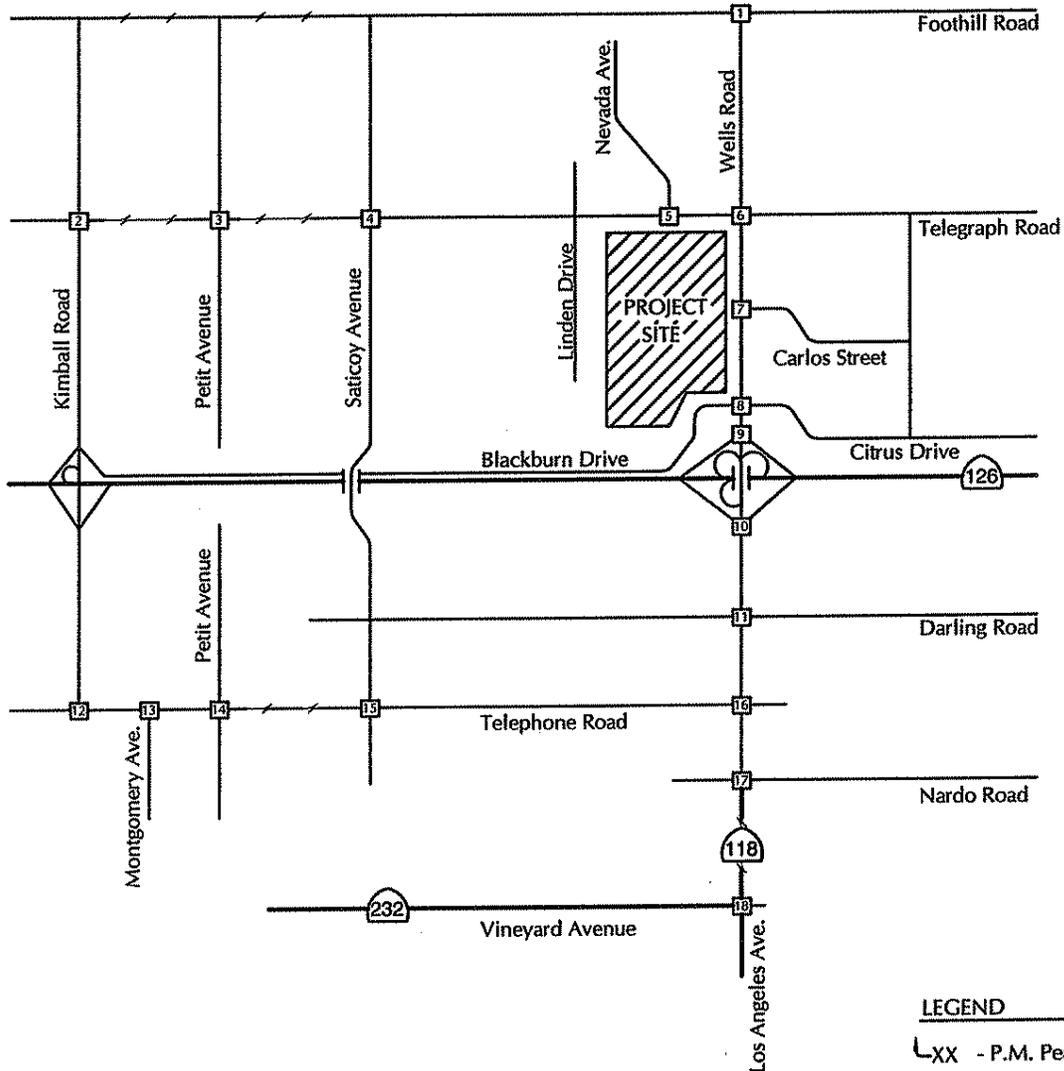
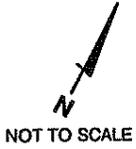
LEGEND
 LXX - A.M. Peak Hour Volume

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EXISTING + PROJECT A.M. PEAK HOUR VOLUMES

FIGURE 8



LEGEND

XX - P.M. Peak Hour Volume

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ASSOCIATED
TRANSPORTATION
ENGINEERS

EXISTING + PROJECT P.M. PEAK HOUR VOLUMES

FIGURE 9

MMF-#08088

**Table 6
Existing + Project A.M. Intersection Levels of Service**

Intersection	Existing		Existing + Project		Impact?
	ICU/Delay	LOS	ICU/Delay	LOS	
1. Foothill Road/Wells Road ^a	8.9 sec.	LOS A	8.7 sec.	LOS A	No
2. Telegraph Road/Kimball Road	0.21	LOS A	0.22	LOS A	No
3. Telegraph Road/Petit Avenue	0.34	LOS A	0.37	LOS A	No
4. Telegraph Road/Saticoy Avenue	0.38	LOS A	0.40	LOS A	No
5. Telegraph Road/Nevada Avenue ^a	10.7 sec.	LOS B	11.1 sec.	LOS B	No
6. Telegraph Road/Wells Road	0.54	LOS A	0.56	LOS A	No
7. Carlos Street/Wells Road ^a	12.5 sec.	LOS B	11.5 sec.	LOS B	No
8. Citrus Dr-Blackburn Rd/Wells Road	0.33	LOS A	0.42	LOS A	No
9. State Route 126 WB Ramps/Wells Road ^a	10.5 sec.	LOS B	10.7 sec.	LOS B	No
10. State Route 126 EB Ramps/Wells Road	0.73	LOS C	0.75	LOS C	No
11. Darling Road/Wells Road	0.72	LOS C	0.74	LOS C	No
12. Telephone Road/Kimball Road	0.69	LOS B	0.70	LOS B	No
13. Telephone Road/Montgomery Avenue	0.57	LOS A	0.57	LOS A	No
14. Telephone Road/Petit Avenue	0.41	LOS A	0.41	LOS A	No
15. Telephone Road/Saticoy Avenue	0.39	LOS A	0.40	LOS A	No
16. Telephone Road/Wells Road	0.78	LOS C	0.79	LOS C	No
17. Nardo Street/Wells Road	0.64	LOS B	0.66	LOS B	No
18. Los Angeles Avenue/Vineyard Avenue	0.56	LOS A	0.57	LOS A	No

^a Unsignalized intersection; level of service determined by average delay per vehicle.

Table 7
Existing + Project P.M. Intersection Levels of Service

Intersection	Existing		Existing + Project		Impact?
	ICU/Delay	LOS	ICU/Delay	LOS	
1. Foothill Road/Wells Road ^a	9.2 sec	LOS A	9.3 sec.	LOS A	No
2. Telegraph Road/Kimball Road	0.30	LOS A	0.31	LOS A	No
3. Telegraph Road/Petit Avenue	0.24	LOS A	0.26	LOS A	No
4. Telegraph Road/Saticoy Avenue	0.37	LOS A	0.41	LOS A	No
5. Telegraph Road/Nevada Avenue ^a	10.5 sec.	LOS B	11.4 sec.	LOS B	No
6. Telegraph Road/Wells Road	0.52	LOS A	0.54	LOS A	No
7. Carlos Street/Wells Road ^a	12.2 sec.	LOS B	12.5 sec.	LOS B	No
8. Citrus Dr-Blackburn Rd/Wells Road	0.34	LOS A	0.40	LOS A	No
9. State Route 126 WB Ramps/Wells Road ^a	12.5 sec.	LOS B	14.2 sec.	LOS B	No
10. State Route 126 EB Ramps/Wells Road	0.63	LOS C	0.64	LOS C	No
11. Darling Road/Wells Road	0.78	LOS C	0.80	LOS C	No
12. Telephone Road/Kimball Road	0.53	LOS A	0.55	LOS A	No
13. Telephone Road/Montgomery Avenue	0.38	LOS A	0.39	LOS A	No
14. Telephone Road/Petit Avenue	0.49	LOS A	0.49	LOS A	No
15. Telephone Road/Saticoy Avenue	0.41	LOS A	0.41	LOS A	No
16. Telephone Road/Wells Road	0.72	LOS C	0.74	LOS C	No
17. Nardo Street/Wells Road	0.71	LOS C	0.72	LOS C	No
18. Los Angeles Avenue/Vineyard Avenue	0.61	LOS B	0.63	LOS B	No

^a Unsignalized intersection; level of service determined by average delay per vehicle.

The data presented in Tables 6 and 7 indicate that all of the study-area intersections are forecast to operate at LOS C or better during the A.M. and P.M. peak hours. The project would not generate any project-specific impacts to the study-area intersections based on the City's impact criteria.

FRONTAGE IMPROVEMENTS

Telegraph Road: Frontage improvements include widening of Telegraph Road along the project's frontage to provide two-travel lanes, parallel parking on both sides of the street, a bike lane on the south side of the street, a central median, and a 28-foot parkway on the north side of the street. The proposed parkway would provide a meandering bike lane and pedestrian path.

Wells Road (north of Citrus Drive): Improvements include widening the street to provide one travel lane in each direction with parallel parking and bicycle lanes on both sides of the street. A center median would also be installed along this segment.

Wells Road (South of Citrus Drive): Improvements including widening the roadway to provide two travel lanes in each direction, as well as parallel parking and bicycle lanes on both sides of the street. A center median would also be installed along this segment.

Blackburn Road: Blackburn Road would be realigned to connect to the project's main roadway approximately 100 feet west of Wells Road. Additional improvements would include construction of curb, gutter and sidewalk on Blackburn Road along the project's frontage.

SITE ACCESS AND CIRCULATION

Site Access

The site plan indicates that access to the project would be provided by three connections located on Telegraph Road, four connections located on Wells Road, four connections on Blackburn Road and one connection to Carlos Street to the west. All connections would be unsignalized, except the primary roadway connection on Wells Road opposite Citrus Drive, which is signalized. The following text provides an analysis of the operations of the street connections to the existing street network based on the project turning volumes shown in Figures 6A and 6B, and the future traffic volumes on the adjacent street system.

Telegraph Road: The most western street connection to Telegraph Road and the driveway located west of Wells Road would be restricted to right-turn movements only. These connections would operate acceptably with minimal delays. The main connection is proposed opposite Nevada Avenue. This connection would be full access and controlled by a stop sign. The intersection would operate at LOS B with stop signs and single lanes on the side street approaches, which is considered acceptable. The site plan indicates that the westbound left-turn bay on Telegraph Road would contain 150 feet of storage. This would be sufficient to provide storage for the expected westbound left-turn movement (16 PHT or less) into the project roadway.

The main project connection on Telegraph Road opposite Nevada Avenue would be designed as a two-lane divided "Parkway". It would contain 17-foot wide inbound and outbound lanes that are divided by a raised median, which would extend to the intersection with Telegraph Road. A truck turning movement analysis using Autoturn software indicated that this configuration would accommodate a California Design Vehicle (wheelbase 40 feet), provided that on-street parking is prohibited on the parkway adjacent the intersection.

Wells Road: The project proposes a total of four connections to Wells Road; two driveways would provide access to the retail/condominium component of the site, and two street connections opposite Carlos Street and Citrus Drive that would provide access to the residential areas west of the Brown Barranca.

The first driveway on Wells Road would be located approximately 250 feet south of Telegraph Road. The driveway would be restricted to right-turns only, and would operate

acceptably. The second driveway would be located approximately 500 feet south of Telegraph Road. This driveway would be full access. The section of Wells Road adjacent to the full access driveway would contain one through lane and a left-turn bay in the northbound direction, and one through lane and a shared through/right-turn lane in the southbound direction. The project driveway would be 24 feet wide, providing for one inbound and one outbound lane. The intersection would operate at LOS B with a stop sign on the side street approach, which is considered acceptable.

The length of the driveway throat of the second driveway from Telegraph Road is shown as 30 feet. Directly west of the driveway throat, the driveway contains a median and angled parking on both sides. The current design would not accommodate simultaneous driveway and parking movements. It is recommended that the driveway and driveway throat length be modified to accommodate turning and parking movements.

The third connection to Wells Road would be located opposite Carlos Street. This roadway connection would be full access. The connection would contain one inbound and one outbound lane (a total of 30 feet wide) and would be controlled by a stop sign. The new Wells Road/Carlos Street is forecast to operate at LOS B under the Year 2025+ Project scenario, which is considered acceptable based on City thresholds. It is recommended that frontage improvements at this location include modification of the existing raised median on Wells Road to accommodate a northbound left-turn bay, which should contain 100 feet of vehicle storage and a 60 foot taper to accommodate the forecast turning volume of 30 P.M. peak hour trips (PHT).

The fourth project connection to Wells Road would be located opposite Citrus Drive at the current connection of Blackburn Road to Wells Road. This connection would be designed as a two-lane divided "Parkway". It would contain 20-foot wide inbound and outbound lanes that are divided by a raised median, which is set back approximately 25 feet from the intersection with Wells Road. A truck turning movement analysis using Autoturn software indicated that the proposed configuration would accommodate a California Design Vehicle provided that on-street parking is prohibited on the parkway between Wells Road and Blackburn Road.

It is recommended that the eastbound approach (project parkway) retain its current lane geometry (a shared left-turn/through and a right-turn lane), which would provide better operations and reduce queue lengths compared to the proposed one-lane approach. This would require that the median on the parkway be modified to provide sufficient width for two lanes on the eastbound approach, or that the approach be widened.

Wells Road contains raised medians with left-turn bays at the Wells Road/Citrus Drive intersection. The southbound left-turn bay contains 100 feet of vehicle storage, which is sufficient to accommodate the left-turn volume of 70 PHT or less. The northbound left-turn bay also contains 100 feet of storage, which is not adequate to accommodate the forecast left-turn volume of 126 PHT during the A.M. peak hour and 162PHT during the P.M. peak hour.

It is recommended that the median on Wells Road south of the Wells Road/Citrus Drive intersection be reconstructed to provide a minimum of 160 feet of storage in the northbound left-turn bay to avoid vehicles blocking through traffic on Wells Road. The total length of the

left-turn bay would be 220 feet assuming a 60 feet taper. The distance from State Route 126 Westbound Off-Ramp to the Wells Road/Citrus Drive intersection is 300 feet, or 80 feet to the start of the taper of the modified left-turn lane on Wells Road. This length would be sufficient for vehicles that turn onto Wells Road from the Westbound Off-Ramp to access the northbound left-turn bay. Coordination with Caltrans would be required to finalize the ultimate design of the improvements on Wells Road.

Circulation

Vehicular Circulation: The on-site circulation system consists of two-lane divided parkways, two-lane undivided avenues, residential streets and alleys. Parking would be allowed on each of the internal roads, except the alleys. The street network contains elements that are designed to provide for low vehicular speeds throughout the site. These elements include 10-foot lane widths or less, on-street parking, tight curb radii and shared use of road by vehicles and bicyclists. The ultimate site plan should contain more detailed roadway design features than provided in the preliminary site plan. In general, the two-lane divided parkway should be designed to accommodate a California Design Vehicle (WB 40 semi-truck). The secondary roadways should be designed to accommodate trash trucks and emergency vehicles.

Pedestrian and Bicycle Circulation: Pedestrian access to the project is provided via sidewalks on each of the roadway and driveway connections to the sidewalks on Telegraph Road, Wells Road and Blackburn Road, which would be constructed as frontage improvements. Sidewalks are provided along all the internal roadways, except the alleys. Crosswalks are provided at the Telegraph Road/Wells Road and Wells Road/Citrus Drive intersections.

The bicycle circulation plan would consist of Class III bike lanes; bikes would share the road with vehicles. Class II bike lanes would be provided on Telegraph Road. Wells Road is currently designated as a Primary Arterial. Frontage improvements along Wells Road would thus include a Class II bike lane. It is noted that no bike lanes are provided on Wells Road south of the intersection with Citrus Drive.

TRAFFIC SIGNAL WARRANTS

Per City staff request, the need for a traffic signal at the Telegraph Road/Nevada Avenue intersection and the Wells Road /Carlos Street intersection was evaluated based on Caltrans' traffic signal warrant criteria. Warrant worksheets are included in the Technical Appendix for review. The text below summarizes the findings.

Telegraph Road/Nevada Avenue: The analysis found that the Existing+Project and Year 2025+Project traffic volumes at this location would not satisfy any of the traffic signal warrants. The level of service calculation provided in this traffic study indicate that the intersection is forecast to operate acceptably at LOS B under either condition with the proposed stop-sign control. Based on this data, it is not recommended that a traffic signal be installed at this location.

Wells Road/Carlos Street: The analysis found that both the Existing+Project and Year 2025+Project traffic volumes at this location would satisfy Condition B (Interruption of Continuous Traffic) of Warrant 1 (Eight Hour Vehicular Volume). However, the

Existing+Project and Year 2025+Project traffic volumes did not satisfy either of the remaining seven Caltrans warrants. Caltrans states that “the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control. Delay, congestion, approach conditions, driver confusion, future land-use, or other evidence of the need for right-of-way assignment beyond that which would be provided by a stop sign shall be demonstrated”. As shown in this traffic study, the intersection is forecast to operate at LOS B or better during the peak hours with the proposed stop sign control on the minor streets. Based on this data, it is not recommended that a traffic signal be installed at this location.

PARKING

The City of Ventura parking requirements for shopping centers ranges from one parking space for each 250 square feet of gross floor area to 300 square feet of gross floor area. The parking space requirement for the 25,000 SF of retail use proposed on the site is 83 to 100 spaces.

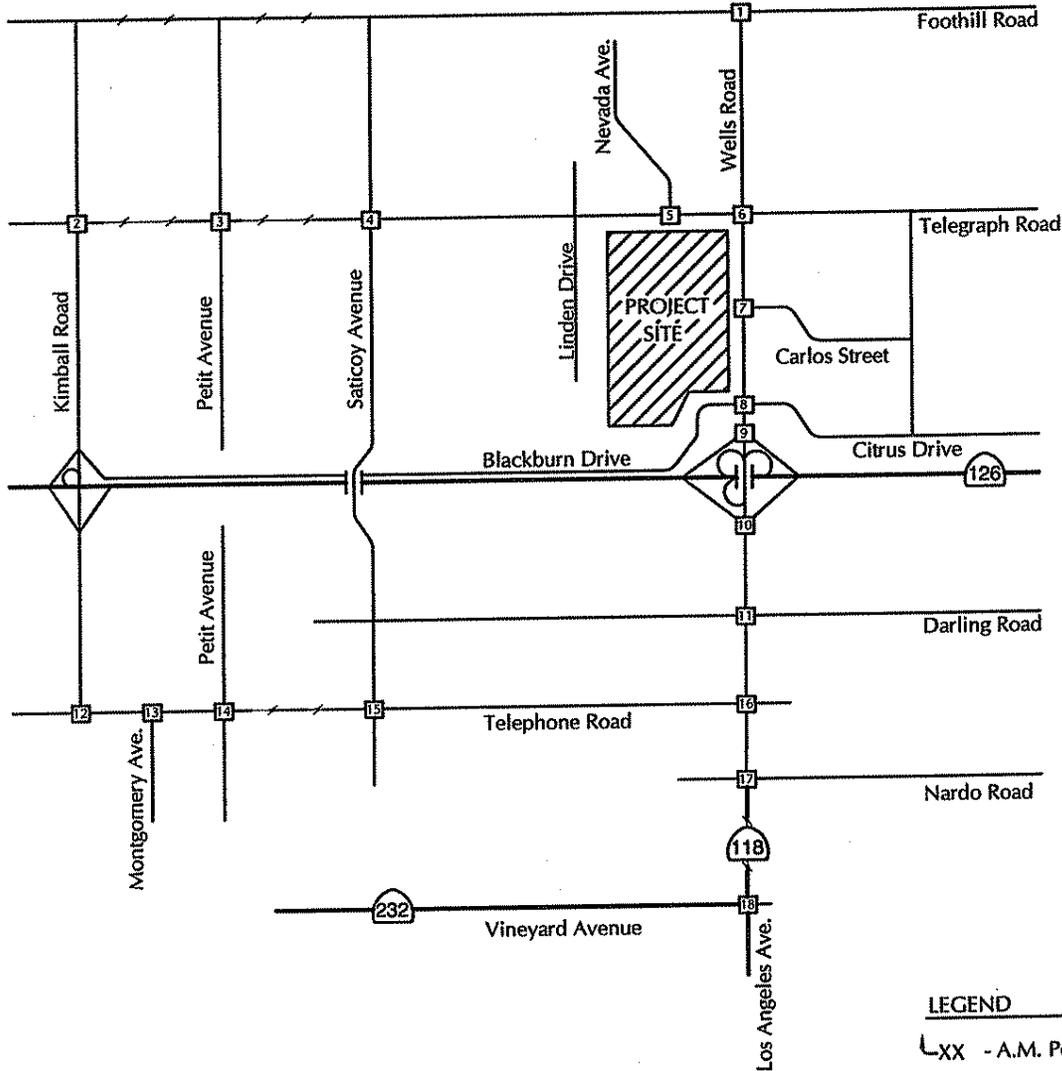
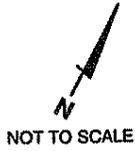
The City’s off-street parking requirements for residential uses are as follows: 2 parking spaces per single family dwelling; 1 space per single family secondary unit and 2.5 space per condominium unit. The off-street parking space requirement for the residential uses proposed on the site is: 432 spaces for single family dwellings (216 units) and 708 spaces for the condominium/townhouses (283 units).

YEAR 2025 TRAFFIC IMPACTS

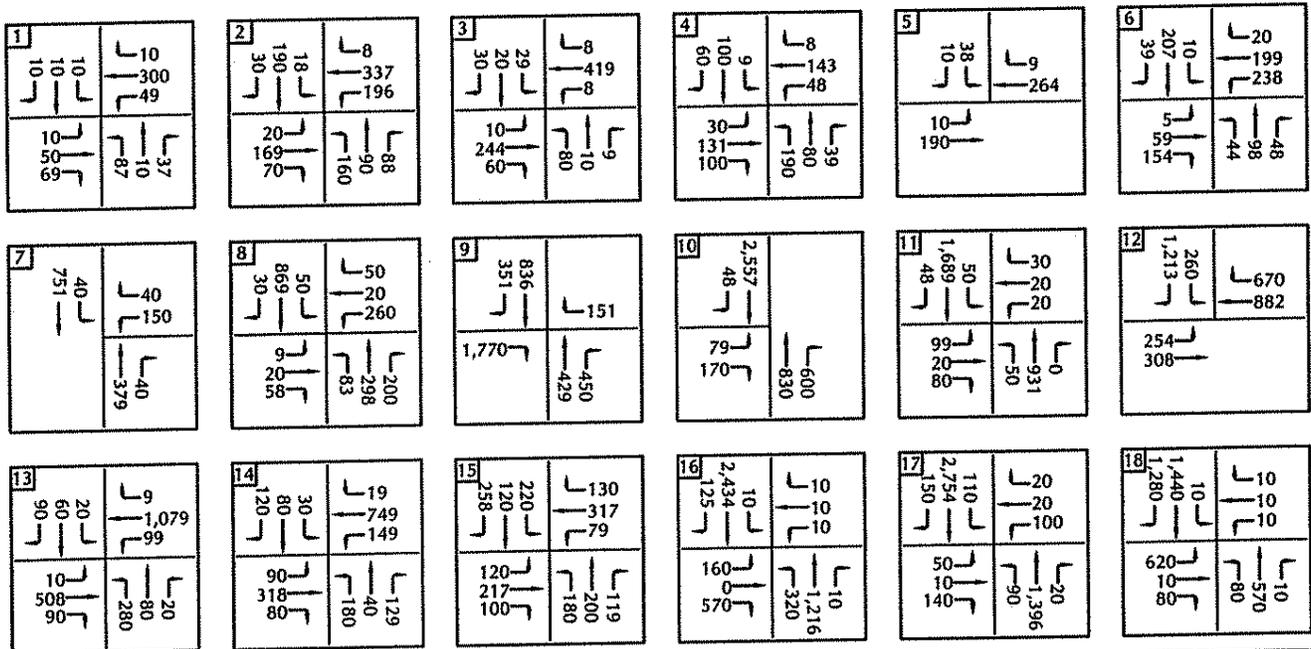
Year 2025 Intersection Traffic Volumes

The Year 2025 intersection peak hour traffic volume forecasts for the study-area intersections were obtained from City staff. The Year 2025 traffic volumes were developed using the Ventura citywide traffic model, which utilizes General Plan land use and circulation system assumptions to derive corresponding traffic forecast data. It thus includes the committed roadway and intersection improvements discussed previously in the Planned Roadway Network Improvements section. It is noted that the volumes for the Vineyard Avenue/Los Angeles Avenue intersection, which were obtained from the traffic study completed for the Ventura County Yard Project⁴. Figures 10 and 11 illustrate the Year 2025 A.M. and P.M. peak hour traffic volumes, respectively.

⁴ Ventura County Yard Project, Traffic Study, Crain & Associates, 2004.

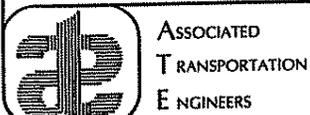


LEGEND
 LXX - A.M. Peak Hour Volume

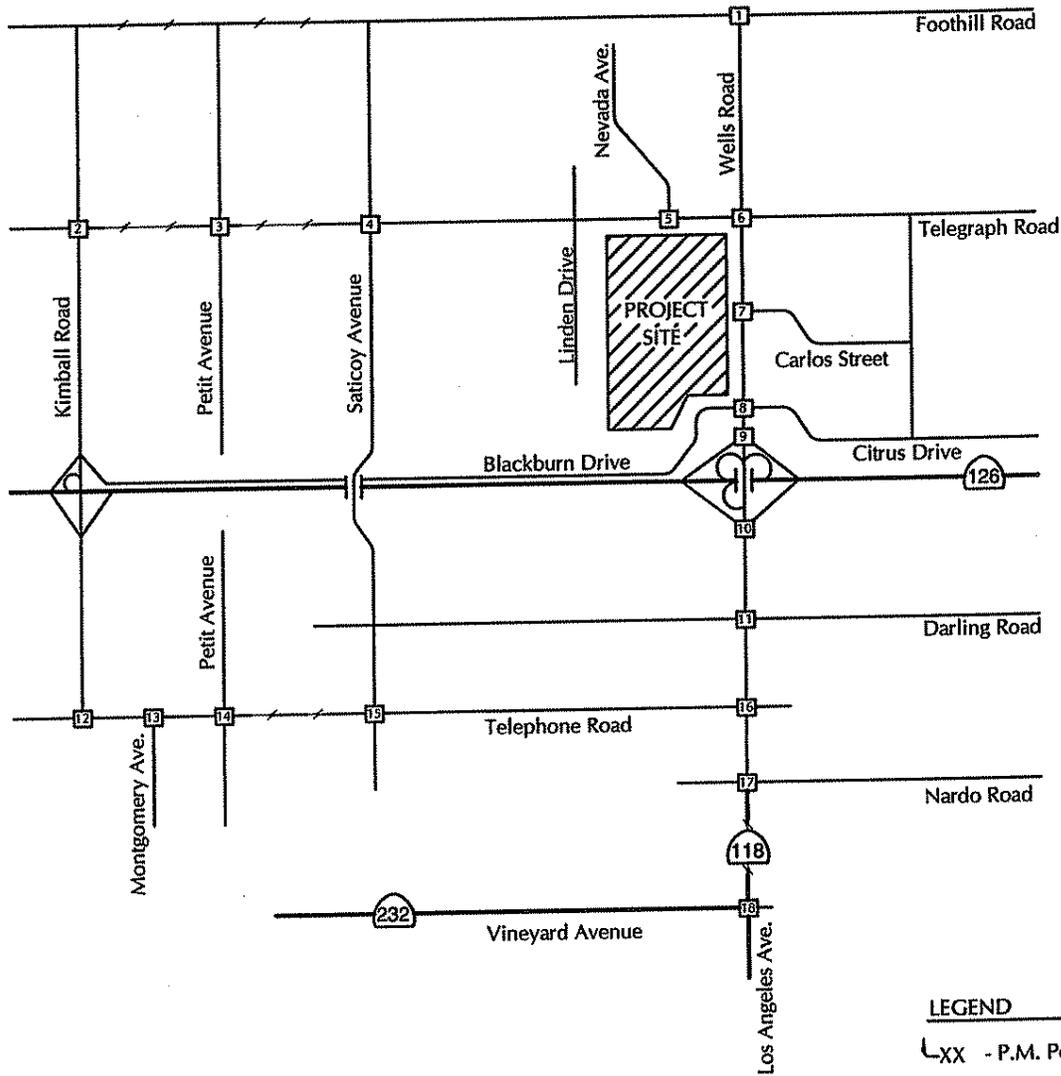


YEAR 2025 A.M. PEAK HOUR VOLUMES

FIGURE 10



NOT TO SCALE

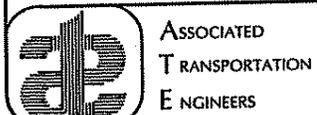


LEGEND
 LXX - P.M. Peak Hour Volume

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YEAR 2025 P.M. PEAK HOUR VOLUMES

FIGURE 11



Year 2025 Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Year 2025 traffic conditions. The calculation results are summarized in Table 8. Worksheets showing the level of service calculations are included in the Technical Appendix.

Table 8
Year 2025 Peak Hour Intersection Levels of Service

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		ICU/Delay	LOS	ICU/Delay	LOS
1. Foothill Road/Wells Road ^a	Stop-Sign	9.7 sec.	LOS A	11.1 sec.	LOS B
2. Telegraph Road/Kimball Road	Signal	0.23	LOS A	0.32	LOS A
3. Telegraph Road/Petit Avenue	Signal	0.35	LOS A	0.24	LOS A
4. Telegraph Road/Saticoy Avenue ^b	Signal	0.47	LOS A	0.45	LOS A
5. Telegraph Road/Nevada Avenue ^{a b}	Stop-Sign	10.2 sec.	LOS B	9.5 sec.	LOS B
6. Telegraph Road/Wells Road	Signal	0.44	LOS A	0.42	LOS A
7. Carlos Street/Wells Road ^{a b}	Stop-Sign	12.1 sec.	LOS B	10.5 sec.	LOS B
8. Citrus Dr.-Blackburn Rd/Wells Road	Signal	0.42	LOS A	0.45	LOS A
9. State Route 126 WB Ramps/Wells Road ^a	Signal	10.6 sec.	LOS B	13.3 sec.	LOS B
10. State Route 126 EB Ramps/Wells Road ^b	Signal	0.64	LOS B	0.73	LOS C
11. Darling Road/Wells Road ^b	Signal	0.61	LOS C	0.84	LOS D
12. Telephone Road/Kimball Road	Signal	0.76	LOS C	0.65	LOS B
13. Telephone Road/Montgomery Avenue ^b	Signal	0.58	LOS A	0.35	LOS A
14. Telephone Road/Petit Avenue ^b	Signal	0.45	LOS A	0.58	LOS A
15. Telephone Road/Saticoy Avenue ^b	Signal	0.48	LOS A	0.46	LOS A
16. Telephone Road/Wells Road ^b	Signal	0.71	LOS C	0.70	LOS B
17. Nardo Street/Wells Road ^b	Signal	0.71	LOS C	0.83	LOS D
18. Los Angeles Avenue/Vineyard Avenue	Signal	0.77	LOS C	0.80	LOS C

^a Unsignalized intersection; level of service determined by average delay per vehicle.

^b Assumes City committed intersection improvements.

Table 8 indicates that all of the study-area intersections are forecast to operate at LOS D or better under the Year 2025 scenario.

Year 2025 + Project Intersection Operations

The project-added traffic volumes were layered onto the Year 2025 intersection volumes to develop the Year 2025 + Project intersection traffic forecasts. Figures 12 and 13 show the Year 2025 + Project A.M. and P.M. peak hour traffic volumes. Tables 9 And 10 compare the Year 2025 and Year 2025 + Project levels of service and identify cumulative impacts.

Table 9
Year 2025 + Project A.M. Peak Hour Intersection Levels of Service

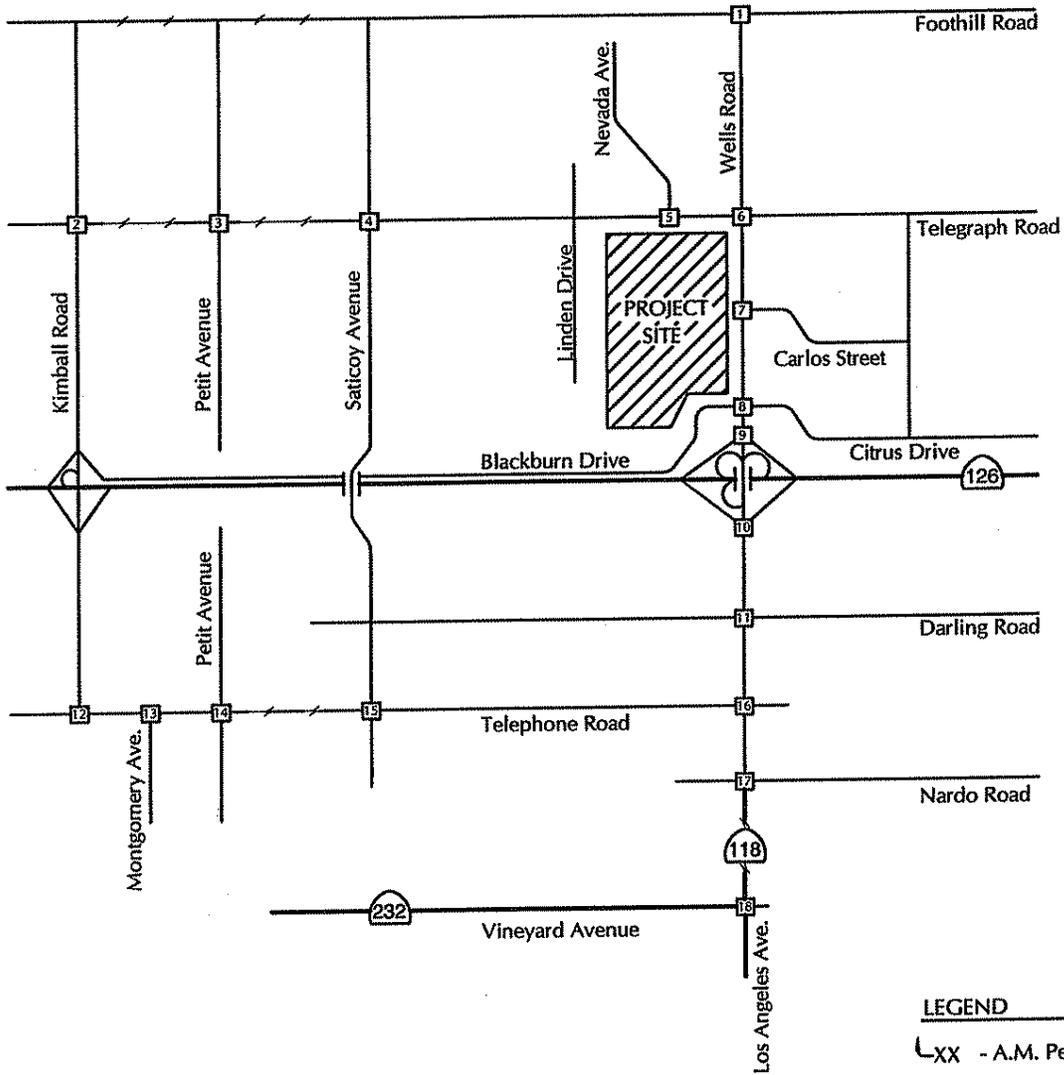
Intersection	Year 2025		Year 2025 + Project		Impact?
	ICU/Delay	LOS	ICU/Delay	LOS	
1. Foothill Road/Wells Road ^a	9.7 sec.	LOS A	11.6 sec.	LOS B	No
2. Telegraph Road/Kimball Road	0.23	LOS A	0.24	LOS A	No
3. Telegraph Road/Petit Avenue	0.35	LOS A	0.38	LOS A	No
4. Telegraph Road/Saticoy Avenue ^b	0.47	LOS A	0.49	LOS A	No
5. Telegraph Road/Nevada Avenue ^{a b}	10.2 sec.	LOS B	10.5 sec.	LOS B	No
6. Telegraph Road/Wells Road	0.44	LOS A	0.45	LOS A	No
7. Carlos Street/Wells Road ^{a b}	12.1 sec.	LOS B	14.8 sec.	LOS B	No
8. Citrus Dr.-Blackburn Rd/Wells Road	0.38	LOS A	0.45	LOS A	No
9. State Route 126 WB Ramps/Wells Road ^a	10.6 sec.	LOS B	10.9 sec.	LOS B	No
10. State Route 126 EB Ramps/Wells Road ^b	0.64	LOS B	0.66	LOS B	No
11. Darling Road/Wells Road ^b	0.61	LOS B	0.62	LOS B	No
12. Telephone Road/Kimball Road	0.76	LOS C	0.76	LOS C	No
13. Telephone Road/Montgomery Avenue ^b	0.58	LOS A	0.58	LOS A	No
14. Telephone Road/Petit Avenue ^b	0.45	LOS A	0.46	LOS A	No
15. Telephone Road/Saticoy Avenue ^b	0.48	LOS A	0.49	LOS A	No
16. Telephone Road/Wells Road ^b	0.71	LOS C	0.72	LOS C	No
17. Nardo Street/Wells Road ^b	0.71	LOS C	0.72	LOS C	No
18. Los Angeles Avenue/Vineyard Avenue	0.77	LOS C	0.78	LOS C	No

^a Unsignalized intersection; level of service determined by average delay per vehicle.

^b Assumes City committed intersection improvements.

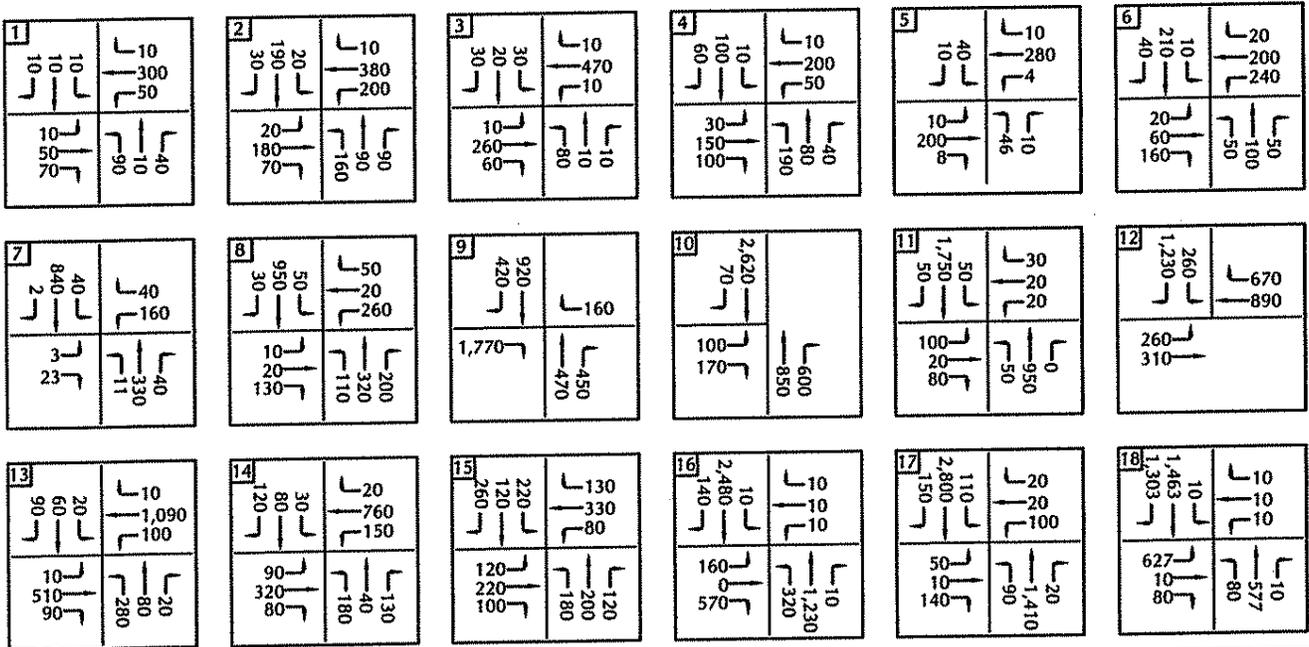
The level of service data contained in Table 9 shows that all of the study-area intersections would continue to operate at LOS C or better during the A.M. peak hour volumes. The project would not generate any cumulative impacts during the A.M. peak hour under Year 2025 + Project conditions.

NOT TO SCALE



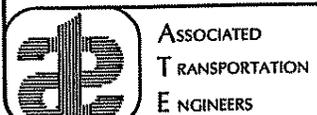
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XX - A.M. Peak Hour Volume

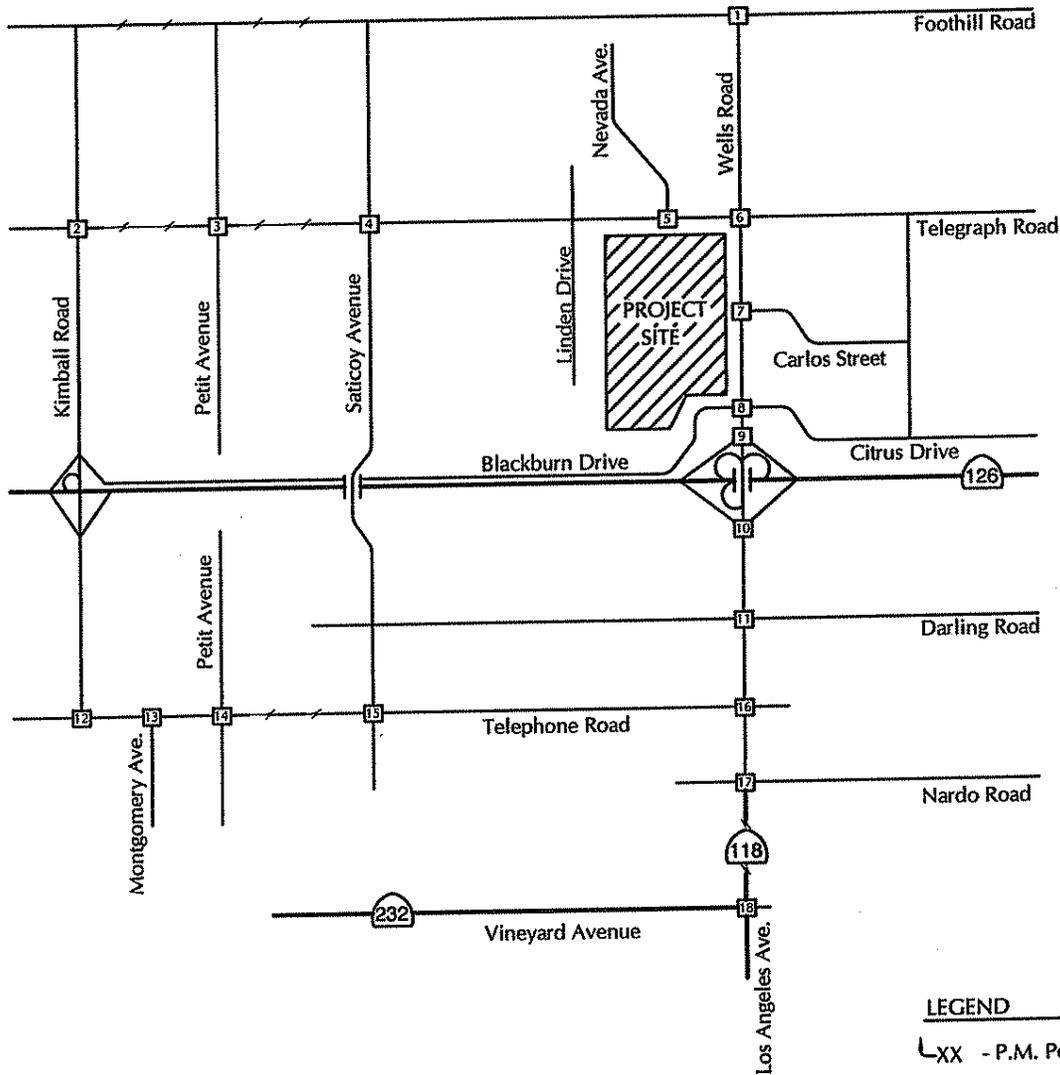
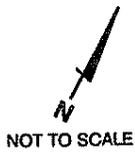


YEAR 2025 + PROJECT A.M. PEAK HOUR VOLUMES

FIGURE 12

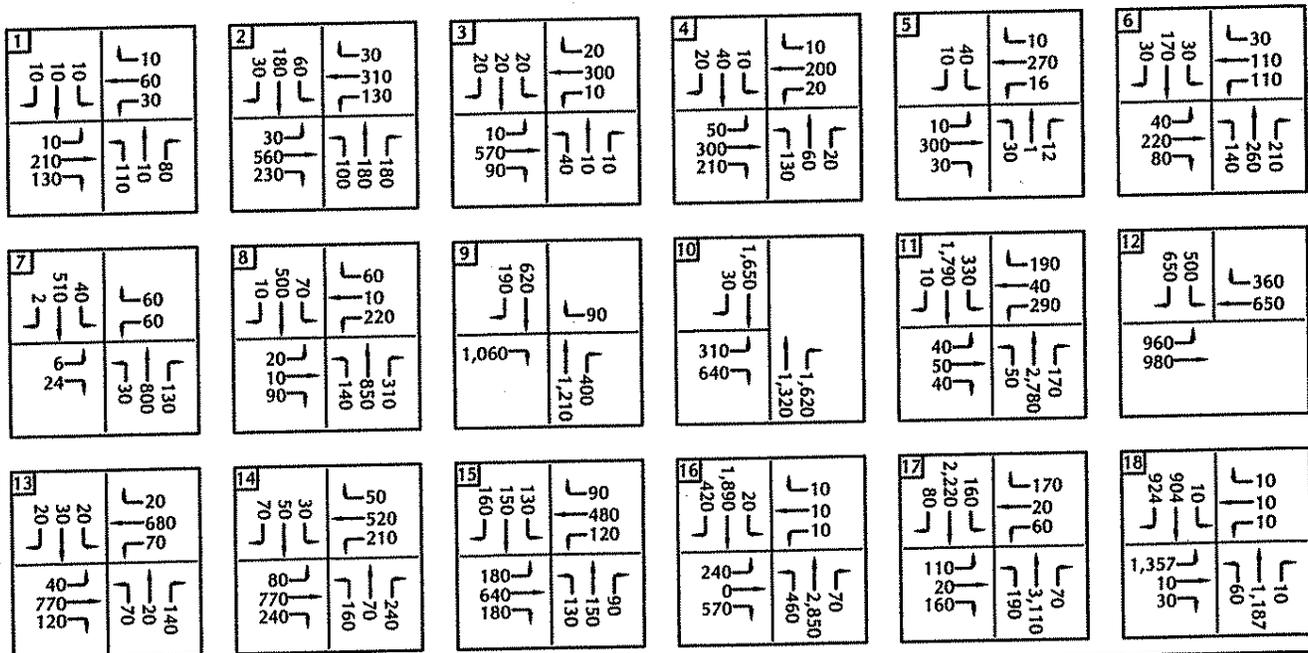


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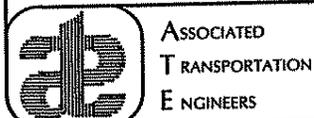
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XX - P.M. Peak Hour Volume



YEAR 2025 + PROJECT P.M. PEAK HOUR VOLUMES

FIGURE 13



ASSOCIATED
TRANSPORTATION
ENGINEERS

MMF- #08088

Associated Transportation Engineers
September 3, 2008

Table 10
Year 2025 + Project P.M. Peak Hour Intersection Levels of Service

Intersection	Year 2025		Year 2025 + Project		Impact?
	ICU/Delay	LOS	ICU/Delay	LOS	
1. Foothill Road/Wells Road ^a	11.1 sec.	LOS B	11.2 sec.	LOS B	No
2. Telegraph Road/Kimball Road	0.32	LOS A	0.34	LOS A	No
3. Telegraph Road/Petit Avenue	0.24	LOS A	0.26	LOS A	No
4. Telegraph Road/Saticoy Avenue ^b	0.45	LOS A	0.50	LOS A	No
5. Telegraph Road/Nevada Avenue ^{a b}	9.5 sec.	LOS A	10.2 sec.	LOS B	No
6. Telegraph Road/Wells Road	0.42	LOS A	0.46	LOS A	No
7. Carlos Street/Wells Road ^{a b}	10.5 sec.	LOS B	13.5 sec.	LOS B	No
8. Citrus Dr.-Blackburn Rd/Wells Road	0.39	LOS A	0.46	LOS A	No
9. State Route 126 WB Ramps/Wells Road ^a	13.3 sec.	LOS B	15.1 sec.	LOS C	No
10. State Route 126 EB Ramps/Wells Road ^b	0.73	LOS C	0.74	LOS C	No
11. Darling Road/Wells Road ^b	0.84	LOS D	0.85	LOS D	No
12. Telephone Road/Kimball Road	0.65	LOS B	0.66	LOS B	No
13. Telephone Road/Montgomery Avenue ^b	0.35	LOS A	0.35	LOS A	No
14. Telephone Road/Petit Avenue ^b	0.58	LOS A	0.58	LOS A	No
15. Telephone Road/Saticoy Avenue ^b	0.46	LOS A	0.47	LOS A	No
16. Telephone Road/Wells Road ^b	0.70	LOS B	0.72	LOS C	No
17. Nardo Street/Wells Road	0.83	LOS D	0.85	LOS D	No
18. Los Angeles Avenue/Vineyard Avenue	0.80	LOS C	0.82	LOS D	No

^a Unsignalized intersection; level of service determined by average delay per vehicle.

^b Assumes City committed intersection improvements.

Table 10 indicates that the study-area intersections are forecast to operate at LOS D or better during the P.M. peak hour under the Year 2025 + Project traffic volumes. The project would not generate any cumulative impacts during the P.M. peak hour under Year 2025+ Project conditions.

MITIGATION MEASURES

Project-Specific Measures

The traffic study found that the Parklands Project would not generate any project-specific intersection impacts based on the City's impact criteria. Mitigation measures are therefore not

required for the study-area intersections. The following improvements are however recommended along the project 's frontage:

It is recommended that the full access driveway proposed on Wells Road approximately 500 feet south of Telegraph Road be modified to accommodate turning and parking movements. These modifications should include provision of additional throat length and reconfiguration of the parking area directly west of the driveway connection to Wells Road.

It is recommended that frontage improvements at the Wells Road/Carlos Street intersection include modification of the existing raised median on Wells Road to accommodate a northbound left-turn bay, which should contain 100 feet of vehicle storage and a 60 foot taper.

It is recommended that the eastbound approach (project parkway) of the Wells Road/Citrus Drive intersection retain its current lane geometry (a shared left-turn/through and a right-turn lane), which would provide better operations and reduce queue lengths compared to the proposed one-lane approach. This would require that the median on the parkway be modified to provide sufficient width for two lanes on the eastbound approach, or that the approach be widened.

It is recommended that the median on Wells Road south of the Wells Road/Citrus Drive intersection be reconstructed to provide a minimum of 160 feet of storage in the northbound left-turn bay to avoid vehicles blocking through traffic on Wells Road.

It is recommended that the two-lane divided parkway on the site be designed to accommodate a California Design Vehicle (WB 40 semi-truck). The secondary roadways should be designed to accommodate trash trucks and emergency vehicles.

Year 2025 Measures

The traffic study found that the Parklands Project would not generate any cumulative intersection impacts based on the City's impact criteria. Mitigation measures are therefore not required for the study-area intersections.

STATE ROUTE 126 OPERATIONS

Levels of service were calculated for the segment of State Route 126 adjacent to the Wells Road interchange using the operations method contained in the Highway Capacity Manual (LOS worksheet are contained in the Technical Appendix). There are three performance measures for freeway operation. Density in passenger cars per mile per lane (pc/mi/ln), mean passenger car speed (mph), and volume to capacity (v/c). Each of these measures is an indication of how the traffic is being accommodated. While the three measures are interrelated, level of service is based upon density (pc/mi/ln). Table 11 shows the Existing and Existing + Project levels of service for the SR 126 freeway. Year 2025 and Year 2025 + Project levels of service are shown on Table 12.

**Table 11
State Route 126 Operations - Existing + Project**

Direction	Existing			Existing + Project		
	Speed(1)	Density(2)	LOS(3)	Speed(1)	Density(2)	LOS(3)
Eastbound	69.8	21.4	LOS C	69.7	22.1	LOS C
Westbound	70.0	17.4	LOS B	70.0	17.9	LOS B

- (1) Speed = average speed in MPH.
- (2) Density = passenger cars per mile per lane (pc/mi/ln).
- (3) LOS based on Density.

As shown in Table 11, the SR 126 freeway operations at LOS B-C during the peak hour period under Existing and Existing + Project condition. The analysis shows that the Parklands Project would not significantly impact freeway operations under the Existing + Project scenario.

**Table 12
State Route 126 Operations - Year 2025 + Project**

Direction	Year 2025			Year 2025 + Project		
	Speed(1)	Density(2)	LOS(3)	Speed(1)	Density(2)	LOS(3)
Eastbound	69.5	22.8	LOS C	69.3	23.5	LOS C
Westbound	70.0	18.5	LOS C	70.0	19.0	LOS C

- (1) Speed = average speed in MPH.
- (2) Density = passenger cars per mile per lane (pc/mi/ln).
- (3) LOS based on Density.

As shown in Table 12, the SR 126 freeway is forecast to operate at LOS C during the peak hour period under Year 2025 and Year 2025 + Project condition. The analysis shows that the Parklands Project would not significantly impact freeway operations under the Year 2025 + Project scenario.

The SR 126/Wells Road interchange is a partial cloverleaf configuration, with free flow ramps for most of the movements. The levels of service shown in Tables 6 and 7 (Existing + Project) and Tables 9 and 10 (Year 2025 + Project) for the eastbound and westbound ramp terminals are based on the City's ICU method. To address Caltrans concerns, further review of the ramp intersections was completed using the operations method outlined in the Highway Capacity Manual using the SYNCHRO software program. The results of the analysis shows that the ramp intersections are forecast to operate at LOS A-B with Existing + Project traffic. The 95th percentile queue for the SR 126 westbound off to northbound Wells Road movement, which is controlled by a stop sign, is forecast at 1-2 vehicles for the Existing + Project scenario. This queue will be easily accommodated on the off-ramp and would not affect mainline operations. The SR 126 westbound

off-ramp to southbound Wells Road movement is free flow loop ramp (no control) and queues would therefore not form. The SR 126 eastbound off-ramp connection to Wells Road is controlled by a traffic signal. The 95th percentile queue is forecast at 6-8 vehicles on the off-ramp for the Existing + Project scenario, which would be accommodated on the ramp and not affect mainline operations.

The Year 2025 + Project operation analysis indicates that the ramp intersections are forecast to operate at LOS C or better. The 95th percentile queue for the SR 126 westbound off to northbound Wells Road movement, which is controlled by a stop sign is forecast at 1-2 vehicles for the Year 2025 + Project scenario. This queue will be easily and would not affect mainline operations. The SR 126 eastbound Wells Road is controlled by a traffic signal. The 95th percentile queue is forecast at approximately 700 feet of storage area (approximately 30 vehicles) on the off-ramp for the Year 2025 + Project scenario. This queue will be easily accommodated and would not affect mainline operations.

NOT IN

E TOC

VENTURA COUNTY GENERAL PLAN CONSISTENCY

The City of Ventura and Ventura County have executed "Reciprocal Traffic Mitigation Agreement" wherein the City and the County agree that a pro-rata share of the cost of traffic mitigation measures will be collected by each agency for identified traffic impacts in the County. These measures would be consistent with the Ventura County General Plan by "Reciprocal Traffic Mitigation Agreement" between the City of Ventura and Ventura County.

VENTURA COUNTY CONGESTION MANAGEMENT PROGRAM

According to the County's Congestion Management Program (CMP), the minimum acceptable standard for traffic operations is LOS "E". However, so that local jurisdictions are not unfairly penalized for existing congestion, CMP locations currently operating in the LOS "F" range are considered acceptable.

Intersection Operation

The Wells Road/Telephone Road, SR 126 EB Ramps/Wells Road, and the SR 126 WB Ramps intersections are contained in the County's CMP. As shown on Tables 9 and 10, the CMP intersections are forecast to operate at LOS C or better under Year 2025 + Project conditions. These operations are considered acceptable based on the County's CMP standards.

■ ■ ■

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Scott A. Schell, AICP, PTP, Principal Transportation Planner
Richard Pool, P.E., Principal Engineer
Dan Dawson, PTP, Supervising Transportation Planner
Matthew Farrington, Transportation Planner I

References

2004-2005 Ventura County Congestion Management Program, Ventura County Transportation Commission, 2005.

City of Ventura 2005 General Plan, Final Environmental Impact Report, City of Ventura, August 2005

Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2000.

Persons Contacted

Chandra Chandrashaker, City of Ventura
Isabella do Val Gamble, DTR Engineering
Steve DeGeorge, Ventura County Transportation Committee

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LEVEL OF SERVICE DEFINITIONS

Signalized Intersection Level of Service Definitions

LOS	Delay ^a	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

^a Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM¹ uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

¹ Highway Capacity Manual, National Research Board, 2000



ASSOCIATED TRANSPORTATION ENGINEERS

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INTERSECTION LEVEL OF SERVICE CALCULATION DISCUSSION

**Table 4.12-1
Arterial Intersection Performance Criteria**

V/C Calculation Methodology^a

Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following values:

Saturation Flow Rate: 1,600 vehicles/hour/lane.

Clearance Interval: none

Performance Standard

Level of Service E (peak hour ICU less than or equal to 1.00) for freeway ramp intersections.
Level of Service D (peak hour ICU less than or equal to 0.90) for all other Principal Intersections*.

Threshold of Significance (for impact analyses)

For an intersection that is forecast to operate worse than its performance standard, the impact of a given project is considered to be significant if the project increases the ICU by more than 0.01. An ICU increase of more than .01 does not cause the threshold of significance to be exceeded if the with-project ICU does not exceed the maximum ICU value.

Level of Service

Level of service ranges are as follows:

ICU	LEVEL OF SERVICE (LOS)
0.00 – 0.60	A
0.61 – 0.70	B
0.71 – 0.80	C
0.81 – 0.90	D
0.91 – 1.00	E
Above 1.00	F

* Principal Intersections are intersections to be regularly monitored as a gauge of the operation of the City's circulation system. These intersections are illustrated on Figure 4-5 of the traffic study in Appendix E.

^a Methodology is consistent with that recommended in the Ventura County Congestion Management Program

TRAFFIC COUNTS

24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: NEVADA AVENUE NORTH OF TELEGRAPH ROAD
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	2	0	2	4	
1:00	0	0	2	0	2	
2:00	0	0	0	2	2	
3:00	0	0	0	0	0	
4:00	0	2	1	1	4	
5:00	2	8	8	8	26	
6:00	6	12	12	16	46	
7:00	20	12	28	20	80	
8:00	19	14	12	24	69	
9:00	12	6	12	6	36	
10:00	16	6	9	14	45	
11:00	10	5	2	12	29	
12:00	8	10	3	10	31	
13:00	10	8	14	15	47	
14:00	14	10	10	8	42	
15:00	12	16	19	13	60	
16:00	7	11	14	7	39	
17:00	22	16	10	16	64	
18:00	10	11	11	14	46	
19:00	10	10	10	14	44	
20:00	14	2	6	5	27	
21:00	4	10	9	2	25	
22:00	12	2	4	3	21	
23:00	0	9	5	1	15	
				TOTAL	804	
AM PEAK HOUR		0730-0830				
VOLUME		81				
PM PEAK HOUR		1700-1800				
VOLUME		64				

DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
				TOTAL	0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	804
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: TELEGRAPH ROAD WEST OF NEVADA AVENUE
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		EB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	7	3	6	9	25	
1:00	5	1	2	3	11	
2:00	3	2	0	0	5	
3:00	1	1	0	2	4	
4:00	1	4	3	4	12	
5:00	7	9	20	18	54	
6:00	26	31	38	62	157	
7:00	44	53	54	82	233	
8:00	94	71	64	64	293	
9:00	72	52	54	66	244	
10:00	48	70	56	65	239	
11:00	51	58	54	69	232	
12:00	68	57	78	60	263	
13:00	61	58	59	64	242	
14:00	58	67	76	89	290	
15:00	88	100	137	108	433	
16:00	112	96	105	123	436	
17:00	120	96	99	92	407	
18:00	66	70	64	72	272	
19:00	66	58	71	55	250	
20:00	41	40	36	46	163	
21:00	39	35	35	42	151	
22:00	36	13	14	13	76	
23:00	6	9	14	8	37	
				TOTAL	4529	
AM PEAK HOUR		0745-0845				
VOLUME		311				
PM PEAK HOUR		1515-1615				
VOLUME		457				

DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
				TOTAL	0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	4529
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: TELEGRAPH ROAD EAST OF NEVADA AVENUE
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		WB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	6	2	8	3	19	
1:00	0	2	1	2	5	
2:00	0	0	1	0	1	
3:00	2	0	0	0	2	
4:00	1	2	4	6	13	
5:00	5	9	8	21	43	
6:00	23	44	43	77	187	
7:00	50	70	98	86	304	
8:00	61	86	68	64	279	
9:00	50	62	56	52	220	
10:00	54	68	62	44	228	
11:00	55	44	63	62	224	
12:00	64	71	57	54	246	
13:00	76	62	66	65	269	
14:00	59	76	62	72	269	
15:00	92	66	76	78	312	
16:00	68	87	78	72	305	
17:00	88	100	90	100	378	
18:00	62	68	58	46	234	
19:00	34	45	36	31	146	
20:00	35	25	40	24	124	
21:00	21	20	18	15	74	
22:00	16	19	15	14	64	
23:00	10	9	3	5	27	
TOTAL					3973	
AM PEAK HOUR		0730-0830				
VOLUME		331				
PM PEAK HOUR		1700-1800				
VOLUME		378				

DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
TOTAL					0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	3973
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: WELLS ROAD SOUTH OF CARLOS STREET
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		NB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	16	8	10	5	39	
1:00	6	8	3	4	21	
2:00	3	6	1	1	11	
3:00	3	6	1	2	12	
4:00	2	6	2	11	21	
5:00	15	18	20	41	94	
6:00	52	72	56	86	266	
7:00	67	71	92	88	318	
8:00	111	102	78	102	393	
9:00	85	82	80	54	301	
10:00	74	76	62	68	280	
11:00	81	68	76	96	321	
12:00	82	85	103	84	354	
13:00	83	96	96	116	391	
14:00	98	115	88	102	403	
15:00	124	118	256	332	830	
16:00	168	173	169	158	668	
17:00	144	169	138	144	595	
18:00	108	118	99	70	395	
19:00	59	70	64	60	253	
20:00	62	62	62	53	239	
21:00	49	44	37	42	172	
22:00	28	29	28	26	111	
23:00	28	14	10	8	60	
TOTAL					6548	
AM PEAK HOUR		0730-0830				
VOLUME		393				
PM PEAK HOUR		1530-1630				
VOLUME		929				

DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
TOTAL					0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	6548
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: CARLOS STREET EAST OF WELLS ROAD
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		WB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	2	4	2	2	10	
1:00	0	2	0	0	2	
2:00	0	2	0	0	2	
3:00	1	0	1	1	3	
4:00	1	1	6	8	16	
5:00	0	8	8	18	34	
6:00	11	27	26	40	104	
7:00	29	36	62	59	186	
8:00	34	37	42	38	151	
9:00	33	33	40	32	138	
10:00	18	30	21	37	106	
11:00	50	30	38	28	146	
12:00	22	41	37	25	125	
13:00	32	28	36	34	130	
14:00	34	34	41	38	147	
15:00	44	24	36	38	142	
16:00	38	49	54	40	181	
17:00	52	42	46	26	166	
18:00	28	38	34	22	122	
19:00	15	24	20	15	74	
20:00	26	16	17	15	74	
21:00	26	10	7	13	56	
22:00	6	5	4	1	16	
23:00	2	4	1	2	9	
TOTAL					2140	
AM PEAK HOUR		0730-0830				
VOLUME		192				
PM PEAK HOUR		1615-1715				
VOLUME		195				

DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
TOTAL					0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	2140
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24-HOUR ADT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: VENTURA TRAFFIC COUNTS
 LOCATION: WELLS ROAD NORTH OF CARLOS STREET
 DATE: THURSDAY SEPTEMBER 8TH, 2005

DIRECTION:		SB				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	9	1	4	6	20	
1:00	7	1	1	4	13	
2:00	1	8	0	5	14	
3:00	2	6	3	5	16	
4:00	8	14	17	17	56	
5:00	18	50	68	74	210	
6:00	86	85	112	114	397	
7:00	130	140	164	162	596	
8:00	132	128	118	112	490	
9:00	101	102	86	100	389	
10:00	94	101	84	104	383	
11:00	94	106	83	108	391	
12:00	104	90	92	94	380	
13:00	117	82	102	94	395	
14:00	100	100	110	114	424	
15:00	102	152	135	109	498	
16:00	131	134	124	122	511	
17:00	157	121	116	123	517	
18:00	86	83	80	78	327	
19:00	64	56	68	61	249	
20:00	43	31	43	48	165	
21:00	40	38	35	34	147	
22:00	23	17	13	20	73	
23:00	8	11	14	6	39	
				TOTAL	6700	
AM PEAK HOUR		0715-0815				
VOLUME		598				
PM PEAK HOUR		1615-1715				
VOLUME		537				

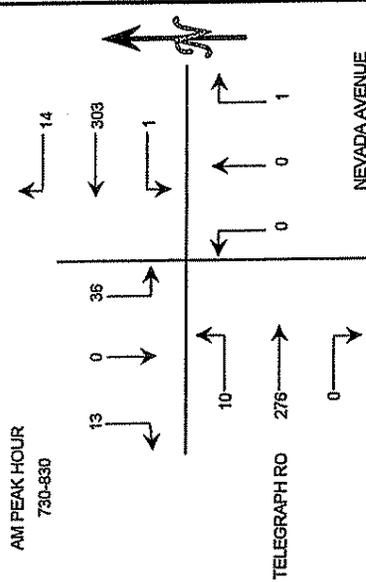
DIRECTION:		O				HOUR TOTALS
TIME	00-15	15-30	30-45	45-60		
0:00	0	0	0	0	0	
1:00	0	0	0	0	0	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	0	0	0	0	0	
5:00	0	0	0	0	0	
6:00	0	0	0	0	0	
7:00	0	0	0	0	0	
8:00	0	0	0	0	0	
9:00	0	0	0	0	0	
10:00	0	0	0	0	0	
11:00	0	0	0	0	0	
12:00	0	0	0	0	0	
13:00	0	0	0	0	0	
14:00	0	0	0	0	0	
15:00	0	0	0	0	0	
16:00	0	0	0	0	0	
17:00	0	0	0	0	0	
18:00	0	0	0	0	0	
19:00	0	0	0	0	0	
20:00	0	0	0	0	0	
21:00	0	0	0	0	0	
22:00	0	0	0	0	0	
23:00	0	0	0	0	0	
				TOTAL	0	
AM PEAK HOUR		0000-0100				
VOLUME		0				
PM PEAK HOUR		1200-1300				
VOLUME		0				

TOTAL BI-DIRECTIONAL VOLUME	6700
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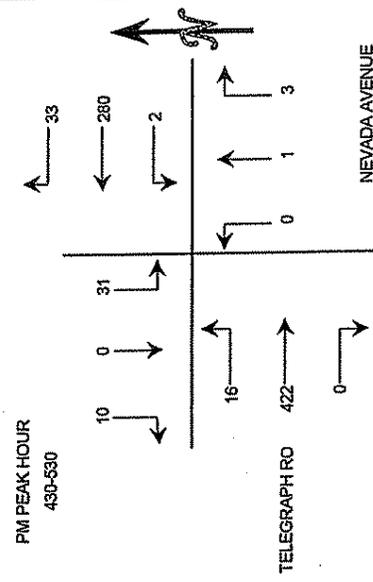
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: PARKLANDS PROJECT
 DATE: THURSDAY, SEPTEMBER 8TH, 2005
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
 INTERSECTION: N/S NEVADA AVENUE AND TELEGRAPH ROAD

PERIOD	7:00 AM TO 9:00 AM											
	1	2	3	4	5	6	7	8	9	10	11	12
PERIOD	SBRT	SBTH	SBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	WBRT	WBTH	WBLT
7:00-7:15	4	0	0	3	53	0	0	0	0	0	49	0
7:15-7:30	0	0	0	7	2	0	0	0	0	0	52	1
7:30-7:45	4	0	14	3	91	0	0	0	0	55	1	168
7:45-8:00	6	0	6	3	85	1	1	0	0	74	4	180
8:00-8:15	2	0	8	2	56	0	0	0	0	86	3	157
8:15-8:30	1	0	8	6	71	0	0	0	0	61	2	149
8:30-8:45	2	0	7	2	63	0	0	0	0	60	1	135
8:45-9:00	4	0	8	5	53	0	0	0	0	64	0	134
HOURLY TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
7:00-9:00	14	0	35	11	296	1	1	0	0	230	6	584
7:15-8:15	12	0	35	10	289	1	1	0	0	267	9	634
7:30-8:30	13	0	36	14	303	1	1	0	0	276	10	654
7:45-8:45	11	0	29	13	275	1	1	0	0	281	10	621
8:00-9:00	9	0	31	15	243	0	0	0	0	271	6	575



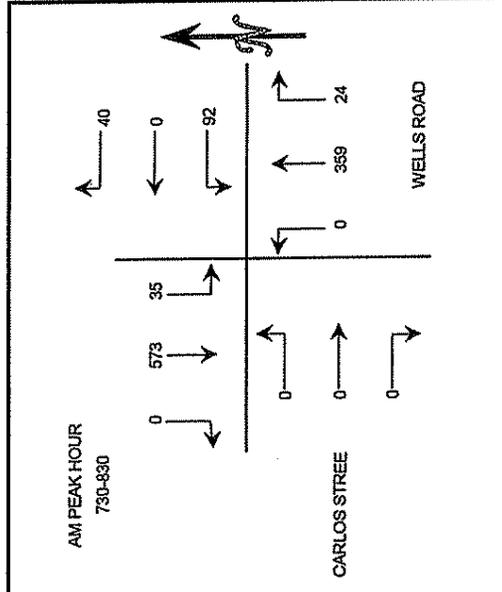
PERIOD	4:00 PM TO 6:00 PM											
	1	2	3	4	5	6	7	8	9	10	11	12
PERIOD	SBRT	SBTH	SBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	WBRT	WBTH	WBLT
4:00-4:15	1	0	4	5	55	0	2	0	0	113	3	183
4:15-4:30	3	0	3	10	66	1	2	0	0	92	1	181
4:30-4:45	3	0	8	6	67	0	1	0	0	99	2	186
4:45-5:00	0	0	4	9	55	2	1	0	0	116	3	191
5:00-5:15	6	0	7	6	77	0	0	0	0	110	7	213
5:15-5:30	1	0	12	12	81	0	1	0	0	97	4	208
5:30-5:45	3	0	1	4	78	1	2	0	0	87	1	177
5:45-6:00	6	0	6	9	70	1	0	0	0	91	2	185
HOURLY TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
4:00-6:00	7	0	19	30	245	3	6	1	0	420	9	741
4:15-5:15	12	0	22	31	267	3	4	1	0	417	13	771
4:30-5:30	10	0	31	33	280	2	3	1	0	422	16	796
5:45-6:45	10	0	24	31	291	3	4	1	0	410	15	789
6:00-6:00	16	0	26	31	306	2	3	0	0	385	14	783



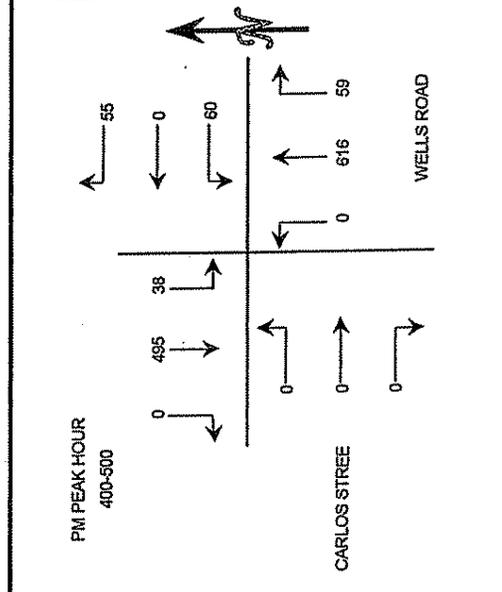
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: PARKLANDS PROJECT
 DATE: THURSDAY, SEPTEMBER 8TH, 2005
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
 INTERSECTION: N/S WELLS ROAD
 EW CARLOS STREET

PERIOD	7:00 AM TO 9:00 AM											
	1	2	3	4	5	6	7	8	9	10	11	12
	SBRF	SBTH	SELT	WBRT	WBTH	WBELT	NBRT	NBTH	NBELT	EBRT	EBTH	EBELT
7:00-7:15	0	121	9	8	0	11	3	63	0	0	0	215
7:15-7:30	0	123	12	9	0	19	6	73	0	0	0	242
7:30-7:45	0	174	10	15	0	31	6	93	0	0	0	329
7:45-8:00	0	143	10	11	0	28	3	84	0	0	0	279
8:00-8:15	0	126	8	9	0	17	10	95	0	0	0	265
8:15-8:30	0	130	7	5	0	16	5	87	0	0	0	250
8:30-8:45	0	102	9	13	0	17	6	73	0	0	0	220
8:45-9:00	0	96	9	11	0	13	1	90	0	0	0	220
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRF	SBTH	SELT	WBRT	WBTH	WBELT	NBRT	NBTH	NBELT	EBRT	EBTH	EBELT
7:00-9:00	0	561	41	43	0	89	18	313	0	0	0	1085
7:15-8:15	0	566	40	44	0	95	25	345	0	0	0	1115
7:30-8:45	0	573	35	40	0	92	24	359	0	0	0	1123
7:45-8:45	0	501	34	38	0	78	24	339	0	0	0	1014
8:00-9:00	0	454	33	38	0	63	22	345	0	0	0	955



PERIOD	4:00 PM TO 6:00 PM											
	1	2	3	4	5	6	7	8	9	10	11	12
	SBRF	SBTH	SELT	WBRT	WBTH	WBELT	NBRT	NBTH	NBELT	EBRT	EBTH	EBELT
4:00-4:15	0	123	10	18	0	6	14	160	0	0	0	331
4:15-4:30	0	131	12	15	0	16	15	151	0	0	0	340
4:30-4:45	0	113	7	13	0	19	13	161	0	0	0	326
4:45-5:00	0	128	9	9	0	19	17	144	0	0	0	326
5:00-5:15	0	142	6	15	0	14	12	133	0	0	0	322
5:15-5:30	0	127	8	15	0	10	11	154	0	0	0	325
5:30-5:45	0	133	7	11	0	15	14	127	0	0	0	307
5:45-6:00	0	126	13	9	0	14	17	137	0	0	0	316
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRF	SBTH	SELT	WBRT	WBTH	WBELT	NBRT	NBTH	NBELT	EBRT	EBTH	EBELT
4:00-6:00	0	495	38	55	0	60	59	616	0	0	0	1323
4:15-5:15	0	514	34	52	0	68	57	589	0	0	0	1314
5:00-5:45	0	510	30	52	0	62	53	592	0	0	0	1299
5:45-6:00	0	530	30	50	0	58	54	556	0	0	0	1280
6:00-6:00	0	526	34	50	0	53	54	551	0	0	0	1270

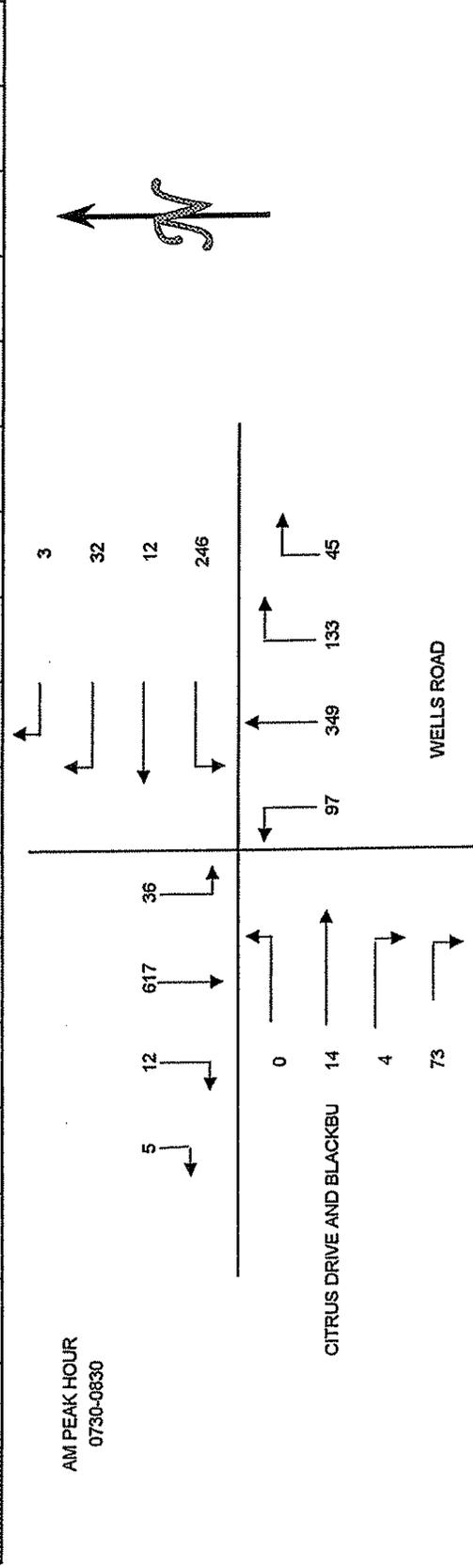


INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: PARKLANDS PROJECT
 DATE: THURSDAY, SEPTEMBER 8TH, 2005
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: WELLS ROAD
 EW CITRUS DRIVE AND BLACKBURN ROAD

VEHICLE COUNTS

PERIOD	1R	2	3	4R	4	5	6	7R	7	8	9	10R	10	11	12	TOTAL
15 MIN COUNT	SBRT	SBTH	SELT	WBRT	WBTH	WBLT	WBRT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	EBRT	EBLT	TOTAL
7:00-7:15	0	151	3	4	4	1	55	5	25	56	7	21	3	2	0	337
7:15-7:30	0	159	8	1	3	2	74	10	23	61	4	22	1	6	1	375
7:30-7:45	1	177	6	0	9	5	71	7	24	83	26	29	1	3	0	444
7:45-8:00	4	162	6	2	10	3	62	10	34	86	45	15	1	2	0	449
8:00-8:15	0	132	13	1	5	3	51	13	40	98	19	16	0	7	0	401
8:15-8:30	0	146	11	0	8	1	62	15	35	82	7	13	2	2	0	384
8:30-8:45	0	123	10	2	4	3	63	13	27	72	5	14	1	2	2	343
8:45-9:00	0	109	11	4	8	2	47	13	30	90	5	8	1	4	0	332
HOURLY TOTALS																
9700-9800	5	649	23	7	26	11	262	32	106	286	82	87	6	13	1	1605
9715-9815	5	630	33	4	27	13	258	40	121	328	94	82	3	18	1	1669
9730-9830	5	617	36	3	32	12	246	45	133	349	97	73	4	14	0	1678
9745-9845	4	563	40	5	27	10	238	51	136	338	76	58	4	13	2	1577
9800-9900	0	510	45	7	25	9	223	54	132	342	36	51	4	15	2	1460

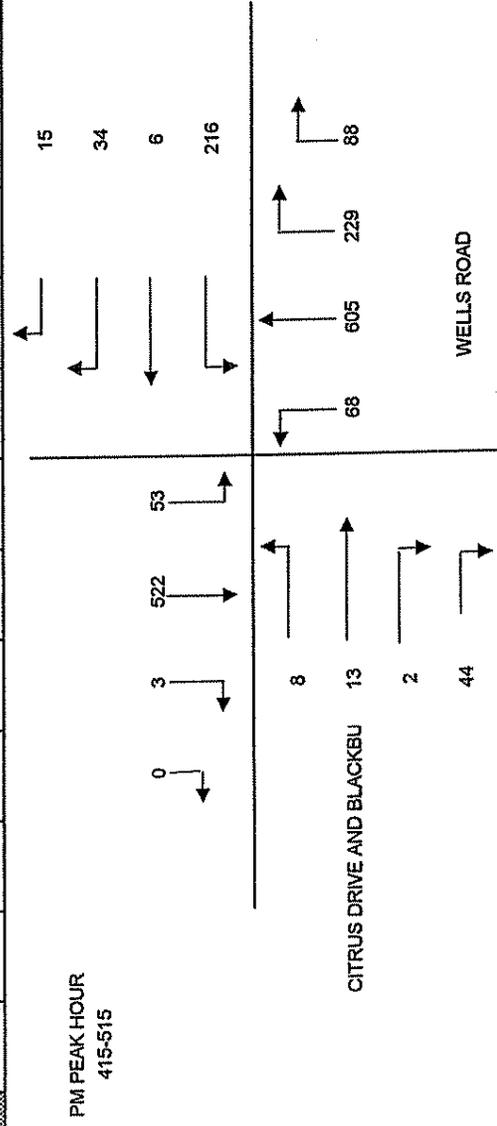


INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: ASSOCIATED TRANSPORTATION ENGINEERS
 PROJECT: PARKLANDS PROJECT
 DATE: THURSDAY, SEPTEMBER 8TH, 2005
 PERIOD: 4:00 PM TO 6:00 PM
 INTERSECTION: WELLS ROAD
 EW CITRUS DRIVE AND BLACKBURN ROAD

VEHICLE COUNTS

PERIOD	1R SBRT	2 SBRT	3 SELT	4R WBRT	4 WBRT	5 WBTH	6 WBTL	7R NBRT	7 NBRT	8 NBTH	9 NBTL	10R EBRT	10 EBRT	11 EBTH	12 EBTL	TOTAL
35 MIN COUNTS																
400-415	1	116	11	4	7	6	48	14	53	133	15	8	1	1	0	419
415-430	0	142	8	5	10	1	54	16	65	165	14	16	1	4	2	504
430-445	0	113	12	4	9	1	56	19	61	146	21	7	0	3	1	454
445-500	0	122	15	3	8	1	49	24	47	143	17	12	1	3	5	450
500-515	0	145	18	3	7	3	57	29	56	151	16	9	0	3	0	498
515-530	2	123	10	4	11	5	61	20	66	150	20	6	3	4	2	489
530-545	1	138	8	8	3	4	42	19	30	119	16	8	0	0	2	401
545-600	1	120	11	7	2	1	52	25	51	139	11	13	1	5	0	440
HOURLY TOTALS																
400-500	1	493	46	16	34	9	207	73	226	587	67	43	3	11	8	1827
415-515	0	522	53	15	34	6	216	88	229	605	68	44	2	13	8	1906
430-530	2	503	55	14	35	10	223	92	230	590	74	34	4	13	8	1891
445-545	3	528	51	18	29	13	209	92	199	563	69	35	4	10	9	1838
500-600	4	526	47	22	23	13	212	93	203	559	63	36	4	12	4	1828



PM PEAK HOUR
415-515

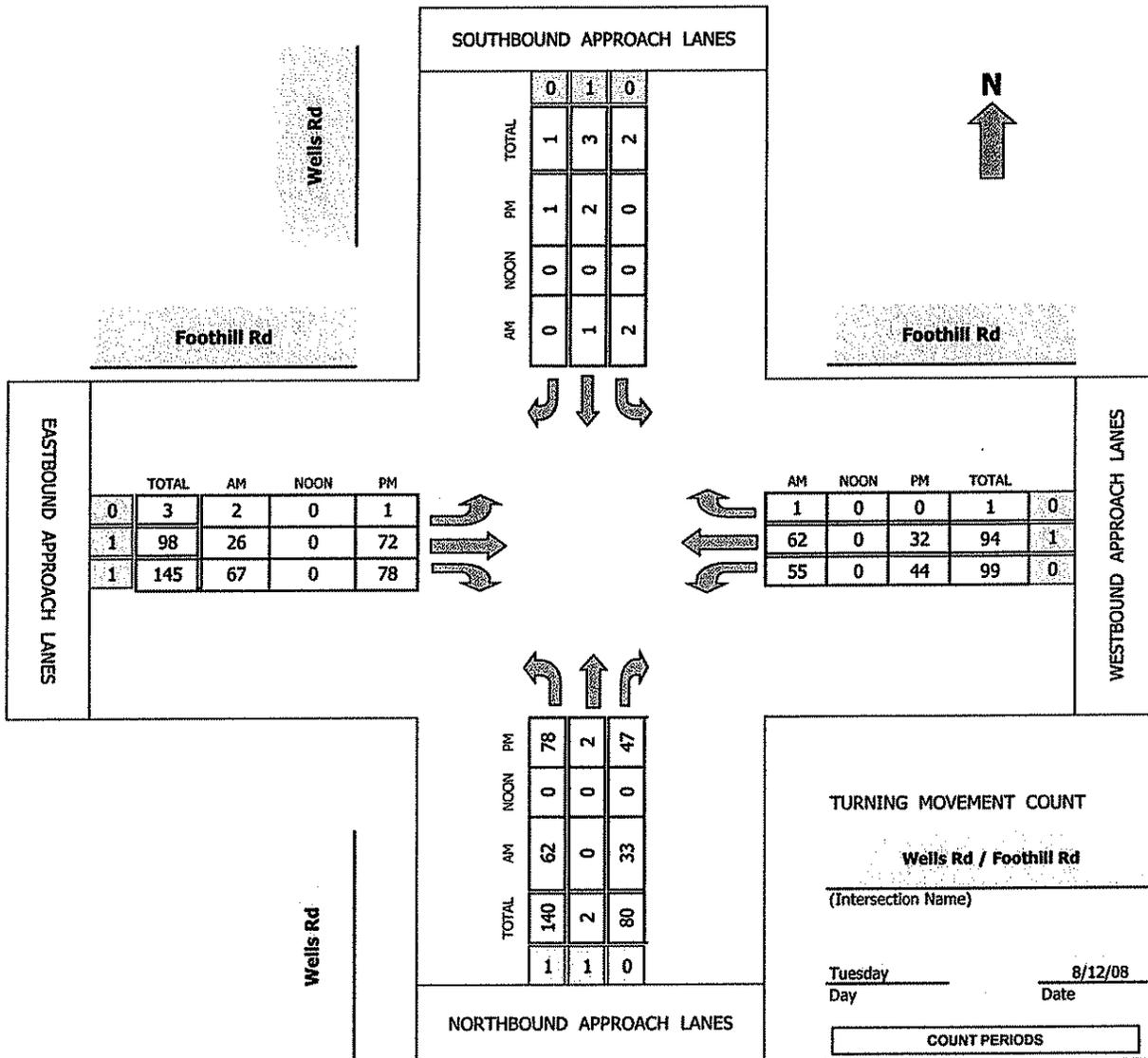
Intersection Turning Movement



Prepared by:
National Data & Surveying Services

TMC Summary of Wells Rd/Foothill Rd

Project #: 08-5008-001



CONTROL: 2-Way Stop (N/S)

AM PEAK HOUR 745 AM

NOON PEAK HOUR 0 AM

PM PEAK HOUR 415 PM

Intersection Turning Movement

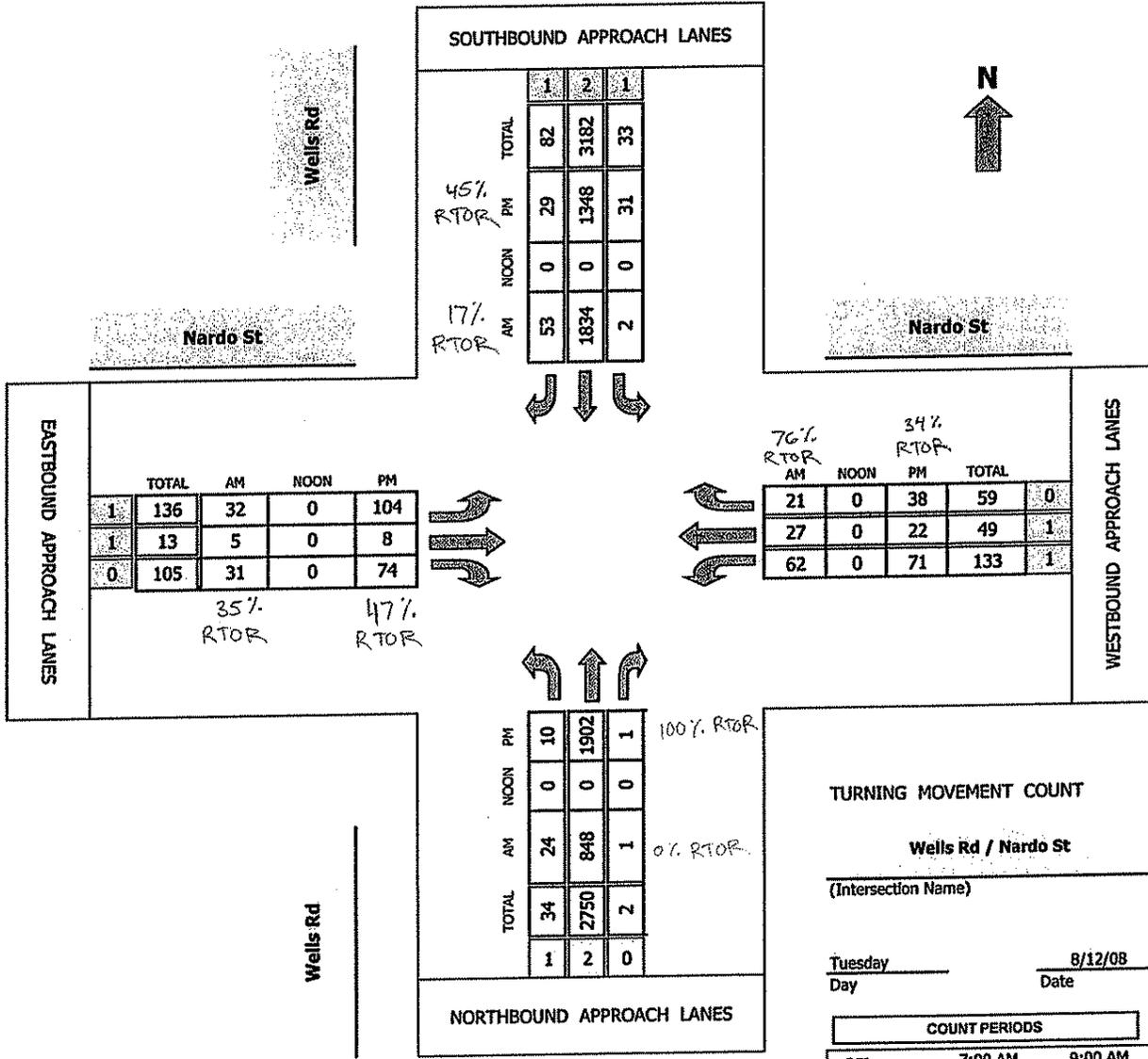
Prepared by:



National Data & Surveying Services

TMC Summary of Wells Rd/Nardo St

Project #: 08-5008-002



CONTROL: Signalized

AM PEAK HOUR	715 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	430 PM

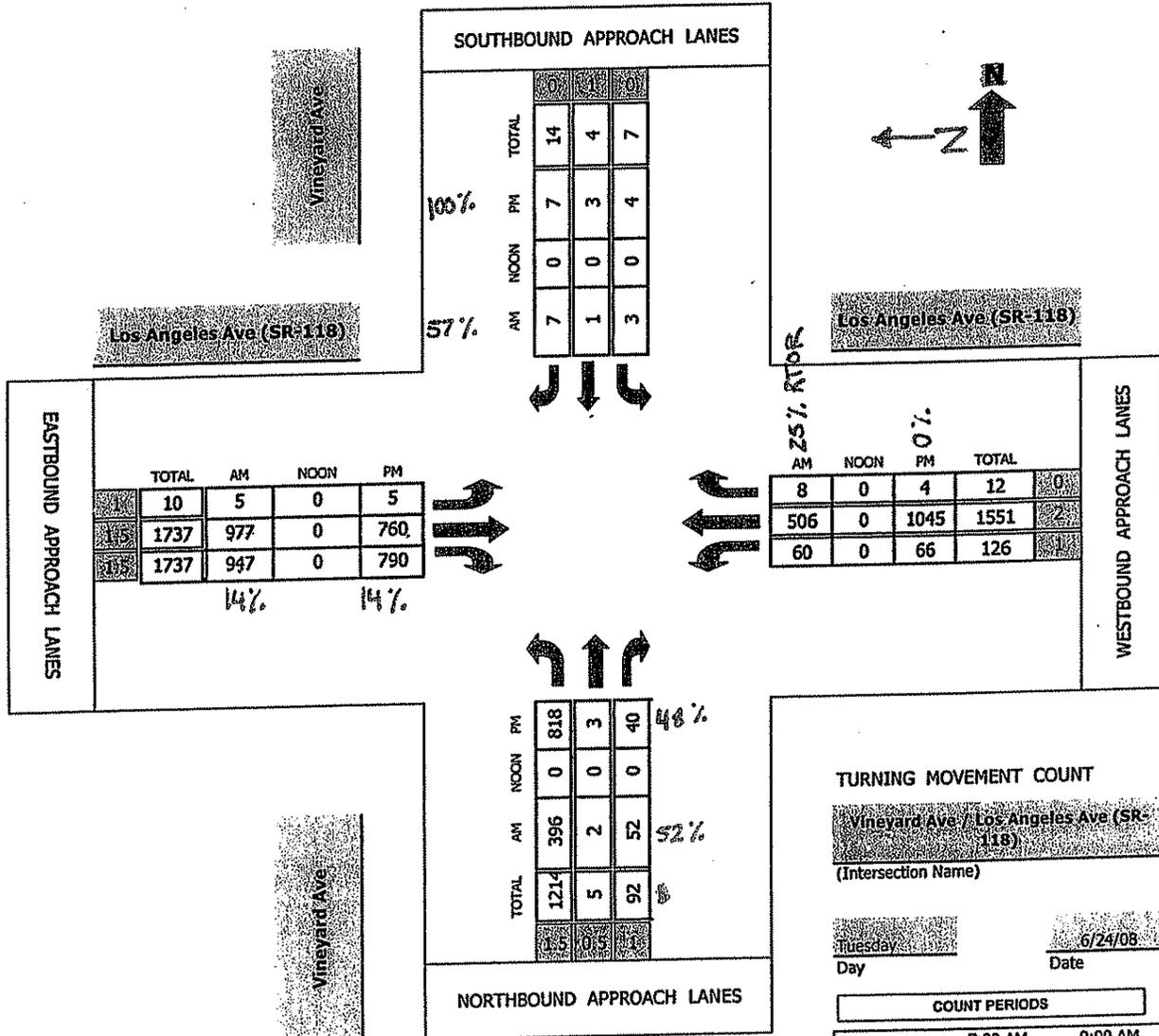
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of Vineyard Ave/Los Angeles Ave (SR-118)

Project #: 08-2303-002



AM PEAK HOUR 715 AM
 NOON PEAK HOUR 0 AM
 PM PEAK HOUR 445 PM

TRAFFIC SIGNAL WARRANT WORKSHEETS

Existing + Project Traffic Volumes

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

07 Den _____
 DIST CO RTE KPM
 Major St: Telegraph Rd Critical Approach Speed 80 km/h
 Minor St: Neundo Ave Critical Approach Speed 40 km/h
 Critical speed of major street traffic > 64 km/h (40 mph) OF } RURAL (R)
 In built up area of isolated community of < 10,000 population } URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R	A	00	01	02	03	04	05	06	07
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	610	658	588	643	857	852	903	582	
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	80	69	47	42	60	39	64	46	5B

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R	A	00	01	02	03	04	05	06	07
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	618	658	588	643	857	852	903	582	
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	80	69	47	42	60	39	64	46	5B

Combination of Conditions A & B

SATISFIED YES NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	2 or More		Hour			
	One	More	8 ^a	11 ^x	4 ⁹	5 ⁶
Both Approaches - Major Street		X	658	857	852	903
Highest Approaches - Minor Street	X		69	60	39	64

SB

*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes No

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES NO

PART A

(All parts 1, 2, and 3 below must be satisfied)

SATISFIED YES NO

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.

Yes No

Yes No

Yes No

PART B

SATISFIED YES NO

APPROACH LANES	2 or More		Hour		
	One	More	5 ⁶		
Both Approaches - Major Street		X	903		
Highest Approaches - Minor Street	X		64		

→ B

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

<u> </u>	<u> </u>	<u> </u>	<u> </u>		
DIST	CO	RTE	KPM	CALC <u>DL</u>	DATE <u>10-10-05</u>
				CHK _____	DATE _____
Major St: _____				Critical Approach Speed _____ km/h	
Minor St: _____				Critical Approach Speed _____ km/h	
Critical speed of major street > 64 km/h (40 mph).....				<input type="checkbox"/>	} RURAL (R)
In built up area of isolated community of < 10,000 population.....				<input type="checkbox"/>	
				<input type="checkbox"/>	URBAN (U)

**WARRANT 4 - Pedestrian Volume
(All Parts Must Be Satisfied)**

100% SATISFIED YES NO

Hours --->					
Pedestrian Volume					
Adequate Crossing Gaps					

Any hour > 190 Yes No
 OR 4 hours > 100 Yes No
 AND < 60 gap/hr Yes No

N/A

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft)

----- Yes No

AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street.

----- Yes No

**WARRANT 5 - School Crossing
(All Parts Must Be Satisfied)**

SATISFIED YES NO

**Part A
Gap/Minutes and # of Children**

Each of Two Hours ---->			
Gaps vs Minutes	Minutes Children Using Crossing		
	Number of Adequate Gaps		
School Age Pedestrians Crossing Street			

Gaps < Minutes SATISFIED YES NO
 Children > 20/hr SATISFIED YES NO

N/A

**Part B
Distance to Nearest Controlled Crossing**

Is Nearest Controlled Crossing More Than 180 m (600 ft) away?

SATISFIED YES NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N <u>N/A</u> m, S <u>N/A</u> m, E <u><300</u> m, W <u>>300</u> m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

**WARRANT 7 - Crash Warrant
(All Parts Must Be Satisfied)**

SATISFIED YES NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	OR Warrant 2 - Interruption of Continuous Traffic		
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input checked="" type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input checked="" type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input checked="" type="checkbox"/>

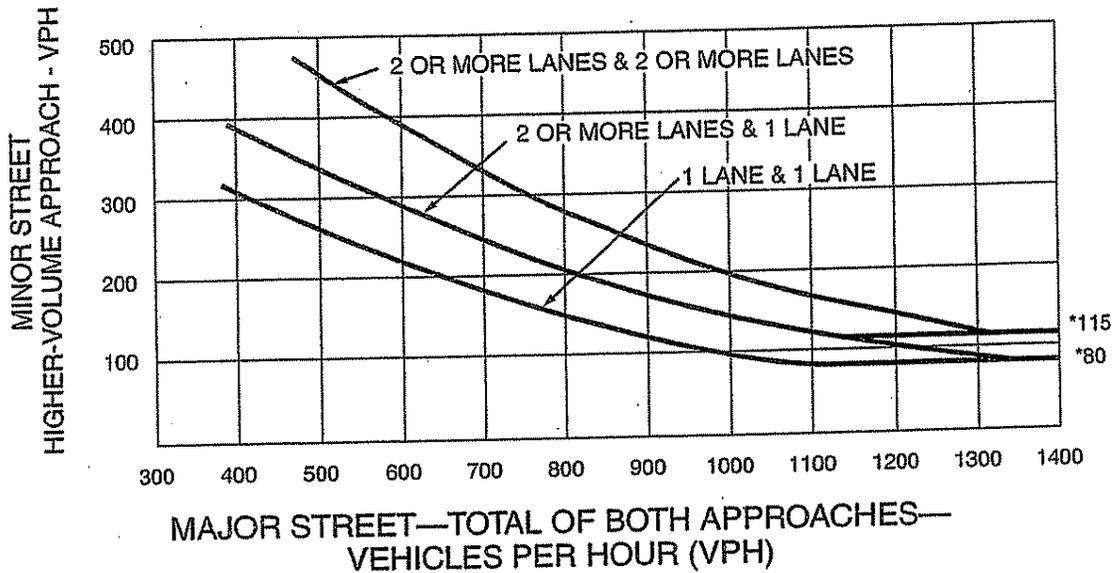
**WARRANT 8 - Roadway Network
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u><1,000</u> Veh/Hr		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun _____ Veh/Hr		
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.
Hwy. System Serving as Principal Network for Through Traffic			
Rural or Suburban Highway Outside Of, Entering, or Traversing a City			
Appears as Major Route on an Official Plan		✓	
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

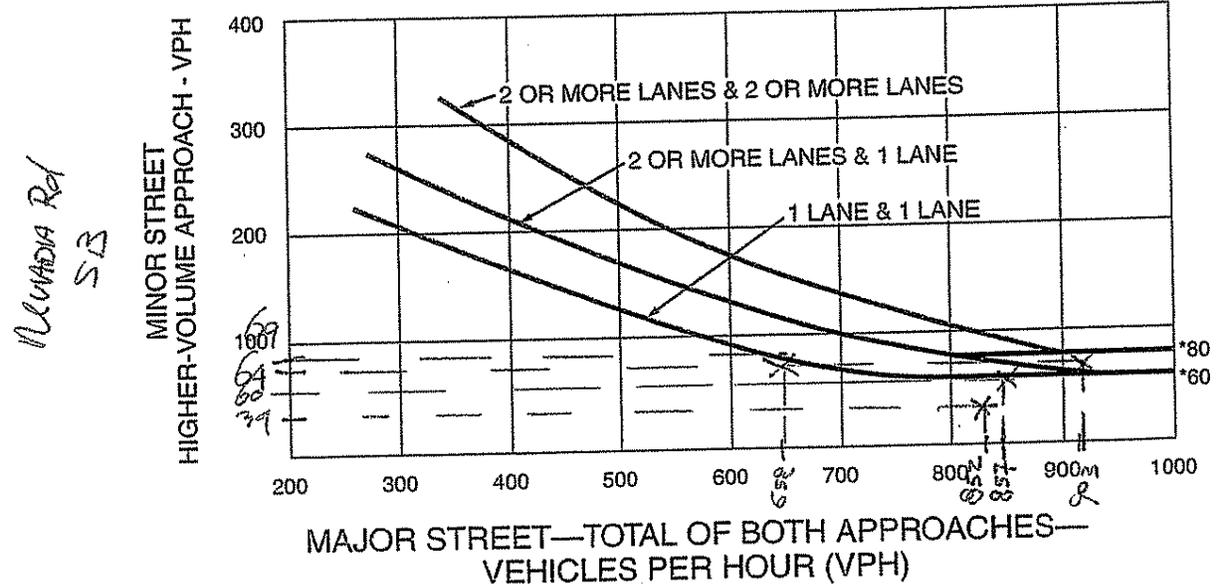
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

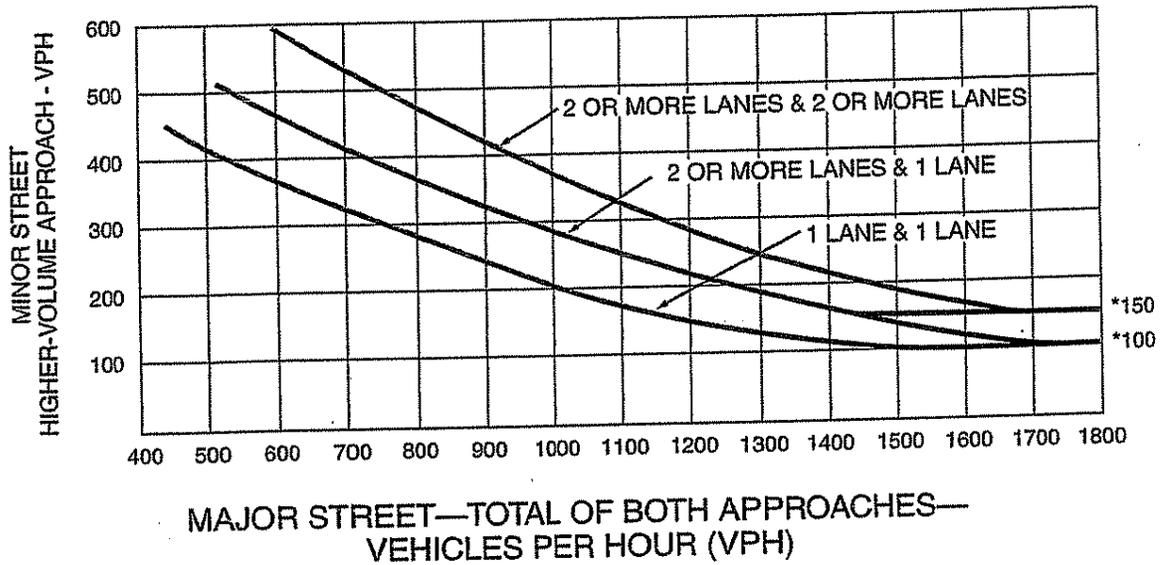
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ⁶⁴70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

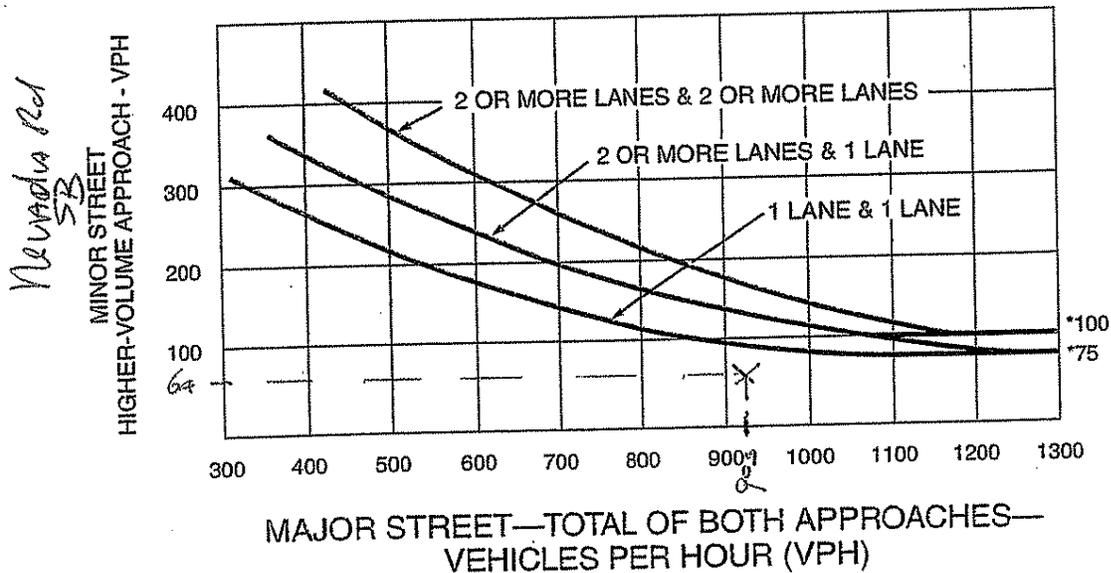
Telegraph Rd

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Telegraph Rd

YEAR 2025 + Project Traffic Volumes

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIST 07 Den CO Den RTE _____ KPM _____

CALC DL DATE 16-10-05
 CHK _____ DATE _____

Major St: Telegraph Rd Critical Approach Speed 80 km/h
 Minor St: Nevada Rd Critical Approach Speed 40 km/h

Critical speed of major street traffic > 64 km/h (40 mph)..... OF } RURAL (R)
 In built up area of isolated community of < 10,000 population..... } URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
	1		2 or More										
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	607	646	577	632	842	837	887	572	
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	80	69	47	42	60	39	64	46	SB

X⁸ / 8⁹ / 2 / N / M / X / 9 / 6 / 6¹ Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	607	646	577	632	842	837	887	572	
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	80	69	47	42	60	39	64	46	SB

X⁸ / 8⁹ / 2 / N / M / X / 9 / 6 / 6¹ Hour

Combination of Conditions A & B

SATISFIED YES NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES NO

Record hourly vehicular volumes for four hours.

APPROACH LANES			Hour			
	One	2 or More	1 ⁰	2 ⁰	3 ⁰	4 ⁰
Both Approaches - Major Street		X	646	842	837	887
Highest Approaches - Minor Street	X		69	60	39	64

SB

*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes No

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES NO

PART A

SATISFIED YES NO

(All parts 1, 2, and 3 below must be satisfied)

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes No
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes No

PART B

SATISFIED YES NO

APPROACH LANES			Hour			
	One	2 or More	1 ⁰	2 ⁰	3 ⁰	4 ⁰
Both Approaches - Major Street		X	837			
Highest Approaches - Minor Street	X		64			

SB

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DIST _____ CO _____ RTE _____ KPM _____

Major St: _____

Minor St: _____

CALC _____ DATE _____

CHK _____ DATE _____

Critical Approach Speed _____ km/h

Critical Approach Speed _____ km/h

Critical speed of major street > 64 km/h (40 mph)..... or } **RURAL (R)**

In built up area of isolated community of < 10,000 population..... } **URBAN (U)**

WARRANT 4 - Pedestrian Volume
(All Parts Must Be Satisfied)

100% SATISFIED YES NO

Hours ---->				
Pedestrian Volume				
Adequate Crossing Gaps				

Any hour > 190 Yes No

OR 4 hours > 100 Yes No

AND < 60 gap/hr Yes No

N/A

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft)

AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street.

----- Yes No

----- Yes No

WARRANT 5 - School Crossing
(All Parts Must Be Satisfied)

SATISFIED YES NO

Part A
Gap/Minutes and # of Children

Each of Two Hours ---->			
Gaps vs Minutes	Minutes Children Using Crossing		
	Number of Adequate Gaps		
School Age Pedestrians Crossing Street			

Gaps < Minutes SATISFIED YES NO

Children > 20/hr SATISFIED YES NO

N/A

Part B
Distance to Nearest Controlled Crossing

Is Nearest Controlled Crossing More Than 180 m (600 ft) away?

SATISFIED YES NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N <u>NA</u> m, S <u>NA</u> m, E <u><300</u> m, W <u>>300</u> m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

**WARRANT 7 - Crash Warrant
(All Parts Must Be Satisfied)**

SATISFIED YES NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	OR Warrant 2 - Interruption of Continuous Traffic		
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input checked="" type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input checked="" type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 8 - Roadway Network
(All Parts Must Be Satisfied)**

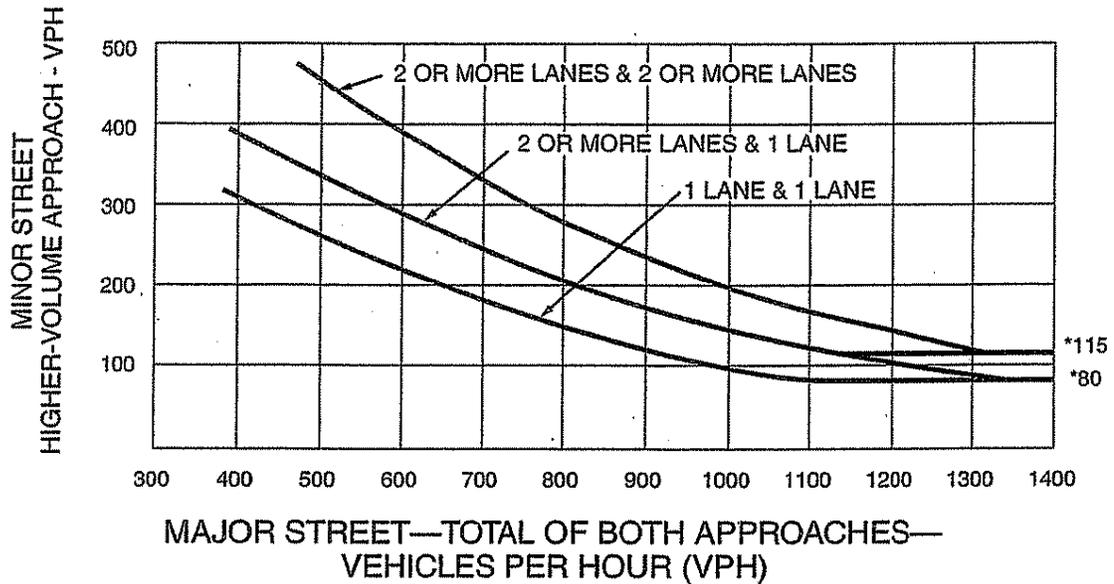
SATISFIED YES NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>< 1,000</u> Veh/Hr		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun _____ Veh/Hr		
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.
Hwy. System Serving as Principal Network for Through Traffic			
Rural or Suburban Highway Outside Of, Entering, or Traversing a City			
Appears as Major Route on an Official Plan		<u>✓</u>	
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

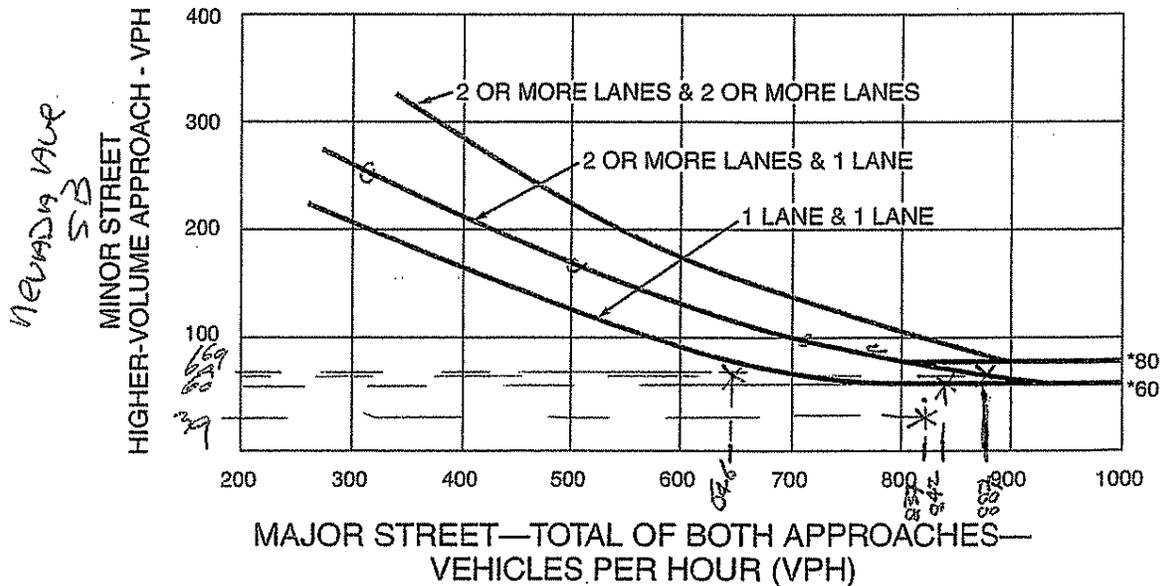
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Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



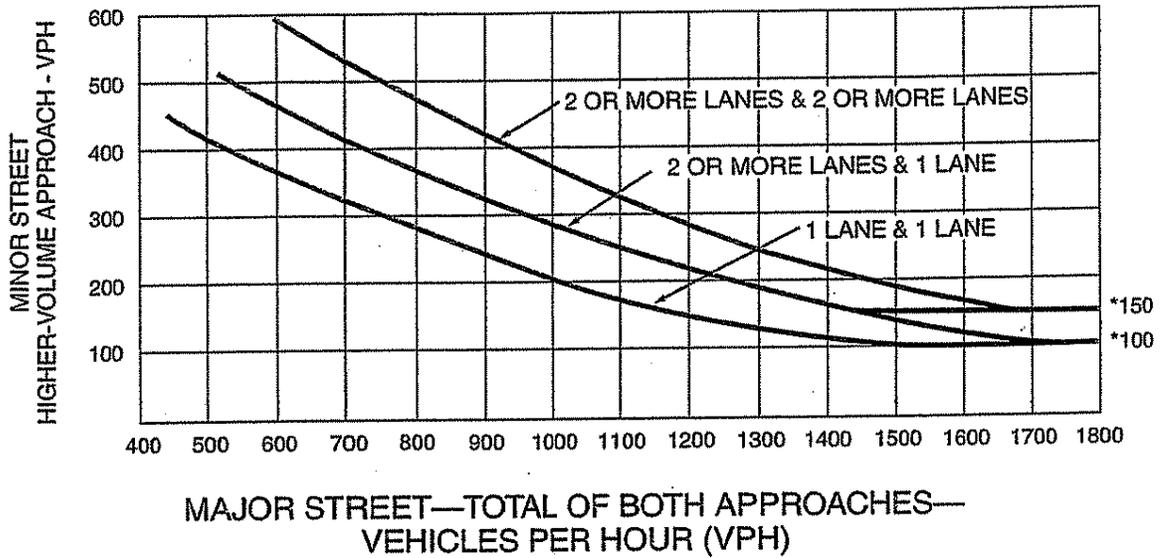
*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

* \rightarrow Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~⁶⁴ km/h OR ABOVE 40 mph ON MAJOR STREET)



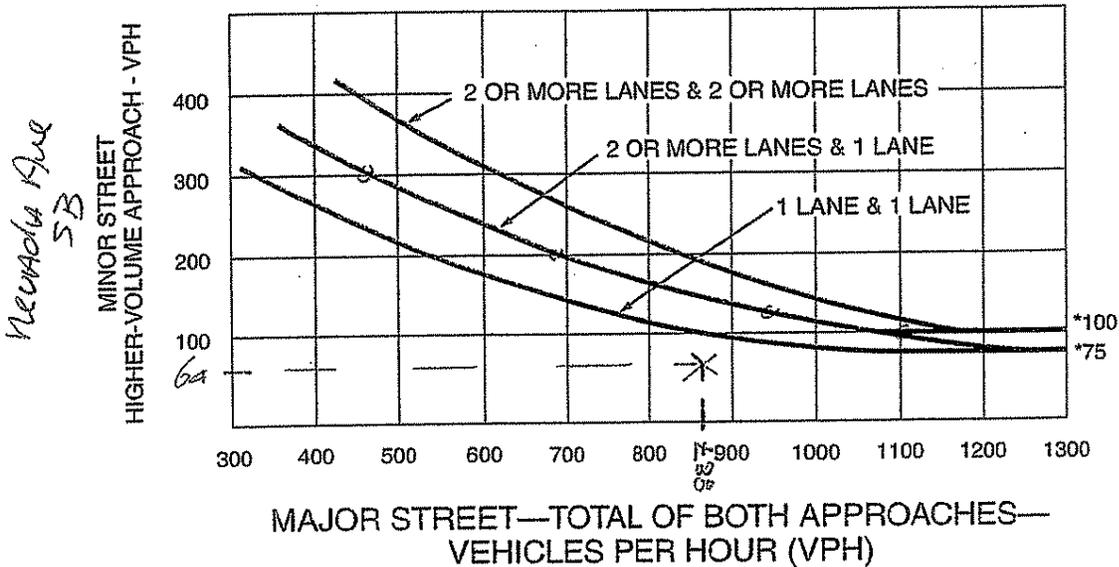
*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Telegraph Rd

Existing + Projected Traffic Volumes

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIST 07 Den CO Den RTE Den KPM Den

Major St: Wells Road Critical Approach Speed 65 km/h
 Minor St: Cavelos Streets Critical Approach Speed 40 km/h

CALC DC DATE 10.10.05
 CHK _____ DATE _____

Critical speed of major street traffic > 64 km/h (40 mph)..... OF } RURAL (R)
 In built up area of isolated community of < 10,000 population..... } URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)															
	U	R	U	R	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	
Both Approaches Major Street	500 (400)	350 (280)	800 (480)	420 (336)	1015	980	815	872	918	1474	1309	1234				
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	138	113	93	97	109	105	134	123	WB both lanes			

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)															
	U	R	U	R	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1015	980	815	872	918	1474	1309	1234				
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	138	113	93	97	109	105	134	123	WB both lanes			

Combination of Conditions A & B

SATISFIED YES NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES NO

Record hourly vehicular volumes for four hours.

APPROACH LANES			Hour			
	One	2 or More	8	11	4	6
Both Approaches - Major Street		<input checked="" type="checkbox"/>	1015	1474	1309	1234
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>		63	48	60	56

WB LT Lane only

*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes No

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES NO

PART A

SATISFIED YES NO

(All parts 1, 2, and 3 below must be satisfied)

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes No
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes No

PART B

SATISFIED YES NO

APPROACH LANES			Hour			
	One	2 or More	8	11	4	6
Both Approaches - Major Street		<input checked="" type="checkbox"/>	1300			
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>		60			

WB LT Lane only

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DIST _____ CO _____ RTE _____ KPM _____

CALC _____ DATE _____
 CHK _____ DATE _____

Major St: _____ Critical Approach Speed _____ km/h
 Minor St: _____ Critical Approach Speed _____ km/h

Critical speed of major street > 64 km/h (40 mph)..... }
 In built up area of isolated community of < 10,000 population..... } **RURAL (R)**
 } **URBAN (U)**

WARRANT 4 - Pedestrian Volume
 (All Parts Must Be Satisfied)

100% SATISFIED YES NO N.A.

Hours --->				
Pedestrian Volume				
Adequate Crossing Gaps				

Any hour > 190 Yes No

OR 4 hours > 100 Yes No

AND < 60 gap/hr Yes No

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft)

----- Yes No

AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street.

----- Yes No

WARRANT 5 - School Crossing
 (All Parts Must Be Satisfied)

SATISFIED YES NO N.A.

Part A
 Gap/Minutes and # of Children

Each of Two Hours ---->			
Gaps vs Minutes	Minutes Children Using Crossing		
	Number of Adequate Gaps		
School Age Pedestrians Crossing Street			

Gaps < Minutes SATISFIED YES NO

Children > 20/hr SATISFIED YES NO

Part B

Distance to Nearest Controlled Crossing

Is Nearest Controlled Crossing More Than 180 m (600 ft) away?

SATISFIED YES NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N <u>>300</u> m, S <u><300</u> m, E <u>N/A</u> m, W <u>N/A</u> m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 7 - Crash Warrant
(All Parts Must Be Satisfied)**

SATISFIED YES NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	OR Warrant 2 - Interruption of Continuous Traffic	✓	
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input checked="" type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input checked="" type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		FULFILLED
5 or More			<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 8 - Roadway Network
(All Parts Must Be Satisfied)**

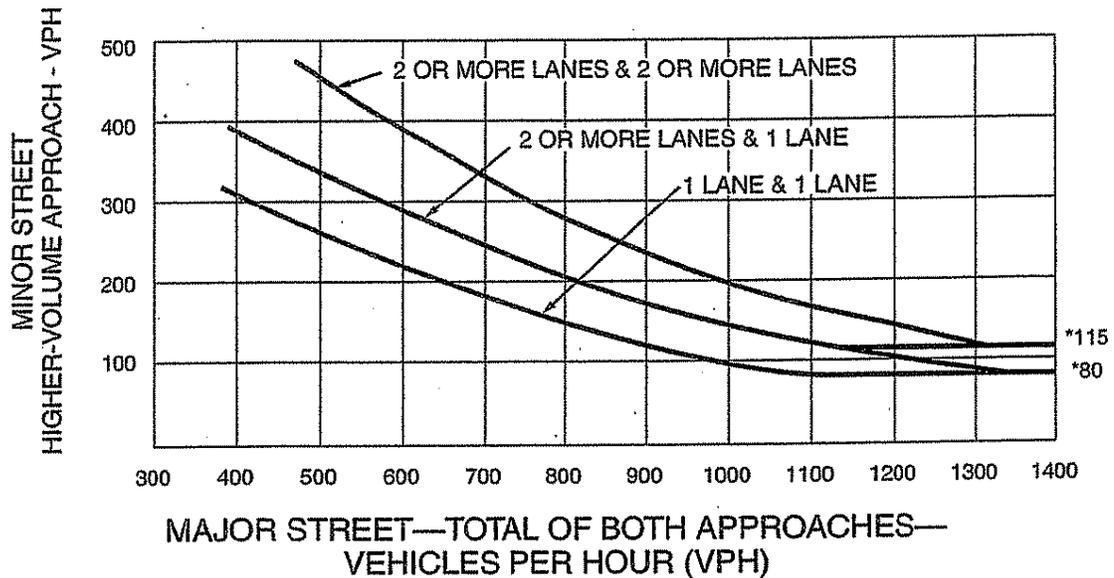
SATISFIED YES NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES		✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>1,400</u> Veh/Hr			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun _____ Veh/Hr			
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.	
Hwy. System Serving as Principal Network for Through Traffic				
Rural or Suburban Highway Outside Of, Entering, or Traversing a City				
Appears as Major Route on an Official Plan		✓		
Any Major Route Characteristics Met, Both Streets				<input type="checkbox"/> <input checked="" type="checkbox"/>

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

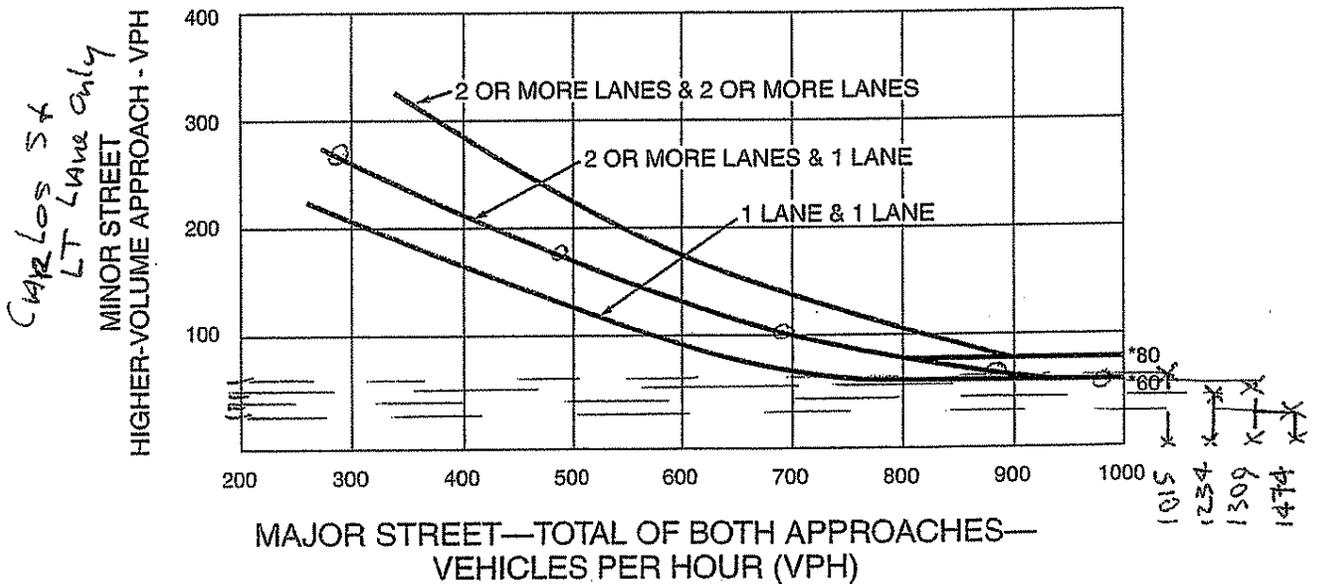
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Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

* **Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)**
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ⁶⁴~~70~~ km/h OR ABOVE 40 mph ON MAJOR STREET)

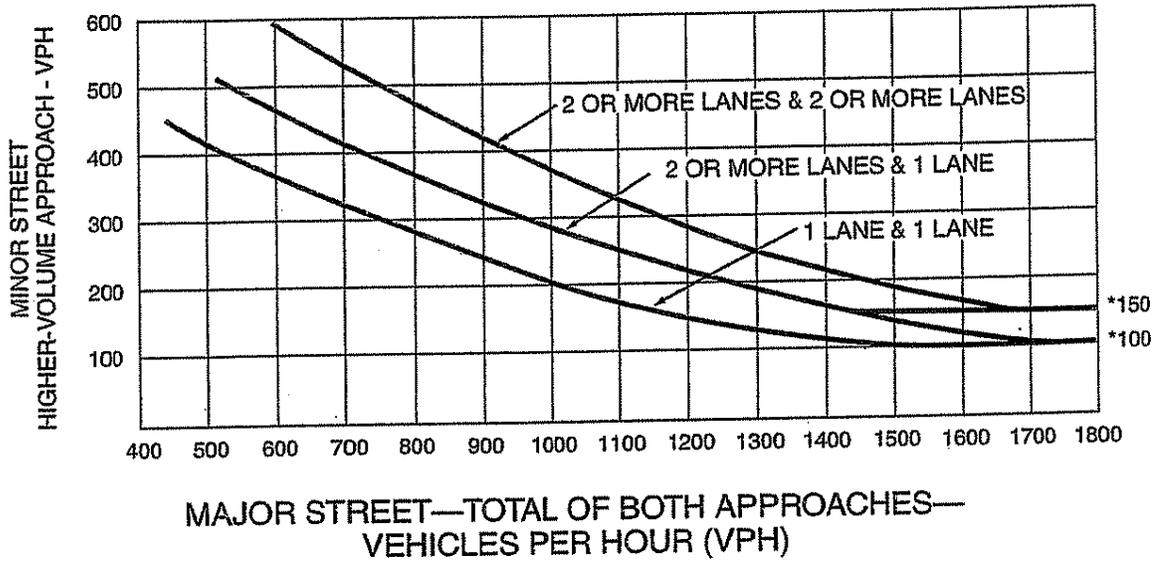


*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

wells Rd

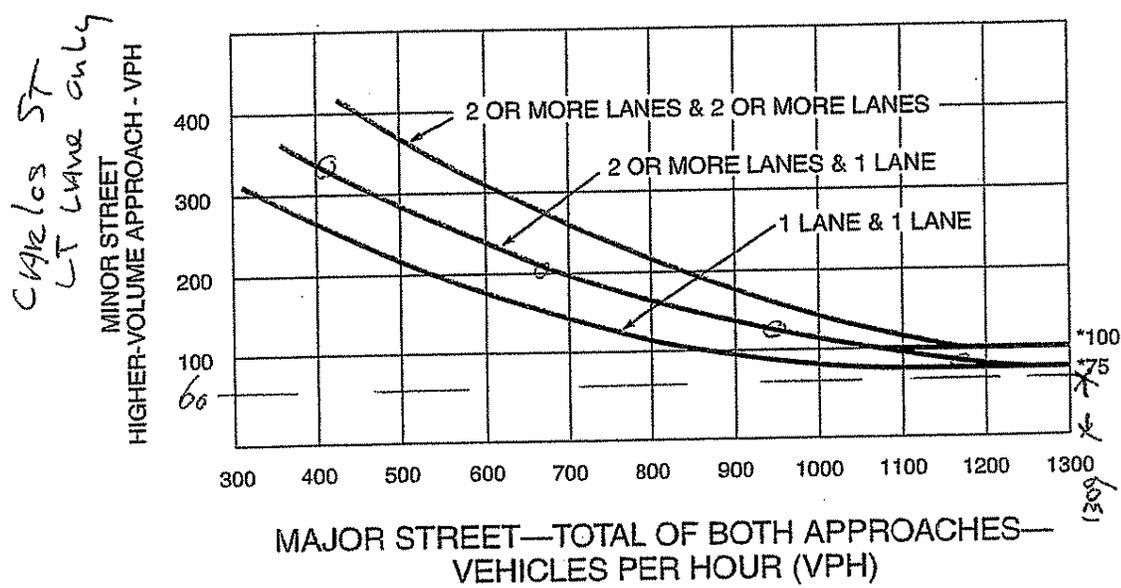
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Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Wells Rd

YEAR 2025 + Project Traffic Volumes

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

of Van _____ _____ _____
 DIST CO RTE KPM

CALC DL DATE 10-10-05
 CHK _____ DATE _____

Major St: Wells Rd Critical Approach Speed _____ km/hr
 Minor St: Carles St Critical Approach Speed _____ km/hr

Critical speed of major street traffic > 64 km/h (40 mph)..... }
 or } RURAL (R)
 In built up area of isolated community of < 10,000 population..... }
 URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)															
	U	R	U	U												
	1				2 or More				1 ^s / 2 ^a / 3 ^r / 4 th / 5 th / 6 th Hour							
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1161	1121	932	998	1050	1687	1497	1412	WB 2 lanes			
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	125	103	85	88	100	96	122	112	WB 2 lanes			

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES NO
 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)															
	U	R	U	U												
	1				2 or More				1 ^s / 2 ^a / 3 ^r / 4 th / 5 th / 6 th Hour							
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1161	1121	932	998	1050	1687	1497	1412	WB 2 lanes			
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	125	103	85	88	100	96	122	112	WB 2 lanes			

Combination of Conditions A & B SATISFIED YES NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES NO

Record hourly vehicular volumes for four hours.

APPROACH LANES			Hour			
	One	2 or More	1 ⁸	2 ¹	3 ⁵	4 ⁶
Both Approaches - Major Street		<input checked="" type="checkbox"/>	1161	1687	1497	1412
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>		63	48	60	56

WB LT Lane only

*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes No

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES NO

PART A

SATISFIED YES NO

(All parts 1, 2, and 3 below must be satisfied)

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes No
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes No

PART B

SATISFIED YES NO

APPROACH LANES			Hour			
	One	2 or More	1 ⁵	2	3	4
Both Approaches - Major Street		<input checked="" type="checkbox"/>	1497			
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>		60			

WB LT Lane only

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DIST _____ CO _____ RTE _____ KPM _____
 CALC _____ DATE _____
 CHK _____ DATE _____
 Major St: _____ Critical Approach Speed _____ km/h
 Minor St: _____ Critical Approach Speed _____ km/h
 Critical speed of major street > 64 km/h (40 mph)..... }
 In built up area of isolated community of < 10,000 population..... } **RURAL (R)**
 } **URBAN (U)**

WARRANT 4 - Pedestrian Volume
(All Parts Must Be Satisfied)

100% SATISFIED YES NO

Hours --->				
Pedestrian Volume				
Adequate Crossing Gaps				

Any hour > 190 Yes No
 OR 4 hours > 100 Yes No
 AND < 60 gap/hr Yes No

NA

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) ----- Yes No
 AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street. ----- Yes No

WARRANT 5 - School Crossing
(All Parts Must Be Satisfied)

SATISFIED YES NO

Part A
Gap/Minutes and # of Children

Each of Two Hours --->			
Gaps vs Minutes	Minutes Children Using Crossing		
	Number of Adequate Gaps		
School Age Pedestrians Crossing Street			

Gaps < Minutes SATISFIED YES NO
 Children > 20/hr SATISFIED YES NO

NA

Part B
Distance to Nearest Controlled Crossing

Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N <u>>300</u> m, S <u><300</u> m, E <u>N/A</u> m, W <u>N/A</u> m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 7 - Crash Warrant
(All Parts Must Be Satisfied)**

SATISFIED YES NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic	✓	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input checked="" type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input checked="" type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input checked="" type="checkbox"/>

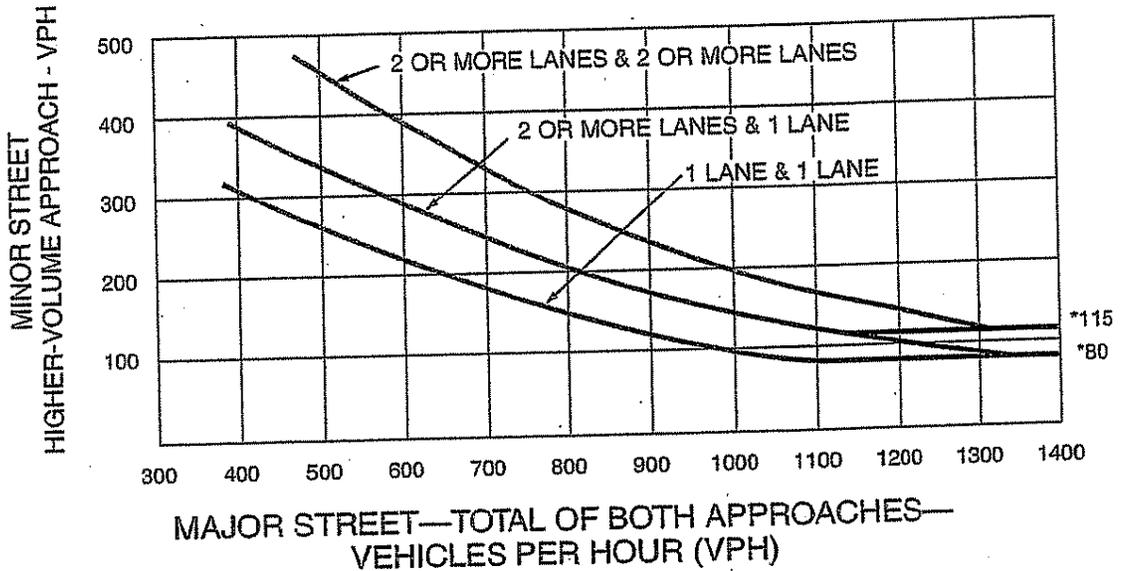
**WARRANT 8 - Roadway Network
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>>1000</u> Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun <u> </u> Veh/Hr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.
Hwy. System Serving as Principal Network for Through Traffic			
Rural or Suburban Highway Outside Of, Entering, or Traversing a City			
Appears as Major Route on an Official Plan		✓	
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

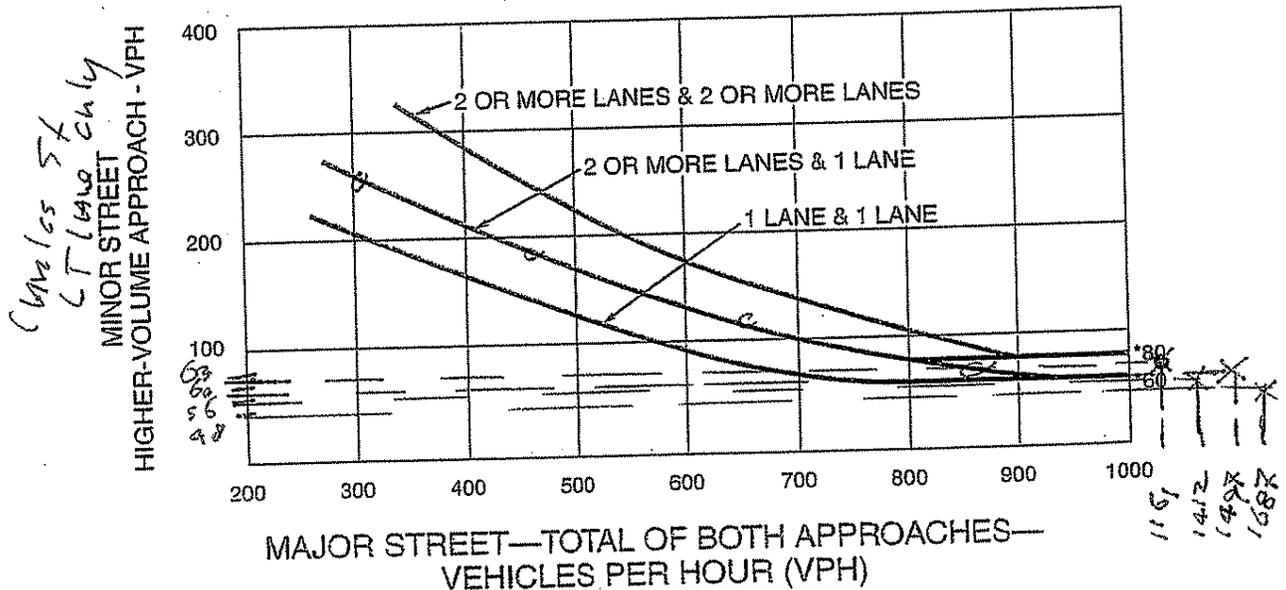
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

* → Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

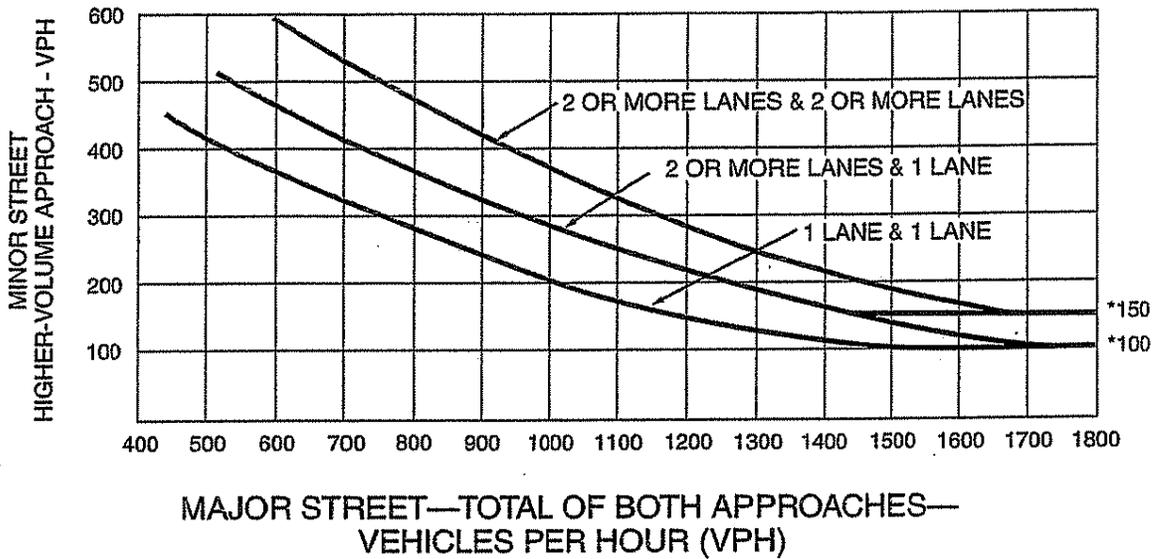


*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Wells Rd

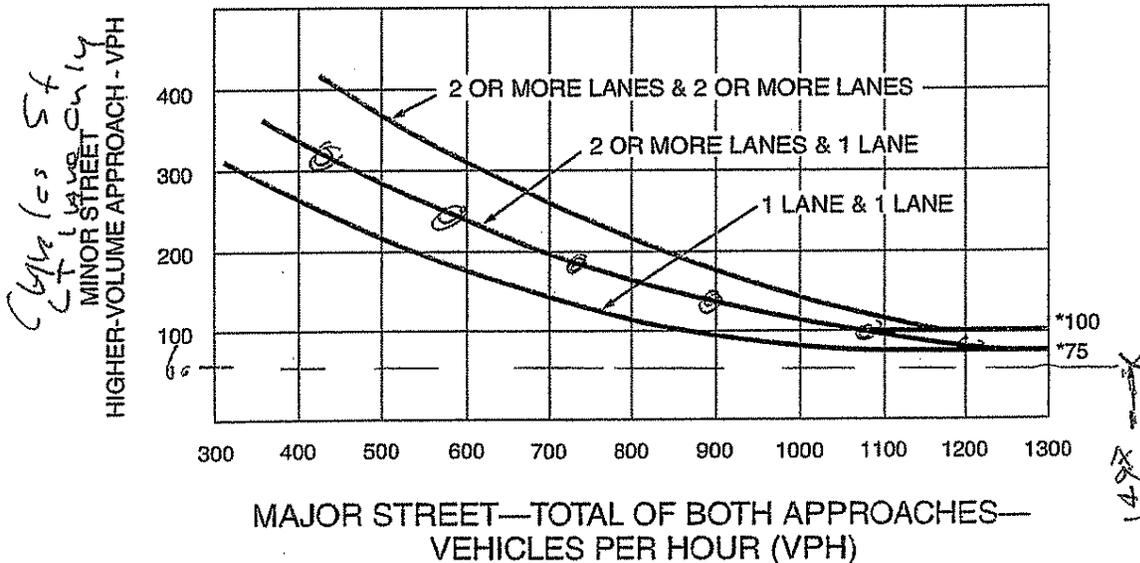
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Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ⁶⁴70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

- Reference 1. Foothill Road/Wells Road**
- Reference 2. Telegraph Road/Kimball Road**
- Reference 3. Telegraph Road/Petit Avenue**
- Reference 4. Telegraph Road/Saticoy Avenue**
- Reference 5. Telegraph Road/Nevada Avenue**
- Reference 6. Telegraph Road/Wells Road**
- Reference 7. Carlos Street/Wells Road**
- Reference 8. Citrus Dr-Blackburn Rd/Wells Road**
- Reference 9. State Route 126 WB Ramps/Wells Road**
- Reference 10. State Route 126 EB Ramps/Wells Road**
- Reference 11. Darling Road/Wells Road**
- Reference 12. Telephone Road/Kimball Road**
- Reference 13. Telephone Road/Montgomery Avenue**
- Reference 14. Telephone Road/Petit Avenue**
- Reference 15. Telephone Road/Saticoy Avenue**
- Reference 16. Telephone Road/Wells Road**
- Reference 17. Wells Road/Nardo Street**
- Reference 18. Los Angeles Avenue/Vineyard Avenue**

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01AM_EX
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: FOOTHILL ROAD	North/South Street: WELLS ROAD
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	30	70	60	60	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	30	70	60	60	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	60	0	30	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	60	0	30	0	0	0
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	0	60	60		30		0	
C (m) (veh/h)	1531	1480	719		1039			
v/c	0.00	0.04	0.08		0.03			
95% queue length	0.00	0.13	0.27		0.09			
Control Delay (s/veh)	7.4	7.5	10.5		8.6			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	9.8					
Approach LOS	--	--	A					

AWD = 8.9 sec. LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01PM_EX
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: FOOTHILL ROAD	North/South Street: WELLS ROAD
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	70	80	40	30	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	70	80	40	30	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	80	0	50	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	80	0	50	0	0	0
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	0	40	80		50		0	
C (m) (veh/h)	1570	1419	760		987			
v/c	0.00	0.03	0.11		0.05			
95% queue length	0.00	0.09	0.35		0.16			
Control Delay (s/veh)	7.3	7.6	10.3		8.8			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	9.7					
Approach LOS	--	--	A					

AWD = 9.2 sec. / LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01AM_EX+PR
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		
Project Description PARKLANDS PROJECT - 08088			
East/West Street: FOOTHILL ROAD		North/South Street: WELLS ROAD	
Intersection Orientation: East-West		Study Period (hrs): 1.00	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	30	71	61	60	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	30	71	61	60	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	63	0	33	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	63	0	33	0	0	0
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	0	61	63		33		0	
C (m) (veh/h)	1531	1479	717		1039			
v/c	0.00	0.04	0.09		0.03			
95% queue length	0.00	0.13	0.29		0.10			
Control Delay (s/veh)	7.4	7.5	10.5		8.6			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	9.8					
Approach LOS	--	--	A					

AWD = 8.7 sec. / LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	MMF		Intersection	01PM_EX+PR	
Agency/Co.	ATE		Jurisdiction	CITY OF VENTURA	
Date Performed	08/14/2008		Analysis Year	EXISTING+PROJECT	
Analysis Time Period	P.M. PEAK HOUR				
Project Description <i>PARKLANDS PROJECT - 08088</i>					
East/West Street: <i>FOOTHILL ROAD</i>			North/South Street: <i>WELLS ROAD</i>		
Intersection Orientation: <i>East-West</i>			Study Period (hrs): <i>1.00</i>		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	0	70	83	43	30	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	70	83	43	30	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	85	0	55	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	85	0	55	0	0	0
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	0	43	85		55		0	
C (m) (veh/h)	1570	1415	752		987			
v/c	0.00	0.03	0.11		0.06			
95% queue length	0.00	0.09	0.38		0.18			
Control Delay (s/veh)	7.3	7.6	10.4		8.9			
LOS	A	A	B		A			
Approach Delay (s/veh)	--	--	9.8					
Approach LOS	--	--	A					

AWD = 9.3 sec. / LOS A

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01AM_2025
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	YEAR 2025
Analysis Time Period	A.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: FOOTHILL ROAD	North/South Street: WELLS ROAD
Intersection Orientation: North-South	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	57	0	27	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	30	69	59	60	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR	LTR		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	30	69	59	60	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	57	0	27
Percent Heavy Vehicles	4	0	0	4	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	L	LTR		LTR		LT		R	
v (veh/h)	57	0		119		30		69	
C (m) (veh/h)	1610	1574		713		727		1091	
v/c	0.04	0.00		0.17		0.04		0.06	
95% queue length	0.11	0.00		0.60		0.13		0.20	
Control Delay (s/veh)	7.3	7.3		11.1		10.2		8.5	
LOS	A	A		B		B		A	
Approach Delay (s/veh)	--	--		11.1			9.0		
Approach LOS	--	--		B			A		

AWD = 9.7 sec. / LOS A

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01AM_2025+PR
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: FOOTHILL ROAD	North/South Street: WELLS ROAD
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	50	70	50	300	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	50	70	50	300	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	90	10	40	10	10	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	90	10	40	10	10	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	10	50	90		50		30	
C (m) (veh/h)	1239	1455	456		815		486	
v/c	0.01	0.03	0.20		0.06		0.06	
95% queue length	0.02	0.11	0.73		0.20		0.20	
Control Delay (s/veh)	7.9	7.6	14.8		9.7		12.9	
LOS	A	A	B		A		B	
Approach Delay (s/veh)	--	--	13.0			12.9		
Approach LOS	--	--	B			B		

AWD = 11.6 sec / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01PM_2025
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	YEAR 2025
Analysis Time Period	P.M. PEAK HOUR		

Project Description <i>PARKLANDS PROJECT - 08088</i>	
East/West Street: <i>FOOTHILL ROAD</i>	North/South Street: <i>WELLS ROAD</i>
Intersection Orientation: <i>East-West</i>	Study Period (hrs): <i>1.00</i>

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	210	127	27	60	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	210	127	27	60	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	<i>LT</i>		<i>R</i>	<i>LTR</i>		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	105	10	75	10	10	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	105	10	75	10	10	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		<i>N</i>			<i>N</i>	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	<i>L</i>		<i>TR</i>		<i>LTR</i>	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	<i>LT</i>	<i>LTR</i>	<i>L</i>		<i>TR</i>		<i>LTR</i>	
v (veh/h)	10	27	105		85		30	
C (m) (veh/h)	1518	1211	564		779		559	
v/c	0.01	0.02	0.19		0.11		0.05	
95% queue length	0.02	0.07	0.68		0.37		0.17	
Control Delay (s/veh)	7.4	8.0	12.8		10.2		11.8	
LOS	<i>A</i>	<i>A</i>	<i>B</i>		<i>B</i>		<i>B</i>	
Approach Delay (s/veh)	--	--	11.7			11.8		
Approach LOS	--	--	<i>B</i>			<i>B</i>		

AWD = 11.1 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	01PM_2025+PR
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	08/14/2008	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: FOOTHILL ROAD	North/South Street: WELLS ROAD
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	210	130	30	60	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	210	130	30	60	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	110	10	80	10	10	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	110	10	80	10	10	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT	LTR	L		TR		LTR	
v (veh/h)	10	30	110		90		30	
C (m) (veh/h)	1518	1208	557		780		550	
v/c	0.01	0.02	0.20		0.12		0.05	
95% queue length	0.02	0.08	0.74		0.39		0.17	
Control Delay (s/veh)	7.4	8.1	13.1		10.2		11.9	
LOS	A	A	B		B		B	
Approach Delay (s/veh)	--	--	11.8			11.9		
Approach LOS	--	--	B			B		

AWD = 11.2 sec. / LOS B

51

PARKLANDS #08088

REFERENCE #02AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: KIMBALL ROAD
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	150	110	80	40	170	20	20	170	80	200	290	20
(B) PROJECT	0	0	2	2	0	0	0	11	0	4	43	2
(C) CUMULATIVE	180	90	88	18	190	30	20	169	70	196	337	8

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	LL	TT	R	L	TT	R	L	TT	R	LL	TT	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)
 SCENARIO 3: CUMULATIVE (C)
 SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	2	3200	150	150	160	160	0.05 *	0.05 *	0.05 *	0.05 *		
NBT	2	3200	110	110	90	90	0.03	0.03	0.03	0.03		
NBR	1	1600	80	82	88	90	0.05	0.05	0.06	0.06		
SBL	1	1600	40	42	18	20	0.03	0.03	0.01	0.01		
SBT	2	3200	170	170	190	190	0.05 *	0.05 *	0.06 *	0.06 *		
SBR	1	1600	20	20	30	30	0.01	0.01	0.02	0.02		
EBL	1	1600	20	20	20	20	0.01	0.01	0.01 *	0.01 *		
EBT	2	3200	170	181	169	180	0.05 *	0.06 *	0.05	0.06		
EBR (a)	1	1600	80	80	70	70	0.05	0.05	0.04	0.04		
WBL	2	3200	200	204	196	200	0.06 *	0.06 *	0.06	0.06		
WBT	2	3200	290	333	337	380	0.09	0.10	0.11 *	0.12 *		
WBR	1	1600	20	22	8	10	0.01	0.01	0.01	0.01		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							--	--	--	--		
							0.21	0.22	0.23	0.24		
							A	A	A	A		

NOTES:

(a) NOT CRITICAL DUE TO RTOR

MMF
08/14/08

PARKLANDS #08088

REFERENCE #02PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE:

TIME PERIOD: P.M.

N/S STREET: KIMBALL ROAD

E/W STREET: TELEGRAPH ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	150	190	180	60	150	30	20	440	230	160	240	30
(B) PROJECT	0	0	6	2	0	0	0	45	0	4	27	1
(C) CUMULATIVE	100	180	174	58	180	30	30	515	230	126	283	29

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	LL	TT	R	L	TT	R	L	TT	R	LL	TT	R

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	2	3200	150	150	100	100	0.05	0.05	0.03	0.03		
NBT	2	3200	190	190	180	180	0.06	0.06	0.06	0.06		
NBR (a)	1	1600	108	112	122	126	0.07 *	0.07 *	0.08 *	0.08 *		
SBL	1	1600	60	62	58	60	0.04 *	0.04 *	0.04 *	0.04 *		
SBT	2	3200	150	150	180	180	0.05	0.05	0.06	0.06		
SBR	1	1600	30	30	30	30	0.02	0.02	0.02	0.02		
EBL	1	1600	20	20	30	30	0.01	0.01	0.02	0.02		
EBT	2	3200	440	485	515	560	0.14 *	0.15 *	0.16 *	0.18 *		
EBR	1	1600	230	230	230	230	0.14	0.14	0.14	0.14		
WBL	2	3200	160	164	126	130	0.05 *	0.05 *	0.04 *	0.04 *		
WBT	2	3200	240	267	283	310	0.08	0.08	0.09	0.10		
WBR	1	1600	30	31	29	30	0.02	0.02	0.02	0.02		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							--	--	--	--		
							0.30	0.31	0.32	0.34		
							A	A	A	A		

NOTES:

(a) 40% RTOR EX / 30% RTOR YEAR 2025

MMF
08/14/08

PARKLANDS #08088

REFERENCE #03AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: PETIT AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	70	20	10	20	10	30	10	300	50	10	420	10
(B) PROJECT	0	0	1	1	0	0	0	16	0	2	51	2
(C) CUMULATIVE	80	10	9	29	20	30	10	244	60	8	419	8

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	70	70	80	80	0.04 *	0.04 *	0.05 *	0.05 *		
NBT	1	1600	20	20	10	10	0.01	0.01	0.01	0.01		
NBR	1	1600	10	11	9	10	0.01	0.01	0.01	0.01		
SBL	1	1600	20	21	29	30	0.01	0.01	0.02	0.02		
SBT	1	1600	10	10	20	20	0.03 *	0.03 *	0.03 *	0.03 *		
SBR	0	0	30	30	30	30	0.00	0.00	0.00	0.00		
EBL	1	1600	10	10	10	10	0.01 *	0.01 *	0.01 *	0.01 *		
EBT	2	3200	300	316	244	260	0.09	0.10	0.08	0.08		
EBR	1	1600	50	50	60	60	0.03	0.03	0.04	0.04		
WBL	1	1600	10	12	8	10	0.01	0.01	0.01	0.01		
WBT	1	1600	420	471	419	470	0.26 *	0.29 *	0.26 *	0.29 *		
WBR	1	1600	10	12	8	10	0.01	0.01	0.01	0.01		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.34	0.37	0.35	0.38		
							A	A	A	A		

NOTES:

PARKLANDS #08088

REFERENCE #03PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: PETIT AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	40	10	20	20	20	20	10	460	90	10	270	30
(B) PROJECT	0	0	2	3	0	0	0	53	0	0	32	1
(C) CUMULATIVE	40	10	8	17	20	20	10	517	90	10	268	19

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)
 SCENARIO 3: CUMULATIVE (C)
 SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	40	40	40	40	0.03 *	0.03 *	0.03 *	0.03 *		
NBT	1	1600	10	10	10	10	0.01	0.01	0.01	0.01		
NBR	1	1600	20	22	8	10	0.01	0.01	0.01	0.01		
SBL	1	1600	20	23	17	20	0.01	0.01	0.01	0.01		
SBT	1	1600	20	20	20	20	0.03 *	0.03 *	0.03 *	0.03 *		
SBR	0	0	20	20	20	20	0.00	0.00	0.00	0.00		
EBL	1	1600	10	10	10	10	0.01 *	0.01 *	0.01 *	0.01 *		
EBT	2	3200	460	513	517	570	0.14	0.16	0.16	0.18		
EBR	1	1600	90	90	90	90	0.06	0.06	0.06	0.06		
WBL	1	1600	10	10	10	10	0.01	0.01	0.01	0.01		
WBT	1	1600	270	302	268	300	0.17 *	0.19 *	0.17 *	0.19 *		
WBR	1	1600	30	31	19	20	0.02	0.02	0.01	0.01		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.24 A	0.26 A	0.24 A	0.26 A		

NOTES:

PARKLANDS #08088

REFERENCE #04EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	140	80	40	10	60	50	20	220	90	50	220	10
(B) PROJECT	0	0	1	1	0	0	0	19	0	3	57	2

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	140	140	0.09 *	0.09 *				
NBT	1	1600	80	80	0.08	0.08				
NBR	0	0	40	41	0.00	0.00				
SBL	1	1600	10	11	0.01	0.01				
SBT	1	1600	60	60	0.07 *	0.07 *				
SBR	0	0	50	50	0.00	0.00				
EBL	1	1600	20	20	0.01	0.01				
EBT	1	1600	220	239	0.19 *	0.21 *				
EBR	0	0	90	90	0.00	0.00				
WBL	1	1600	50	53	0.03 *	0.03 *				
WBT	1	1600	220	277	0.14	0.17				
WBR	1	1600	10	12	0.01	0.01				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.38 A	0.40 A				

NOTES:

MMF
08/14/08

PARKLANDS #08088

REFERENCE #04EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	50	40	30	10	40	20	20	340	110	30	250	10
(B) PROJECT	0	0	15	5	0	0	0	58	0	9	36	5

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	1	1600	50	50	0.03 *	0.03 *						
NBT	1	1600	40	40	0.04	0.05						
NBR	0	0	30	45	0.00	0.00						
SBL	1	1600	10	15	0.01	0.01						
SBT	1	1600	40	40	0.04 *	0.04 *						
SBR	0	0	20	20	0.00	0.00						
EBL	1	1600	20	20	0.01	0.01						
EBT	1	1600	340	398	0.28 *	0.32 *						
EBR	0	0	110	110	0.00	0.00						
WBL	1	1600	30	39	0.02 *	0.02 *						
WBT	1	1600	250	286	0.16	0.18						
WBR	1	1600	10	15	0.01	0.01						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.37 A	0.41 A				

NOTES:

MMF
08/14/08

PARKLANDS #08088

REFERENCE #04CUM_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL (W/ N/S SPLIT PHASING)

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	190	80	39	9	100	60	30	131	100	48	143	8
(B) PROJECT	0	0	1	1	0	0	0	19	0	2	57	2

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	R	L	R	L	R	L	R

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	0	0	190	190	0.00	0.00						
NBT	1	1600	80	80	0.19 *	0.19 *						
NBR	0	0	39	40	0.00	0.00						
SBL	0	0	9	10	0.00	0.00						
SBT	1	1600	100	100	0.11 *	0.11 *						
SBR	0	0	60	60	0.00	0.00						
EBL	1	1600	30	30	0.02	0.02						
EBT	1	1600	131	150	0.14 *	0.16 *						
EBR	0	0	100	100	0.00	0.00						
WBL	1	1600	48	50	0.03 *	0.03 *						
WBT	1	1600	143	200	0.09	0.13						
WBR	1	1600	8	10	0.01	0.01						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.47 A	0.49 A						

NOTES:

PARKLANDS #08088

REFERENCE #04CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL (W/ N/S SPLIT PHASING)

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	130	60	5	5	40	20	50	242	210	11	164	5
(B) PROJECT	0	0	15	5	0	0	0	58	0	9	36	5

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND LTR	SOUTH BOUND LTR	EAST BOUND L TR	WEST BOUND L T R
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TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	0	0	130	130	0.00	0.00				
NBT	1	1600	60	60	0.12 *	0.13 *				
NBR	0	0	5	20	0.00	0.00				
SBL	0	0	5	10	0.00	0.00				
SBT	1	1600	40	40	0.04 *	0.04 *				
SBR	0	0	20	20	0.00	0.00				
EBL	1	1600	50	50	0.03	0.03				
EBT	1	1600	242	300	0.28 *	0.32 *				
EBR	0	0	210	210	0.00	0.00				
WBL	1	1600	11	20	0.01 *	0.01 *				
WBT	1	1600	164	200	0.10	0.13				
WBR	1	1600	5	10	0.00	0.01				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--				
					0.45	0.50				
					A	A				

NOTES:

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_EX_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		

Project Description		PARKLANDS PROJECT - 08088
East/West Street:	TELEGRAPH ROAD	North/South Street: NEVADA AVENUE
Intersection Orientation:	East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	280	0	0	300	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	280	0	0	300	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	1
Configuration	L		TR	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	40	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	40	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	0	0		0		50	
C (m) (veh/h)	1239	1271			754		629	
v/c	0.01	0.00			0.00		0.08	
95% queue length	0.02	0.00			0.00		0.26	
Control Delay (s/veh)	7.9	7.8			9.8		11.2	
LOS	A	A			A		B	
Approach Delay (s/veh)	--	--					11.2	
Approach LOS	--	--					B	

AWD = 10.7 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	MMF		Intersection	05_EX+PR_AM	
Agency/Co.	ATE		Jurisdiction	CITY OF VENTURA	
Date Performed	9/28/2005		Analysis Year	EXISTING+PROJECT	
Analysis Time Period	A.M. PEAK HOUR				
Project Description			PARKLANDS PROJECT - 08088		
East/West Street:			TELEGRAPH ROAD		
Intersection Orientation:			East-West		
			North/South Street: NEVADA AVENUE		
			Study Period (hrs): 1.00		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	290	8	4	316	11
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	290	8	4	316	11
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	1	1	1
Configuration	L		TR	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	46	0	10	42	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	46	0	10	42	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	4	46		10		52	
C (m) (veh/h)	1221	1252	575		741		603	
v/c	0.01	0.00	0.08		0.01		0.09	
95% queue length	0.02	0.01	0.26		0.04		0.28	
Control Delay (s/veh)	8.0	7.9	11.8		9.9		11.5	
LOS	A	A	B		A		B	
Approach Delay (s/veh)	--	--	11.5			11.5		
Approach LOS	--	--	B			B		

AWD = 11.1 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_EX_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		
Project Description <i>PARKLANDS PROJECT - 08088</i>			
East/West Street: <i>TELEGRAPH ROAD</i>		North/South Street: <i>NEVADA AVENUE</i>	
Intersection Orientation: <i>East-West</i>		Study Period (hrs): <i>1.00</i>	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	20	420	0	0	280	30
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	20	420	0	0	280	30
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Two Way Left Turn Lane</i>					
RT Channelized			0			0
Lanes	1	1	0	1	1	1
Configuration	L		TR	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	30	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	30	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	20	0	0		0		40	
C (m) (veh/h)	1239	1128			629		568	
v/c	0.02	0.00			0.00		0.07	
95% queue length	0.05	0.00			0.00		0.23	
Control Delay (s/veh)	8.0	8.2			10.7		11.8	
LOS	A	A			B		B	
Approach Delay (s/veh)	--	--					11.8	
Approach LOS	--	--					B	

AWD = 10.5 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_EX+PR_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING+PROJECT
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: TELEGRAPH ROAD	North/South Street: NEVADA AVENUE
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	20	461	30	16	306	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	20	461	30	16	306	34
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Two Way Left Turn Lane</i>					
RT Channelized			0			0
Lanes	1	1	0	1	1	1
Configuration	L		TR	L	T	R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	30	1	12	32	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	30	1	12	32	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	20	16	31		12		42	
C (m) (veh/h)	1208	1062	470		585		503	
v/c	0.02	0.02	0.07		0.02		0.08	
95% queue length	0.05	0.05	0.21		0.06		0.27	
Control Delay (s/veh)	8.0	8.4	13.2		11.3		12.8	
LOS	A	A	B		B		B	
Approach Delay (s/veh)	--	--	12.7			12.8		
Approach LOS	--	--	B			B		

AWD = 11.4 sec. / LOS B

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_CU_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025
Analysis Time Period	A.M. PEAK HOUR		
Project Description PARKLANDS PROJECT - 08088			
East/West Street: TELEGRAPH ROAD		North/South Street: NEVADA AVENUE	
Intersection Orientation: East-West		Study Period (hrs): 1.00	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	190	0	0	264	19
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	190	0	0	264	19
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	38	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	38	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	0	0		0		48	
C (m) (veh/h)	1268	1372			847		680	
v/c	0.01	0.00			0.00		0.07	
95% queue length	0.02	0.00			0.00		0.23	
Control Delay (s/veh)	7.9	7.6			9.3		10.7	
LOS	A	A			A		B	
Approach Delay (s/veh)	--	--					10.7	
Approach LOS	--	--					B	

AWD = 10.2 sec. LOS B

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	MMF		Intersection	05_CU_PM	
Agency/Co.	ATE		Jurisdiction	CITY OF VENTURA	
Date Performed	9/28/2005		Analysis Year	YEAR 2025	
Analysis Time Period	P.M. PEAK HOUR				
Project Description <i>PARKLANDS PROJECT - 08088</i>					
East/West Street: <i>TELEGRAPH ROAD</i>			North/South Street: <i>NEVADA AVENUE</i>		
Intersection Orientation: <i>East-West</i>			Study Period (hrs): <i>1.00</i>		

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	259	0	0	144	6
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	259	0	0	144	6
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	38	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	38	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	0	0		0		48	
C (m) (veh/h)	1414	1288			889		789	
v/c	0.01	0.00			0.00		0.06	
95% queue length	0.02	0.00			0.00		0.19	
Control Delay (s/veh)	7.6	7.8			9.0		9.9	
LOS	A	A			A		A	
Approach Delay (s/veh)	--	--					9.9	
Approach LOS	--	--					A	

AWD = 9.5 sec. LOS A

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_CU+PR_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	A.M. PEAK HOUR		
Project Description PARKLANDS PROJECT - 08088			
East/West Street: TELEGRAPH ROAD		North/South Street: NEVADA AVENUE	
Intersection Orientation: East-West		Study Period (hrs): 1.00	

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	200	8	4	280	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	200	8	4	280	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	46	0	10	40	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	46	0	10	40	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	4	46		10		50	
C (m) (veh/h)	1260	1351	628		832		656	
v/c	0.01	0.00	0.07		0.01		0.08	
95% queue length	0.02	0.01	0.24		0.04		0.25	
Control Delay (s/veh)	7.9	7.7	11.2		9.4		10.9	
LOS	A	A	B		A		B	
Approach Delay (s/veh)	--	--	10.9			10.9		
Approach LOS	--	--	B			B		

AND = 10.5 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	05_CU+PR_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: TELEGRAPH ROAD	North/South Street: NEVADA AVENUE
Intersection Orientation: East-West	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	10	300	30	16	270	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	10	300	30	16	270	10
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	30	1	12	40	0	10
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	30	1	12	40	0	10
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	1	0	1	0
Configuration	LT		R		LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	10	16	31		12		50	
C (m) (veh/h)	1265	1212	599		844		655	
v/c	0.01	0.01	0.05		0.01		0.08	
95% queue length	0.02	0.04	0.16		0.04		0.25	
Control Delay (s/veh)	7.9	8.0	11.3		9.3		11.0	
LOS	A	A	B		A		B	
Approach Delay (s/veh)	--	--	10.8			11.0		
Approach LOS	--	--	B			B		

AWD = 10.2 sec. LOS B

PARKLANDS #08088

REFERENCE #06_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: A.M.

N/S STREET: WELLS ROAD

E/W STREET: TELEGRAPH ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	150	110	60	10	250	40	20	70	220	170	140	30
(B) PROJECT	6	2	2	0	3	1	15	1	6	2	1	0
(C) CUMULATIVE	44	98	48	10	207	39	5	59	154	238	199	20

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	150	156	44	50	0.09 *	0.10 *	0.03 *	0.03 *		
NBT	1	1600	110	112	98	100	0.07	0.07	0.06	0.06		
NBR	1	1600	60	62	48	50	0.04	0.04	0.03	0.03		
SBL	1	1600	10	10	10	10	0.01	0.01	0.01	0.01		
SBT	1	1600	250	253	207	210	0.16 *	0.16 *	0.13 *	0.13 *		
SBR	1	1600	40	41	39	40	0.03	0.03	0.02	0.03		
EBL	1	1600	20	35	5	20	0.01	0.02	0.00	0.01		
EBT	1	1600	70	71	59	60	0.18 *	0.19 *	0.13 *	0.14 *		
EBR	0	0	220	226	154	160	0.00	0.00	0.00	0.00		
WBL	1	1600	170	172	238	240	0.11 *	0.11 *	0.15 *	0.15 *		
WBT	1	1600	140	141	199	200	0.11	0.11	0.14	0.14		
WBR	0	0	30	30	20	20	0.00	0.00	0.00	0.00		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							--	--	--	--		
							0.54	0.56	0.44	0.45		
							A	A	A	A		

NOTES:

PARKLANDS #08088

REFERENCE #06_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: WELLS ROAD
 E/W STREET: TELEGRAPH ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	230	220	170	20	160	20	40	140	180	120	120	20
(B) PROJECT	21	5	4	0	7	2	24	1	4	6	2	0
(C) CUMULATIVE	119	255	206	30	163	28	16	219	76	104	108	30

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)
 SCENARIO 3: CUMULATIVE (C)
 SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	1	1600	230	251	119	140	0.14 *	0.16 *	0.07 *	0.09 *
NBT	1	1600	220	225	255	260	0.14	0.14	0.16	0.16
NBR	1	1600	170	174	206	210	0.11	0.11	0.13	0.13
SBL	1	1600	20	20	30	30	0.01	0.01	0.02	0.02
SBT	1	1600	180	167	163	170	0.10 *	0.10 *	0.10 *	0.11 *
SBR	1	1600	20	22	28	30	0.01	0.01	0.02	0.02
EBL	1	1600	40	64	16	40	0.03	0.04	0.01	0.03
EBT	1	1600	140	141	219	220	0.20 *	0.20 *	0.18 *	0.19 *
EBR	0	0	180	184	76	80	0.00	0.00	0.00	0.00
WBL	1	1600	120	126	104	110	0.08 *	0.08 *	0.07 *	0.07 *
WBT	1	1600	120	122	108	110	0.09	0.09	0.09	0.09
WBR	0	0	20	20	30	30	0.00	0.00	0.00	0.00
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.52 A	0.54 A	0.42 A	0.46 A

NOTES:

MMF
08/14/08

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_EX_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		
Project Description <i>PARKLANDS PROJECT - 08088</i>			
East/West Street: <i>CARLOS STREET</i>		North/South Street: <i>WELLS ROAD</i>	
Intersection Orientation: <i>North-South</i>		Study Period (hrs): <i>1.00</i>	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		360	20	40	570	1.00
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	90	0	40
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	0	2	1	1	1	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				90		40
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	570	0	0	360	20
Percent Heavy Vehicles	4	0	0	4	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		40	90		40			
C (m) (veh/h)		1161	427		826			
v/c		0.03	0.21		0.05			
95% queue length		0.11	0.80		0.15			
Control Delay (s/veh)		8.2	15.7		9.6			
LOS		A	C		A			
Approach Delay (s/veh)	--	--	13.8					
Approach LOS	--	--	B					

AWD = 12.5 sec / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_EX+PR_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project Description		PARKLANDS PROJECT - 08088	
East/West Street:		CARLOS STREET	
Intersection Orientation:		North-South	
North/South Street:		WELLS ROAD	
Study Period (hrs):		1.00	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	11	371	20	40	619	2
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	3	0	32	90	0	40
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	1	1	2	0
Configuration	L	T	R	L	T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	3	0	32	90	0	40
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	619	2	11	371	20
Percent Heavy Vehicles	4	0	0	4	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR

Delay, Queue Length, and Level of Service									
Approach	Northbound		Southbound		Westbound			Eastbound	
	1	4	7	8	9	10	11	12	
Movement	L	L	L		TR		LTR		
v (veh/h)	11	40	90		40		35		
C (m) (veh/h)	942	1150	471		818		641		
v/c	0.01	0.03	0.19		0.05		0.05		
95% queue length	0.04	0.11	0.71		0.15		0.17		
Control Delay (s/veh)	8.9	8.2	14.4		9.6		10.9		
LOS	A	A	B		A		B		
Approach Delay (s/veh)	--	--	13.0			10.9			
Approach LOS	--	--	B			B			

AWD = 11.5 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_EX_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: CARLOS STREET	North/South Street: WELLS ROAD
Intersection Orientation: North-South	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)		620	60	40	500	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	60	0	60
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	1	1	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)				60		60
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	500	0	0	620	60
Percent Heavy Vehicles	4	0	0	4	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement		L	L		R			
Lane Configuration		40	60		60			
v (veh/h)		895	398		680			
C (m) (veh/h)		0.04	0.15		0.09			
v/c		0.14	0.53		0.29			
95% queue length		9.2	15.6		10.8			
Control Delay (s/veh)		A	C		B			
LOS				13.2				
Approach Delay (s/veh)	--	--		B				
Approach LOS	--	--		B				

AWD = 12.2 sec / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_EX+PR_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	EXISTING+PROJECT
Analysis Time Period	P.M. PEAK HOUR		
Project Description <i>PARKLANDS PROJECT - 08088</i>			
East/West Street: <i>CARLOS STREET</i>		North/South Street: <i>WELLS ROAD</i>	
Intersection Orientation: <i>North-South</i>		Study Period (hrs): <i>1.00</i>	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	30	686	60	42	551	2
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	6	0	24	60	0	60
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	2	1	1	2	0
Configuration	L	T	R	L	T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	6	0	24	60	1.00	60
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	42	551	2	30	686	60
Percent Heavy Vehicles	4	0	0	4	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	1	0	1
Configuration		LTR		L		R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	L		R		LTR	
v (veh/h)	30	42	60		60		30	
C (m) (veh/h)	999	845	329		647		600	
v/c	0.03	0.05	0.18		0.09		0.05	
95% queue length	0.09	0.16	0.67		0.31		0.16	
Control Delay (s/veh)	8.7	9.5	18.4		11.1		11.3	
LOS	A	A	C		B		B	
Approach Delay (s/veh)	--	--	14.8			11.3		
Approach LOS	--	--	B			B		

AWD = 12.5 sec. / LOS

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_YEAR 2025_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025
Analysis Time Period	A.M. PEAK HOUR		

Project Description <i>PARKLANDS PROJECT - 08088</i>	
East/West Street: <i>CARLOS STREET</i>	North/South Street: <i>WELLS ROAD</i>
Intersection Orientation: <i>North-South</i>	Study Period (hrs): <i>1.00</i>

Vehicle Volumes and Adjustments

Major Street Movement	Northbound			Southbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		349	20	40	521	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	90	0	40
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	0	2	1	1	1	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street Movement	Eastbound			Westbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				90		40
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	521	0	0	349	20
Percent Heavy Vehicles	4	0	0	4	0	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement								
Lane Configuration		L	L		R			
v (veh/h)		40	90		40			
C (m) (veh/h)		1172	452		833			
v/c		0.03	0.20		0.05			
95% queue length		0.11	0.74		0.15			
Control Delay (s/veh)		8.2	14.9		9.5			
LOS		A	B		A			
Approach Delay (s/veh)	--	--	13.3					
Approach LOS	--	--	B					

AWD = 12.1 sec / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_YEAR 2025_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025
Analysis Time Period	P.M. PEAK HOUR		

Project Description PARKLANDS PROJECT - 08088	
East/West Street: CARLOS STREET	North/South Street: WELLS ROAD
Intersection Orientation: North-South	Study Period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		294	20	38	519	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	90	0	40
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	0	2	1	1	2	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				90		40
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	38	519	0	0	294	20
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		38	90		40			
C (m) (veh/h)		1229	598		867			
v/c		0.03	0.15		0.05			
95% queue length		0.10	0.53		0.15			
Control Delay (s/veh)		8.0	12.1		9.4			
LOS		A	B		A			
Approach Delay (s/veh)	--	--	11.2					
Approach LOS	--	--	B					

AWD = 10.5 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_YEAR 2025+PR_AM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	A.M. PEAK HOUR		
Project Description <i>PARKLANDS PROJECT - 08088</i>			
East/West Street: <i>CARLOS STREET</i>		North/South Street: <i>WELLS ROAD</i>	
Intersection Orientation: <i>North-South</i>		Study Period (hrs): <i>1.00</i>	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	11	330	40	40	840	2
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	3	0	32	160	0	40
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	2	1	1	2	0
Configuration	L	T	R	L	T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	0	32	160	0	40
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	840	2	11	330	40
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration		LTR		LT		R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	11	40	160		40		35	
C (m) (veh/h)	777	1171	423		844		524	
v/c	0.01	0.03	0.38		0.05		0.07	
95% queue length	0.04	0.11	1.80		0.15		0.21	
Control Delay (s/veh)	9.7	8.2	18.7		9.5		12.4	
LOS	A	A	C		A		B	
Approach Delay (s/veh)	--	--	16.8			12.4		
Approach LOS	--	--	C			B		

AWD = 14.8 sec. / LOS B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	07_YEAR 2025+PR_PM
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	P.M. PEAK HOUR		
Project Description <i>PARKLANDS PROJECT - 08088</i>			
East/West Street: <i>CARLOS STREET</i>		North/South Street: <i>WELLS ROAD</i>	
Intersection Orientation: <i>North-South</i>		Study Period (hrs): <i>1.00</i>	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	30	800	130	40	510	2
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	6	0	24	60	0	60
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	<i>Raised curb</i>					
RT Channelized			0			0
Lanes	1	2	1	1	2	0
Configuration	L	T	R	L	T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	6	0	24	60	0	60
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	40	510	2	30	800	130
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration		LTR		LT		R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LT		R		LTR	
v (veh/h)	30	40	60		60		30	
C (m) (veh/h)	1036	719	287		594		604	
v/c	0.03	0.06	0.21		0.10		0.05	
95% queue length	0.09	0.18	0.79		0.34		0.16	
Control Delay (s/veh)	8.6	10.3	20.9		11.7		11.3	
LOS	A	B	C		B		B	
Approach Delay (s/veh)	--	--	16.3			11.3		
Approach LOS	--	--	C			B		

AWD: 13.5 sec. / LOS B

PARKLANDS #08088

REFERENCE #08AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: **SEPTEMBER 2005**

TIME PERIOD: **A.M.**

N/S STREET: **WELLS ROAD**

E/W STREET: **CITRUS DRIVE-BLACKBURN ROAD**

CONTROL TYPE: **SIGNAL**

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	100	350	180	40	620	20	0	10	80	250	10	40
(B) PROJECT	27	22	0	0	81	0	1	0	72	0	0	0
(C) CUMULATIVE	83	298	200	50	869	30	9	20	58	260	20	50

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	TT	R	L	TT	TR	L	T	R	L	LTR	R

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	1	1600	100	127	83	110	0.06 *	0.08 *	0.05 *	0.07 *
NBT	2	3200	350	372	298	320	0.11	0.12	0.09	0.10
NBR	1	1600	180	180	200	200	0.11	0.11	0.13	0.13
SBL	1	1600	40	40	50	50	0.03	0.03	0.03	0.03
SBT	3	4800	620	701	869	950	0.13 *	0.15 *	0.19 *	0.20 *
SBR	0	0	20	20	30	30	0.00	0.00	0.00	0.00
EBL	0	0	0	1	9	10	0.00	0.00	0.00	0.00
EBT	1	1600	10	10	20	20	0.01	0.01	0.02	0.02
EBR	1	1600	80	152	58	130	0.05 *	0.10 *	0.04 *	0.08 *
WBL	0	0	250	250	260	260	0.00	0.00	0.00	0.00
WBT	2	3200	10	10	20	20	0.09 *	0.09 *	0.10 *	0.10 *
WBR	0	0	40	40	50	50	0.00	0.00	0.00	0.00
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.33 A	0.42 A	0.38 A	0.45 A

NOTES:

MMF
08/15/08

PARKLANDS #08088

REFERENCE #08PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: **SEPTEMBER 2005**

TIME PERIOD: **P.M.**

N/S STREET: **WELLS ROAD**

E/W STREET: **CITRUS DRIVE-BLACKBURN ROAD**

CONTROL TYPE: **SIGNAL**

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	70	610	320	50	520	10	10	10	50	220	10	50
(B) PROJECT	92	88	0	2	68	5	8	0	52	0	0	0
(C) CUMULATIVE	48	762	310	68	432	5	12	10	38	220	10	60

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	TT	R	L	TT	TR	L	T	R	L	L	TR

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	1	1600	70	162	48	140	0.04	0.10	0.03	0.09
NBT	2	3200	610	698	762	850	0.19 *	0.22 *	0.24 *	0.27 *
NBR (a)	1	1600	230	230	223	223	0.14	0.14	0.14	0.14
SBL	1	1600	50	52	68	70	0.03 *	0.03 *	0.04 *	0.04 *
SBT	3	4800	520	588	432	500	0.11	0.13	0.09	0.11
SBR	0	0	10	15	5	10	0.00	0.00	0.00	0.00
EBL	0	0	10	18	12	20	0.00	0.00	0.00	0.00
EBT	1	1600	10	10	10	10	0.01	0.02	0.01	0.02
EBR	1	1600	50	102	38	90	0.03 *	0.06 *	0.02 *	0.06 *
WBL	0	0	220	220	220	220	0.00	0.00	0.00	0.00
WBT	2	3200	10	10	10	10	0.09 *	0.09 *	0.09 *	0.09 *
WBR	0	0	50	50	60	60	0.00	0.00	0.00	0.00
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.34 A	0.40 A	0.39 A	0.46 A

NOTES:

(a) 28% RTOR

MMF
08/15/08

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_EX_AM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		
Project Description <i>PARKLANDS #08088</i>		North/South Street: <i>WELLS ROAD</i>	
East/West Street: <i>SR 126 WB RAMPS</i>		Study Period (hrs): <i>0.25</i>	
Intersection Orientation: <i>North-South</i>			

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		440			760	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	130
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						130
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	760	0	0	440	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					130			
C (m) (veh/h)					790			
v/c					0.16			
95% queue length					0.59			
Control Delay (s/veh)					10.5			
LOS					B			
Approach Delay (s/veh)	--	--	10.5					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_EX+PR_AM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project Description PARKLANDS #08088	
East/West Street: SR 126 WB RAMPS	North/South Street: WELLS ROAD
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		481			844	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	138
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						138
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	844	0	0	481	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					138			
C (m) (veh/h)					767			
v/c					0.18			
95% queue length					0.65			
Control Delay (s/veh)					10.7			
LOS					B			
Approach Delay (s/veh)	--	--	10.7					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information		
Analyst	MMF		Intersection	09_CU_AM	
Agency/Co.	ATE		Jurisdiction	VENTURA	
Date Performed	8/18/2008		Analysis Year	YEAR 2025	
Analysis Time Period	A.M. PEAK HOUR				
Project Description			PARKLANDS #08088		
East/West Street:			SR 126 WB RAMPS		
North/South Street:			WELLS ROAD		
Intersection Orientation:			North-South		
Study Period (hrs):			0.25		

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		429			836	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	152
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						152
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	836	0	0	429	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					152			
C (m) (veh/h)					797			
v/c					0.19			
95% queue length					0.70			
Control Delay (s/veh)					10.6			
LOS					B			
Approach Delay (s/veh)	--	--	10.6					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_CU+PR_AM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	A.M. PEAK HOUR		
Project Description		PARKLANDS #08088	
East/West Street:		SR 126 WB RAMPS	
Intersection Orientation:		North-South	
		North/South Street: WELLS ROAD	
		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)		470			920	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	160
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)						160
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	920	0	0	470	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service									
Approach	Northbound		Southbound		Westbound			Eastbound	
	1	4	7	8	9	10	11	12	
Movement					R				
Lane Configuration					160				
v (veh/h)					773				
C (m) (veh/h)					0.21				
v/c					0.78				
95% queue length					10.9				
Control Delay (s/veh)					B				
LOS									
Approach Delay (s/veh)	--	--	10.9						
Approach LOS	--	--	B						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_EX_PM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	EXISTING
Analysis Time Period	P.M. PEAK HOUR		

Project Description <i>PARKLANDS #08088</i>	
East/West Street: <i>SR 126 WB RAMPS</i>	North/South Street: <i>WELLS ROAD</i>
Intersection Orientation: <i>North-South</i>	Study Period (hrs): <i>0.25</i>

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		860			560	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	100
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						100
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	560	0	0	860	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					100			
C (m) (veh/h)					579			
v/c					0.17			
95% queue length					0.62			
Control Delay (s/veh)					12.5			
LOS					B			
Approach Delay (s/veh)	--	--	12.5					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_EX+PR_PM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	EXISTING+PROJECT
Analysis Time Period	P.M. PEAK HOUR		

Project Description <i>PARKLANDS #08088</i>	
East/West Street: <i>SR 126 WB RAMPS</i>	North/South Street: <i>WELLS ROAD</i>
Intersection Orientation: <i>North-South</i>	Study Period (hrs): <i>0.25</i>

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1014			620	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	126
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	<i>Undivided</i>					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						126
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	620	0	0	1014	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration					R		
v (veh/h)					126		
C (m) (veh/h)					516		
v/c					0.24		
95% queue length					0.95		
Control Delay (s/veh)					14.2		
LOS					B		
Approach Delay (s/veh)	--	--	14.2				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_CU_PM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	YEAR 2025
Analysis Time Period	P.M. PEAK HOUR		
Project Description		PARKLANDS #08088	
East/West Street:		SR 126 WB RAMPS	
Intersection Orientation:		North-South	
		North/South Street: WELLS ROAD	
		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1056			560	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	64
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						64
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	560	0	0	1056	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					64			
C (m) (veh/h)					500			
v/c					0.13			
95% queue length					0.44			
Control Delay (s/veh)					13.3			
LOS					B			
Approach Delay (s/veh)	--	--	13.3					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	09_CU+PR_PM
Agency/Co.	ATE	Jurisdiction	VENTURA
Date Performed	8/18/2008	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	P.M. PEAK HOUR		
Project Description		PARKLANDS #08088	
East/West Street:		SR 126 WB RAMPS	
Intersection Orientation:		North-South	
		North/South Street: WELLS ROAD	
		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1210			620	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	90
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						90
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	620	0	0	1210	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	1
Configuration						R

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					90			
C (m) (veh/h)					446			
v/c					0.20			
95% queue length					0.75			
Control Delay (s/veh)					15.1			
LOS					C			
Approach Delay (s/veh)	--	--	15.1					
Approach LOS	--	--	C					

PARKLANDS #08088

REFERENCE #10EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: A.M.

N/S STREET: WELLS ROAD

E/W STREET: SR 126 EASTBOUND RAMPS

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	0	600	550	0	1890	80	80	0	220	0	0	0
(B) PROJECT	0	20	0	0	63	22	21	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	TT	R	TT	R	L	R	L	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS						
			1	2	1	2					
NBL	0	0	0	0	0.00 *	0.00 *					
NBT	2	3200	600	620	0.19	0.19					
NBR (a)	1	1600	550	550	0.34	0.34					
SBL	0	0	0	0	0.00	0.00					
SBT	2	3200	1890	1953	0.59 *	0.61 *					
SBR (b)	1	1600	80	102	0.05	0.06					
EBL	1	1600	80	101	0.05	0.06					
EBT	0	0	0	0	0.00	0.00					
EBR	1	1600	220	220	0.14 *	0.14 *					
WBL	0	0	0	0	0.00	0.00					
WBT	0	0	0	0	0.00	0.00					
WBR	0	0	0	0	0.00	0.00					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.73	0.75					
					C	C					

NOTES:

- (a) FREE RIGHT TURN
- (b) FREE RIGHT TURN

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PARKLANDS #08088

REFERENCE #10EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: P.M.

N/S STREET: WELLS ROAD

E/W STREET: SR 126 EASTBOUND RAMPS

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	0	970	1050	0	1270	60	190	0	360	0	0	0
(B) PROJECT	0	73	0	0	45	15	81	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND TT R	SOUTH BOUND TT R	EAST BOUND L R	WEST BOUND

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS			
			1	2	1	2		
NBL	0	0	0	0	0.00	0.00		
NBT	2	3200	970	1043	0.30	0.33		
NBR (a)	1	1600	1050	1050	0.66	0.66		
SBL	0	0	0	0	0.00	0.00		
SBT	2	3200	1270	1315	0.40 *	0.41 *		
SBR (b)	1	1600	60	75	0.04	0.05		
EBL	1	1600	190	271	0.12	0.17		
EBT	0	0	0	0	0.00	0.00		
EBR (c)	1	1600	360	360	0.23 *	0.23 *		
WBL	0	0	0	0	0.00	0.00		
WBT	0	0	0	0	0.00	0.00		
WBR	0	0	0	0	0.00	0.00		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.63 B	0.64 B		

NOTES:

- (a) FREE RIGHT TURN
- (b) FREE RIGHT TURN

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PARKLANDS #08088

REFERENCE #10CUM_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: WELLS ROAD
 E/W STREET: SR 126 EASTBOUND RAMPS
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	0	830	600	0	2557	48	79	0	170	0	0	0
(B) PROJECT	0	20	0	0	63	22	21	0	0	0	0	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND TTT R	SOUTH BOUND TTT R	EAST BOUND L R	WEST BOUND

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS			
			1	2	1	2		
NBL	0	0	0	0	0.00	0.00		
NBT	3	4800	830	850	0.17	0.18		
NBR (a)	1	1600	600	600	0.38	0.38		
SBL	0	0	0	0	0.00	0.00		
SBT	3	4800	2557	2620	0.53 *	0.55 *		
SBR (b)	1	1600	48	70	0.03	0.04		
EBL	1	1600	79	100	0.05	0.06		
EBT	0	0	0	0	0.00	0.00		
EBR (c)	1	1600	170	170	0.11 *	0.11 *		
WBL	0	0	0	0	0.00	0.00		
WBT	0	0	0	0	0.00	0.00		
WBR (d)	0	0	0	0	0.00	0.00		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.64 B	0.66 B		

NOTES:

- (a) FREE RIGHT TURN
- (b) FREE RIGHT TURN

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PARKLANDS #08088

REFERENCE #10CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: P.M.

N/S STREET: WELLS ROAD

E/W STREET: SR 126 EASTBOUND RAMPS

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	0	1247	1620	0	1605	15	229	0	640	0	0	0
(B) PROJECT	0	73	0	0	45	15	81	0	0	0	0	0
	0	1320	1620	0	1650	30	310	0	640	0	0	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	TTT	R	TTT	R	L	R	L	R

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	0	0	0	0	0.00	0.00				
NBT	3	4800	1247	1320	0.26	0.28				
NBR (a)	1	1600	1620	1620	1.01	1.01				
SBL	0	0	0	0	0.00	0.00				
SBT	3	4800	1605	1650	0.33 *	0.34 *				
SBR (b)	1	1600	15	30	0.01	0.02				
EBL	1	1600	229	310	0.14	0.19				
EBT	0	0	0	0	0.00	0.00				
EBR	1	1600	640	640	0.40 *	0.40 *				
WBL	0	0	0	0	0.00	0.00				
WBT	0	0	0	0	0.00	0.00				
WBR	0	0	0	0	0.00	0.00				
LOST TIME:					--	--				
INTERSECTION CAPACITY UTILIZATION:					0.73	0.74				
LEVEL OF SERVICE:					C	C				

NOTES:

- (a) FREE RIGHT TURN
- (b) FREE RIGHT TURN

MMF
08/14/08

PARKLANDS #08088

REFERENCE #11EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: WELLS ROAD
 E/W STREET: DARLING ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	50	950	0	50	1750	50	100	20	80	20	20	30
(B) PROJECT	0	19	0	0	61	2	1	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	TR	L	T	TR	L	T	TR	L	T	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2	3	4		
NBL	1	1600	50	50	0.03 *	0.03 *				
NBT	2	3200	950	969	0.30	0.30				
NBR (a)	1	1600	0	0	0.00	0.00				
SBL	1	1600	50	50	0.03	0.03				
SBT	2	3200	1750	1811	0.55 *	0.57 *				
SBR (a)	1	1600	50	52	0.03	0.03				
EBL	0	0	100	101	0.00	0.00				
EBT	1	1600	20	20	0.13 *	0.13 *				
EBR	0	0	80	80	0.00	0.00				
WBL	1	1600	20	20	0.01 *	0.01 *				
WBT	1	1600	20	20	0.03	0.03				
WBR	0	0	30	30	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.72 C	0.74 C				

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #11EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: WELLS ROAD
 E/W STREET: DARLING ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	40	1980	30	90	1400	40	60	20	40	30	20	40
(B) PROJECT	0	67	0	1	40	4	3	0	0	0	0	2

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND L T TR	SOUTH BOUND L T TR	EAST BOUND LTR	WEST BOUND L TR
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TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE- MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2	3	4		
NBL	1	1600	40	40	0.03	0.03				
NBT	2	3200	1980	2047	0.62 *	0.64 *				
NBR	1	1600	30	30	0.02	0.02				
SBL	1	1600	90	91	0.06 *	0.06 *				
SBT	2	3200	1400	1440	0.44	0.45				
SBR	1	1600	40	44	0.03	0.03				
EBL	0	0	60	63	0.00	0.00				
EBT	1	1600	20	20	0.08 *	0.08 *				
EBR	0	0	40	40	0.00	0.00				
WBL	1	1600	30	30	0.02 *	0.02 *				
WBT	1	1600	20	20	0.04	0.04				
WBR	0	0	40	42	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.78 C	0.80 C				

NOTES:

PARKLANDS #08088

REFERENCE #11CUM_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: WELLS ROAD
 E/W STREET: DARLING ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	30	1221	60	120	2329	8	69	30	100	70	30	70
(B) PROJECT	0	19	0	0	61	2	1	0	0	0	0	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND	WEST BOUND	
	L	TT	TR	L	TT	TR	LTR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO VIC RATIOS						
			1	2	1	2					
NBL	1	1600	30	30	0.02 *	0.02 *					
NBT	3	4800	1221	1240	0.25	0.26					
NBR (a)	1	1600	60	60	0.04	0.04					
SBL	2	3200	120	120	0.04	0.04					
SBT	3	4800	2329	2390	0.49 *	0.50 *					
SBR (a)	1	1600	8	10	0.01	0.01					
EBL	1	1600	69	70	0.04	0.04					
EBT	1	1600	30	30	0.08 *	0.08 *					
EBR	0	0	100	100	0.00	0.00					
WBL	2	3200	70	70	0.02 *	0.02 *					
WBT	1	1600	30	30	0.06	0.06					
WBR	0	0	70	70	0.00	0.00					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.61 B	0.62 B					

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

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08/14/08

PARKLANDS #08088

REFERENCE #11CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: WELLS ROAD
 E/W STREET: DARLING ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	50	2713	170	329	1750	6	67	30	100	290	40	188
(B) PROJECT	0	67	0	1	40	4	3	0	0	0	0	2
	50	2780	170	330	1790	10	70	30	100	290	40	190

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND	WEST BOUND
	L	TT	TR	L	TT	TR	LTR	L TR

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS			
			1	2	1	2		
NBL	1	1600	50	50	0.03	0.03		
NBT	3	4800	2713	2780	0.57 *	0.58 *		
NBR (a)	1	1600	170	170	0.11	0.11		
SBL	2	3200	329	330	0.10 *	0.10 *		
SBT	3	4800	1750	1790	0.37	0.37		
SBR (a)	1	1600	6	10	0.00	0.01		
EBL	1	1600	67	70	0.04	0.04		
EBT	1	1600	30	30	0.08 *	0.08 *		
EBR	0	0	100	100	0.00	0.00		
WBL	2	3200	290	290	0.09 *	0.09 *		
WBT	1	1600	40	40	0.14	0.14		
WBR	0	0	188	190	0.00	0.00		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.84 D	0.85 D		

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #12AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: KIMBALL ROAD
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	0	0	0	270	0	940	290	290	0	0	750	700
(B) PROJECT	0	0	0	0	0	17	6	2	0	0	8	0
(C) CUMULATIVE	0	0	0	260	0	1213	254	308	0	0	882	670

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
		LL RR	LL TTT	TT R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)
 SCENARIO 3: CUMULATIVE (C)
 SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	0	0	0	0	0	0	0.00	0.00	0.00	0.00
NBT	0	0	0	0	0	0	0.00	0.00	0.00	0.00
NBR	0	0	0	0	0	0	0.00	0.00	0.00	0.00
SBL	2	3200	270	270	260	260	0.08	0.08	0.08	0.08
SBT	0	0	0	0	0	0	0.00	0.00	0.00	0.00
SBR (a)	2	3200	724	737	1080	1095	0.23 *	0.23 *	0.34 *	0.34 *
EBL	2	3200	290	296	254	260	0.09 *	0.09 *	0.08 *	0.08 *
EBT	3	4800	290	292	308	310	0.06	0.06	0.06	0.07
EBR	0	0	0	0	0	0	0.00	0.00	0.00	0.00
WBL	0	0	0	0	0	0	0.00	0.00	0.00	0.00
WBT	2	3200	750	758	882	890	0.23	0.24	0.28	0.28
WBR (b)	1	1600	595	595	543	543	0.37 *	0.37 *	0.34 *	0.34 *
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.69 B	0.70 B	0.76 C	0.76 C

NOTES:

(a) 23% RTOR EX / 11% RTOR CUM
 (b) 15% RTOR / 19% RTOR CUM

MMF
08/14/08

PARKLANDS #08088

REFERENCE #12PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: KIMBALL ROAD
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	0	0	0	550	0	540	590	890	0	0	590	410
(B) PROJECT	0	0	0	0	0	11	21	12	0	0	6	0
(C) CUMULATIVE	0	0	0	500	0	639	939	968	0	0	644	380

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND		EAST BOUND		WEST BOUND	
	LL	TT	R	LL	RR	LL	TTT	TT	R

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	0	0	0	0	0	0	0.00	0.00	0.00	0.00
NBT	0	0	0	0	0	0	0.00	0.00	0.00	0.00
NBR	0	0	0	0	0	0	0.00	0.00	0.00	0.00
SBL	2	3200	550	550	500	500	0.17 *	0.17 *	0.16 *	0.16 *
SBT	0	0	0	0	0	0	0.00	0.00	0.00	0.00
SBR (a)	2	3200	540	551	639	650	0.17	0.17	0.20	0.20
EBL	2	3200	590	611	939	960	0.18 *	0.19 *	0.29 *	0.30 *
EBT	3	4800	890	902	968	980	0.19	0.19	0.20	0.20
EBR	0	0	0	0	0	0	0.00	0.00	0.00	0.00
WBL	0	0	0	0	0	0	0.00	0.00	0.00	0.00
WBT	2	3200	590	596	644	650	0.18 *	0.19 *	0.20 *	0.20 *
WBR (a)	1	1600	410	410	360	360	0.26	0.26	0.23	0.23
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							--	--	--	--
							0.53 A	0.55 A	0.65 B	0.66 B

NOTES:

(a) NOT CRITICAL DUE TO RTOR

MMF
08/14/08

PARKLANDS #08088

REFERENCE #13EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: MONTGOMERY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	250	80	20	10	40	90	20	460	90	80	1020	10
(B) PROJECT	0	0	0	0	0	0	0	2	0	1	8	1

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS						
			1	2	1	2					
NBL	1	1600	250	250	0.16 *	0.16 *					
NBT	1	1600	80	80	0.05	0.05					
NBR (a)	1	1600	20	20	0.01	0.01					
SBL	1	1600	10	10	0.01	0.01					
SBT	1	1600	40	40	0.08 *	0.08 *					
SBR	0	0	90	90	0.00	0.00					
EBL	1	1600	20	20	0.01 *	0.01 *					
EBT	2	3200	460	462	0.14	0.14					
EBR (a)	1	1600	90	90	0.06	0.06					
WBL	1	1600	80	81	0.05	0.05					
WBT	2	3200	1020	1028	0.32 *	0.32 *					
WBR (a)	1	1600	10	11	0.01	0.01					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:											
					0.57 A	0.57 A					

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #13EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: P.M.

N/S STREET: MONTGOMERY AVENUE

E/W STREET: TELEPHONE ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	130	10	20	10	20	30	50	740	140	60	600	10
(B) PROJECT	0	0	2	0	0	0	0	13	0	1	6	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	130	130	0.08 *	0.08 *				
NBT	1	1600	10	10	0.01	0.01				
NBR (a)	1	1600	20	22	0.01	0.01				
SBL	1	1600	10	10	0.01	0.01				
SBT	1	1600	20	20	0.03 *	0.03 *				
SBR	0	0	30	30	0.00	0.00				
EBL	1	1600	50	50	0.03	0.03				
EBT	2	3200	740	753	0.23 *	0.24 *				
EBR (a)	1	1600	140	140	0.09	0.09				
WBL	1	1600	60	61	0.04 *	0.04 *				
WBT	2	3200	600	606	0.19	0.19				
WBR (a)	1	1600	10	10	0.01	0.01				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--				
					0.38	0.39				
					A	A				

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #13CU_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: MONTGOMERY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	280	80	20	20	60	90	10	508	90	99	1082	9
(B) PROJECT	0	0	0	0	0	0	0	2	0	1	8	1

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (A)
 SCENARIO 2: CUMULATIVE+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	280	280	0.18 *	0.18 *				
NBT	1	1600	80	80	0.05	0.05				
NBR (a)	1	1600	20	20	0.01	0.01				
SBL	1	1600	20	20	0.01	0.01				
SBT	1	1600	60	60	0.04	0.04				
SBR (b)	1	1600	80	80	0.05 *	0.05 *				
EBL	1	1600	10	10	0.01 *	0.01 *				
EBT	2	3200	508	510	0.16	0.16				
EBR (a)	1	1600	90	90	0.06	0.06				
WBL	1	1600	99	100	0.06	0.06				
WBT	2	3200	1082	1090	0.34 *	0.34 *				
WBR	1	1600	9	10	0.01	0.01				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--				
					0.58	0.58				
					A	A				

NOTES:

- (a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE
- (b) 11% RTOR

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PARKLANDS #08088

REFERENCE #13CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: P.M.

N/S STREET: MONTGOMERY AVENUE

E/W STREET: TELEPHONE ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	70	20	138	20	30	20	40	757	120	69	674	20
(B) PROJECT	0	0	2	0	0	0	0	13	0	1	6	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	1	1600	70	70	0.04	0.04						
NBT	1	1600	20	20	0.01	0.01						
NBR (a)	1	1600	76	77	0.05 *	0.05 *						
SBL	1	1600	20	20	0.01	0.01						
SBT	1	1600	30	30	0.02 *	0.02 *						
SBR	1	1600	20	20	0.01	0.01						
EBL	1	1600	40	40	0.03	0.03						
EBT	2	3200	757	770	0.24 *	0.24 *						
EBR (b)	1	1600	120	120	0.08	0.08						
WBL	1	1600	69	70	0.04 *	0.04 *						
WBT	2	3200	674	680	0.21	0.21						
WBR	1	1600	20	20	0.01	0.01						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					-- 0.35 A	-- 0.35 A						

NOTES:

- (a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE / 45% RTOR
- (b) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #14EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: PETIT AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	180	40	180	40	60	110	80	300	90	140	660	20
(B) PROJECT	0	0	1	0	0	0	0	2	0	1	11	1

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND		EAST BOUND			WEST BOUND		
	L	T	R	L	TR	L	T	TR	L	T	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS						
			1	2	1	2					
NBL	1	1600	180	180	0.11 *	0.11 *					
NBT	1	1600	40	40	0.03	0.03					
NBR	1	1600	180	181	0.11	0.11					
SBL	1	1600	40	40	0.03	0.03					
SBT	1	1600	60	60	0.04 *	0.04 *					
SBR (a)	1	1600	110	110	0.07	0.07					
EBL	1	1600	80	80	0.05 *	0.05 *					
EBT	2	3200	300	302	0.09	0.09					
EBR (a)	1	1600	90	90	0.06	0.06					
WBL	1	1600	140	141	0.09	0.09					
WBT	2	3200	660	671	0.21 *	0.21 *					
WBR (a)	1	1600	20	21	0.01	0.01					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.41	0.41					
					A	A					

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: PETIT AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	140	50	260	30	50	70	80	680	210	250	510	60
(B) PROJECT	0	0	2	0	0	0	0	16	0	1	8	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND		EAST BOUND			WEST BOUND		
	L	T	TR	L	TR	L	T	TR	L	T	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	140	140	0.09 *	0.09 *				
NBT	1	1600	50	50	0.03	0.03				
NBR	1	1600	260	262	0.16	0.16				
SBL	1	1600	30	30	0.02	0.02				
SBT	1	1600	50	50	0.03 *	0.03 *				
SBR (a)	1	1600	70	70	0.04	0.04				
EBL	1	1600	80	80	0.05	0.05				
EBT	2	3200	680	696	0.21 *	0.22 *				
EBR (a)	1	1600	210	210	0.13	0.13				
WBL	1	1600	250	251	0.16 *	0.16 *				
WBT	2	3200	510	518	0.16	0.16				
WBR (a)	1	1600	60	60	0.04	0.04				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:										
					0.49	0.49				
					A	A				

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

PARKLANDS #08088

REFERENCE #14CUM_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: A.M.

N/S STREET: PETIT AVENUE

E/W STREET: TELEPHONE ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	180	40	129	30	80	120	90	318	80	149	749	19
(B) PROJECT	0	0	1	0	0	0	0	2	0	1	11	1

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	TR	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS						
			1	2	1	2					
NBL	1	1600	180	180	0.11 *	0.11 *					
NBT	1	1600	40	40	0.11	0.11					
NBR	0	0	129	130	0.00	0.00					
SBL	1	1600	30	30	0.02	0.02					
SBT	1	1600	80	80	0.05 *	0.05 *					
SBR (b)	1	1600	120	120	0.08	0.08					
EBL	1	1600	90	90	0.06 *	0.06 *					
EBT	2	3200	318	320	0.10	0.10					
EBR (a)	1	1600	80	80	0.05	0.05					
WBL	1	1600	149	150	0.09	0.09					
WBT	2	3200	749	760	0.23 *	0.24 *					
WBR (a)	1	1600	19	20	0.01	0.01					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--					
					0.45	0.46					
					A	A					

NOTES:

- (a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE
- (b) NOT CRITICAL DUE TO RTOR

MMF
08/14/08

PARKLANDS #08088

REFERENCE #14CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: PETIT AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	160	70	238	30	50	70	80	754	240	209	512	50
(B) PROJECT	0	0	2	0	0	0	0	16	0	1	8	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	1	1600	160	160	0.10	0.10						
NBT	1	1600	70	70	0.19 *	0.19 *						
NBR	0	0	238	240	0.00	0.00						
SBL	1	1600	30	30	0.02 *	0.02 *						
SBT	1	1600	50	50	0.03	0.03						
SBR (a)	1	1600	70	70	0.04	0.04						
EBL	1	1600	80	80	0.05	0.05						
EBT	2	3200	754	770	0.24 *	0.24 *						
EBR (a)	1	1600	240	240	0.15	0.15						
WBL	1	1600	209	210	0.13 *	0.13 *						
WBT	2	3200	512	520	0.16	0.16						
WBR (a)	1	1600	50	50	0.03	0.03						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--						
					0.58	0.58						
					A	A						

NOTES:

(a) WIDE TR LANE ACTS AS SEPARATE THRU AND RIGHT-TURN LANE

MMF
08/14/08

PARKLANDS #08088

REFERENCE #15EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	160	190	170	180	90	180	120	280	80	100	270	110
(B) PROJECT	0	0	1	0	0	2	0	3	0	1	13	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	160	160	0.10	0.10				
NBT	1	1600	190	190	0.12 *	0.12 *				
NBR	1	1600	170	171	0.11	0.11				
SBL	1	1600	180	180	0.11 *	0.11 *				
SBT	1	1600	90	90	0.06	0.06				
SBR	1	1600	180	182	0.11	0.11				
EBL	1	1600	120	120	0.08 *	0.08 *				
EBT	2	3200	280	283	0.09	0.09				
EBR	1	1600	80	80	0.05	0.05				
WBL	1	1600	100	101	0.06	0.06				
WBT	2	3200	270	283	0.08 *	0.09 *				
WBR	1	1600	110	110	0.07	0.07				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.39	0.40				
					A	A				

NOTES:

MMF
08/14/08

PARKLANDS #08088

REFERENCE #15EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	80	90	120	70	110	160	150	570	150	180	550	60
(B) PROJECT	0	2	2	0	1	6	12	10	0	1	6	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	1	1600	80	80	0.11 *	0.11 *						
NBT	1	1600	90	92	0.03	0.03						
NBR	1	1600	120	122	0.11	0.11						
SBL	1	1600	70	70	0.03	0.03						
SBT	1	1600	110	111	0.04 *	0.04 *						
SBR (a)	1	1600	160	166	0.07	0.07						
EBL	1	1600	150	162	0.05 *	0.05 *						
EBT	2	3200	570	580	0.09	0.09						
EBR	1	1600	150	150	0.06	0.06						
WBL	1	1600	180	181	0.09	0.09						
WBT	2	3200	550	556	0.21 *	0.21 *						
WBR	1	1600	60	60	0.01	0.01						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.41	0.41						
					A	A						

NOTES:

(a) NOT CRITICAL DUE TO RTOR

MMF
08/14/06

PARKLANDS #06448 08098
 INTERSECTION CAPACITY UTILIZATION WORKSHEET
 COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

REFERENCE #09CUM_AM
 15

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	180	200	119	220	120	258	120	217	100	79	317	130
(B) PROJECT	0	0	1	0	0	2	0	3	0	1	13	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	180	180	0.11	0.11				
NBT	1	1600	200	200	0.13 *	0.13 *				
NBR	1	1600	119	120	0.07	0.08				
SBL	1	1600	220	220	0.14 *	0.14 *				
SBT	1	1600	120	120	0.08	0.08				
SBR	1	1600	258	260	0.16	0.16				
EBL	1	1600	120	120	0.08 *	0.08 *				
EBT	2	3200	217	220	0.07	0.07				
EBR	1	1600	100	100	0.06	0.06				
WBL	1	1600	79	80	0.05	0.05				
WBT	2	3200	317	330	0.14 *	0.14 *				
WBR	0	0	130	130	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.48 A	0.49 A				

NOTES:

MMF
 08/14/08

PARKLANDS #08088

REFERENCE #15CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: SATICOY AVENUE
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	130	148	88	130	149	154	168	630	180	119	474	90
(B) PROJECT	0	2	2	0	1	6	12	10	0	1	6	0
	130	150	90	130	150	160	180	640	180	120	480	90

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS						
			1	2	1	2					
NBL	1	1600	130	130	0.08 *	0.08 *					
NBT	1	1600	148	150	0.09	0.09					
NBR	1	1600	88	90	0.06	0.06					
SBL	1	1600	130	130	0.08	0.08					
SBT	1	1600	149	150	0.09 *	0.09 *					
SBR	1	1600	154	160	0.10	0.10					
EBL	1	1600	168	180	0.11 *	0.11 *					
EBT	2	3200	630	640	0.20	0.20					
EBR	1	1600	180	180	0.11	0.11					
WBL	1	1600	119	120	0.07	0.08					
WBT	2	3200	474	480	0.18 *	0.18 *					
WBR	0	0	90	90	0.00	0.00					
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.46 A	0.47 A					

NOTES:

MMF
08/14/08

PARKLANDS #08088

REFERENCE #16EX_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: A.M.

N/S STREET: WELLS ROAD

E/W STREET: TELEPHONE ROAD

CONTROL TYPE: SIGNAL (WITH E/W SPLIT PHASING)

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	250	940	10	10	1790	120	120	0	590	10	10	10
(B) PROJECT	0	14	0	0	46	15	5	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	LL	T	TR	L	TT	R	LL	RR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	2	3200	250	250	0.08 *	0.08 *						
NBT	2	3200	940	954	0.30	0.30						
NBR	0	0	10	10	0.00	0.00						
SBL	1	1600	10	10	0.01	0.01						
SBT	2	3200	1790	1836	0.56 *	0.57 *						
SBR	1	1600	120	135	0.08	0.08						
EBL	2	3200	120	125	0.04	0.04						
EBT	0	0	0	0	0.00	0.00						
EBR (a)	2	3200	384	384	0.12 *	0.12 *						
WBL	0	0	10	10	0.00	0.00						
WBT	1	1600	10	10	0.02 *	0.02 *						
WBR	0	0	10	10	0.00	0.00						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.78	0.79						
					C	C						

NOTES:

(a) 35% RTOR

MMF
08/15/08

PARKLANDS #08088

REFERENCE #16EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004

TIME PERIOD: P.M.

N/S STREET: WELLS ROAD

E/W STREET: TELEPHONE ROAD

CONTROL TYPE: SIGNAL (WITH E/W SPLIT PHASING)

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	570	1950	70	20	1330	310	180	0	450	10	10	10
(B) PROJECT	0	64	0	1	29	10	13	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	LL	T	TR	L	TT	R	LL	RR	LTR	

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	2	3200	570	570	0.18	0.18				
NBT	2	3200	1950	2004	0.63 *	0.65 *				
NBR	0	0	70	70	0.00	0.00				
SBL	1	1600	20	21	0.01 *	0.01 *				
SBT	2	3200	1330	1359	0.42	0.43				
SBR	1	1600	310	320	0.19	0.20				
EBL	2	3200	180	193	0.06 *	0.06 *				
EBT	0	0	0	0	0.00	0.00				
EBR	2	3200	450	450	0.14	0.14				
WBL	0	0	10	10	0.00	0.00				
WBT	1	1600	10	10	0.02 *	0.02 *				
WBR	0	0	10	10	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.72	0.74				
					C	C				

NOTES:

MMF
08/15/08

PARKLANDS #8088
 INTERSECTION CAPACITY UTILIZATION WORKSHEET
 COUNT DATE: 2004
 TIME PERIOD: A.M.
 N/S STREET: WELLS ROAD
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	320	1216	10	10	2434	125	155	0	570	10	10	10
(B) PROJECT	0	14	0	0	46	15	5	0	0	0	0	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	LL	TT	TR	L	TTT	R	LL	RR	LTR	LTR

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	2	3200	320	320	0.10 *	0.10 *						
NBT	3	4800	1216	1230	0.26	0.26						
NBR	0	0	10	10	0.00	0.00						
SBL	1	1600	10	10	0.01	0.01						
SBT	3	4800	2434	2480	0.51 *	0.52 *						
SBR	1	1600	125	140	0.08	0.09						
EBL	2	3200	155	160	0.05	0.05						
EBT	0	0	0	0	0.00	0.00						
EBR (a)	2	3200	257	257	0.08 *	0.08 *						
WBL	0	0	10	10	0.00	0.00						
WBT	1	1600	10	10	0.02 *	0.02 *						
WBR	0	0	10	10	0.00	0.00						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					--	--						
					0.71	0.72						
					C	C						

NOTES:

(a) 55% RTOR

PARKLANDS #08088

REFERENCE #16CUM_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2004
 TIME PERIOD: P.M.
 N/S STREET: WELLS ROAD
 E/W STREET: TELEPHONE ROAD
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	460	2796	70	19	1861	410	227	0	570	10	10	10
(B) PROJECT	0	54	0	1	29	10	13	0	0	0	0	0

GEOMETRICS

YEAR 2025 GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	LL	TT	TR	L	TTT	R	LL	RR	LTR	

TRAFFIC SCENARIOS

SCENARIO 1: CUMULATIVE (C)
 SCENARIO 2: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS							
			1	2	1	2						
NBL	2	3200	460	460	0.14	0.14						
NBT	3	4800	2796	2850	0.60 *	0.61 *						
NBR	0	0	70	70	0.00	0.00						
SBL	1	1600	19	20	0.01 *	0.01 *						
SBT	3	4800	1861	1890	0.39	0.39						
SBR	1	1600	410	420	0.26	0.26						
EBL	2	3200	227	240	0.07 *	0.08 *						
EBT	0	0	0	0	0.00	0.00						
EBR (a)	2	3200	570	570	0.18	0.18						
WBL	0	0	10	10	0.00	0.00						
WBT	1	1600	10	10	0.02 *	0.02 *						
WBR	0	0	10	10	0.00	0.00						
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.70	0.72						
					B	C						

NOTES:

(a) NOT CRITICAL DUE TO RTOR

MMF
08/15/08

PARKLANDS #08088

REFERENCE #17AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2008

TIME PERIOD: A.M.

N/S STREET: WELLS ROAD

E/W STREET: NARDO STREET

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	20	850	0	0	1830	50	30	10	30	60	30	20
(B) PROJECT	0	14	0	0	46	0	0	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	TR	L	TT	R	L	TR	L	TR	L	TR

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	20	20	20	20	0.01 *	0.01 *				
NBT	2	3200	850	864	1496	1510	0.27	0.27				
NBR	0	0	0	0	0	0	0.00	0.00				
SBL	1	1600	0	0	30	30	0.00	0.00				
SBT	2	3200	1830	1876	2894	2940	0.57 *	0.59 *				
SBR	1	1600	42	42	75	75	0.03	0.03				
EBL	1	1600	30	30	30	30	0.02	0.02				
EBT	1	1600	10	10	10	10	0.02 *	0.02 *				
EBR	0	0	20	20	20	20	0.00	0.00				
WBL	1	1600	60	60	60	60	0.04 *	0.04 *				
WBT	1	1600	30	30	30	30	0.02	0.02				
WBR	0	0	5	5	5	5	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.64	0.66				
							B	B				

NOTES:

MMF
08/18/08

PARKLANDS #08088

REFERENCE #17EX_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2008
 TIME PERIOD: P.M.
 N/S STREET: WELLS ROAD
 E/W STREET: NARDO STREET
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	10	1900	0	30	1350	30	100	10	74	70	20	40
(B) PROJECT	0	54	0	0	28	0	0	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	T	TR	L	TT	R	L	TR	L	TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
 SCENARIO 2: EXISTING+PROJECT (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES		SCENARIO V/C RATIOS					
			1	2	1	2				
NBL	1	1600	10	10	0.01	0.01				
NBT	2	3200	1900	1954	0.59 *	0.61 *				
NBR (a)	0	0	0	0	0.00	0.00				
SBL	1	1600	30	30	0.02 *	0.02 *				
SBT	2	3200	1350	1378	0.42	0.43				
SBR (b)	1	1600	17	17	0.01	0.01				
EBL	1	1600	100	100	0.06 *	0.06 *				
EBT	1	1600	10	10	0.03	0.03				
EBR ©	0	0	39	39	0.00	0.00				
WBL	1	1600	70	70	0.04	0.04				
WBT	1	1600	20	20	0.03 *	0.03 *				
WBR (d)	0	0	26	26	0.00	0.00				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:					0.71	0.72				
					C	C				

NOTES:

- (a) 100% RTOR
- (b) 45% RTOR
- © 47% RTOR
- (d) 34% RTOR

MMF
08/18/08

PARKLANDS #08088

REFERENCE #17AM_CU

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2008

TIME PERIOD: A.M.

N/S STREET: WELLS ROAD

E/W STREET: NARDO STREET

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	90	1396	20	110	2754	150	50	10	140	50	20	100
(B) PROJECT	0	14	0	0	46	0	0	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	TT	TR	L	TTT	R	L	TR	L	TR

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	90	90	90	90	0.06 *	0.06 *				
NBT	3	4800	1396	1410	1396	1410	0.30	0.30				
NBR	0	0	20	20	20	20	0.00	0.00				
SBL	1	1600	110	110	110	110	0.07	0.07				
SBT	3	4800	2754	2800	2754	2800	0.61 *	0.62 *				
SBR	0	0	150	150	150	150	0.00	0.00				
EBL	1	1600	50	50	50	50	0.03 *	0.03 *				
EBT	1	1600	10	10	10	10	0.01	0.01				
EBR	1	1600	140	140	130	130	0.09	0.09				
WBL	1	1600	50	50	50	50	0.03	0.03				
WBT	1	1600	20	20	20	20	0.01 *	0.01 *				
WBR	1	1600	100	100	98	98	0.06	0.06				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.71 C	0.72 C				

NOTES:

MMF
08/18/08

PARKLANDS #08088

REFERENCE #17PM_CU

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2008
 TIME PERIOD: A.M.
 N/S STREET: WELLS ROAD
 E/W STREET: NARDO STREET
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) CUMULATIVE	190	3056	70	160	2192	80	110	20	160	60	20	170
(B) PROJECT	0	54	0	0	28	0	0	0	0	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND		WEST BOUND	
	L	TT	TR	L	TTT	R	L	TR	L	TR

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	190	190	190	190	0.12	0.12				
NBT	3	4800	3056	3110	3056	3110	0.65 *	0.66 *				
NBR	0	0	70	70	70	70	0.00	0.00				
SBL	1	1600	160	160	160	160	0.10 *	0.10 *				
SBT	3	4800	2192	2220	2192	2220	0.47	0.48				
SBR	0	0	80	80	80	80	0.00	0.00				
EBL	1	1600	110	110	110	110	0.07 *	0.07 *				
EBT	1	1600	20	20	20	20	0.01	0.01				
EBR	1	1600	160	160	160	160	0.10	0.10				
WBL	1	1600	60	60	60	60	0.04	0.04				
WBT	1	1600	20	20	20	20	0.01 *	0.01 *				
WBR	1	1600	170	170	170	170	0.11	0.11				
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.83	0.85				
							D	D				

NOTES:

PARKLANDS #08088
 INTERSECTION CAPACITY UTILIZATION WORKSHEET
 COUNT DATE: 2008
 TIME PERIOD: A.M.
 N/S STREET: LOS ANGELES AVENUE
 E/W STREET: VINEYARD AVENUE
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	60	510	10	10	980	950	400	10	60	10	10	10
(B) PROJECT	0	7	0	0	23	23	7	0	0	0	0	0
(C) CUMULATIVE	80	570	10	10	1440	1280	620	10	80	10	10	10

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND				EAST BOUND			WEST BOUND	
	L	T	TR	L	T	TR	R	L	LT	R	LTR	

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS					
			1	2	3	4	1	2	3	4		
NBL	1	1600	60	60	80	80	0.04 *	0.04 *	0.05 *	0.05 *		
NBT	2	3200	510	517	570	577	0.16	0.17	0.18	0.18		
NBR	0	0	10	10	10	10	0.00	0.00	0.00	0.00		
SBL	1	1600	10	10	10	10	0.01	0.01	0.01	0.01		
SBT	3	4800	980	1003	1440	1463	0.36 *	0.36 *	0.50 *	0.51 *		
SBR (a)	0	0	722	739	973	990	0.00	0.00	0.00	0.00		
EBL	0	0	400	407	620	627	0.00	0.00	0.00	0.00		
EBT	2	3200	10	10	10	10	0.13 *	0.13 *	0.20 *	0.20 *		
EBR (b)	1	1600	30	30	40	40	0.02	0.02	0.03	0.03		
WBL	0	0	10	10	10	10	0.00	0.00	0.00	0.00		
WBT	1	1600	10	10	10	10	0.02 *	0.02 *	0.02 *	0.02 *		
WBR	0	0	10	10	10	10	0.00	0.00	0.00	0.00		
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.54 A	0.55 A	0.769 C	0.779 C		

NOTES:

- (a) 24% RTOR
- (b) 50% RTOR

PARKLANDS #08088

REFERENCE #18PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 2008
 TIME PERIOD: P.M.
 N/S STREET: LOS ANGELES AVENUE
 E/W STREET: VINEYARD AVENUE
 CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING	70	1050	10	10	760	790	820	10	40	10	10	10
(B) PROJECT	0	27	0	0	14	14	27	0	0	0	0	0
(C) CUMULATIVE	60	1160	10	10	890	910	1330	10	30	10	10	10

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND			SOUTH BOUND				EAST BOUND			WEST BOUND	
	L	T	TR	L	T	TR	R	L	LT	R	LTR	

TRAFFIC SCENARIOS

- SCENARIO 1: EXISTING (A)
- SCENARIO 2: EXISTING+PROJECT (A+B)
- SCENARIO 3: CUMULATIVE (C)
- SCENARIO 4: CUMULATIVE+PROJECT(C+B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES				SCENARIO V/C RATIOS			
			1	2	3	4	1	2	3	4
NBL	1	1600	70	70	60	60	0.04	0.04	0.04	0.04
NBT	2	3200	1050	1077	1160	1187	0.33 *	0.34 *	0.36 *	0.37 *
NBR	1	1600	8	8	8	8	0.01	0.01	0.01	0.01
SBL	1	1600	10	10	10	10	0.01 *	0.01 *	0.01 *	0.01 *
SBT	3	4800	760	774	890	904	0.16	0.16	0.19	0.19
SBR (a)	1	1600	213	217	246	249	0.13	0.14	0.15	0.16
EBL	0	0	820	847	1330	1357	0.00	0.00	0.00	0.00
EBT	2	3200	10	10	10	10	0.26 *	0.27 *	0.42 *	0.43 *
EBR	1	1600	19	19	14	14	0.01	0.01	0.01	0.01
WBL	0	0	10	10	10	10	0.00	0.00	0.00	0.00
WBT	1	1600	10	10	10	10	0.02 *	0.02 *	0.02 *	0.02 *
WBR	0	0	4	4	4	4	0.00	0.00	0.00	0.00
INTERSECTION CAPACITY UTILIZATION: LEVEL OF SERVICE:							0.61	0.63	0.80	0.82
							B	B	C	D

NOTES:
 (a) 73% RTOR

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MMF	Intersection	WELLS RD/PROJECT DWY
Agency/Co.	ATE	Jurisdiction	CITY OF VENTURA
Date Performed	9/28/2005	Analysis Year	YEAR 2025+PROJECT
Analysis Time Period	P.M. PEAK HOUR		
Project Description PARKLANDS PROJECT - 08088			
East/West Street: PROJECT DWY		North/South Street: WELLS ROAD	
Intersection Orientation: North-South		Study Period (hrs): 1.00	

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	62	826			548	15
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	29	0	41	0	0	0
Percent Heavy Vehicles	4	--	--	4	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		0			0	

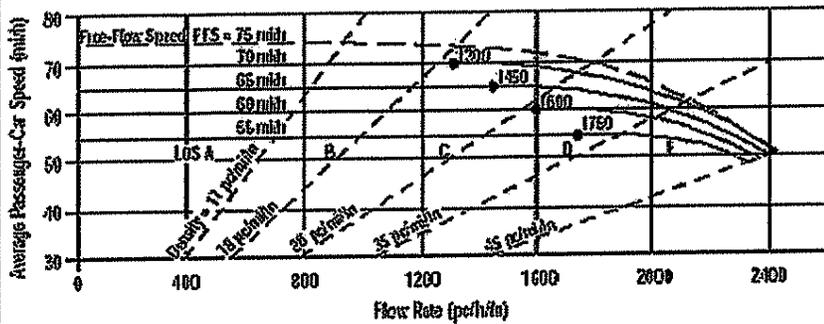
Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	29	0	41			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	548	15	62	826	0
Percent Heavy Vehicles	4	4	4	4	4	4
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	0	0
Configuration		LTR				

Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LTR	
v (veh/h)	62						70	
C (m) (veh/h)	999						425	
v/c	0.06						0.16	
95% queue length	0.20						0.59	
Control Delay (s/veh)	8.8						15.1	
LOS	A						C	
Approach Delay (s/veh)	--	--					15.1	
Approach LOS	--	--					C	

AWD = 12.1 sec / LOS B

STATE ROUTE 126 CALCULATION WORKSHEETS

BASIC FREEWAY SEGMENTS WORKSHEET



General Information

Analyst: *DLD*
 Agency or Company: *ATE*
 Date Performed: *8/18/2008*
 Analysis Time Period: *P.M. PEAK*

Site Information

Highway/Direction of Travel: *SR 126 EB*
 From/To: *W/O SR 118*
 Jurisdiction: *VENTURA COUNTY*
 Analysis Year: *EXISTING*

Project Description

Oper.(LOS)

Des.(N)

Planning Data

Flow Inputs

Volume, V: *2615* veh/h
 AADT: *2615* veh/day
 Peak-Hr Prop. of AADT, K: *0.90*
 Peak-Hr Direction Prop, D: *0.5*
 DDHV = AADT x K x D: *1167* veh/h
 Driver type adjustment: *1.00*
 Peak-Hour Factor, PHF: *0.90*
 %Trucks and Buses, P_T : *5*
 %RVs, P_R : *2*
 General Terrain: *Level*
 Grade % Length: *mi*
 Up/Down %

Calculate Flow Adjustments

f_p : *1.00*
 E_T : *1.5*
 E_R : *1.2*
 $f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$: *0.972*

Speed Inputs

Lane Width: *12.0* ft
 Rt-Shoulder Lat. Clearance: *6.0* ft
 Interchange Density: *0.50* l/mi
 Number of Lanes, N: *2*
 FFS (measured): *70.0* mi/h
 Base free-flow Speed, BFFS: *70.0* mi/h

Calc Speed Adj and FFS

f_{LW} : *mi/h*
 f_{LC} : *mi/h*
 f_{ID} : *mi/h*
 f_N : *mi/h*
 FFS: *70.0* mi/h

LOS and Performance Measures

Operational (LOS)
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: *1495* pc/h/ln
 S : *69.8* mi/h
 $D = v_p / S$: *21.4* pc/mi/ln
 LOS: *C*

Design (N)

Design (N)
 Design LOS
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: *pc/h*
 f_p : *mi/h*
 S : *mi/h*
 $D = v_p / S$: *pc/mi/ln*
 Required Number of Lanes, N

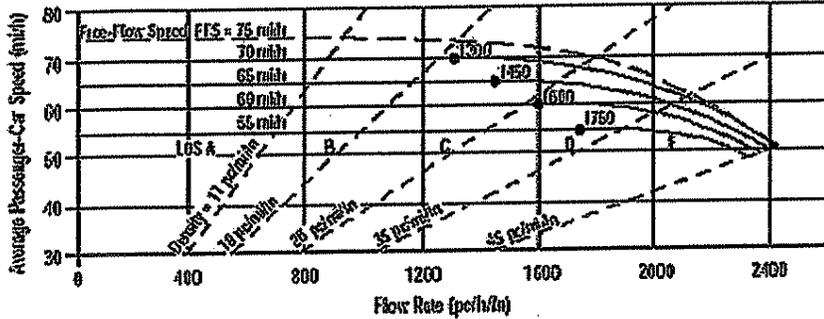
Glossary

N - Number of lanes
 V - Hourly volume
 v_p - Flow rate
 LOS - Level of service
 DDHV - Directional design hour volume
 S - Speed
 D - Density
 FFS - Free-flow speed
 BFFS - Base free-flow speed

Factor Location

E_R - Exhibits 23-8, 23-10
 E_T - Exhibits 23-8, 23-10, 23-11
 f_p - Page 23-12
 LOS, S, FFS, v_p - Exhibits 23-2, 23-3
 f_{LW} - Exhibit 23-4
 f_{LC} - Exhibit 23-5
 f_N - Exhibit 23-6
 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: *DLD*
 Agency or Company: *ATE*
 Date Performed: *8/18/2008*
 Analysis Time Period: *P.M. PEAK*

Site Information

Highway/Direction of Travel: *SR 126 EB*
 From/To: *W/O SR 118*
 Jurisdiction: *VENTURA COUNTY*
 Analysis Year: *EXISTING + PROJECT*

Project Description

Oper.(LOS)

Des.(N)

Planning Data

Flow Inputs

Volume, V	2696	veh/h	Peak-Hour Factor, PHF	0.90
AAADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AAADT, K			%RVs, P_R	2
Peak-Hr Direction Prop., D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade %	Length
Driver type adjustment	1.00		Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/(1+P_T(E_T-1) + P_R(E_R-1))$	0.972

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	l/mi
Number of Lanes, N	2	
FFS (measured)	70.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}	mi/h
f_{LC}	mi/h
f_{ID}	mi/h
f_N	mi/h
FFS	70.0
	mi/h

LOS and Performance Measures

Operational (LOS)

$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1541	pc/h/ln
S	69.7	mi/h
$D = v_p / S$	22.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)	
Design LOS	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
f_p	
S	mi/h
$D = v_p / S$	pc/mi/ln
Required Number of Lanes, N	

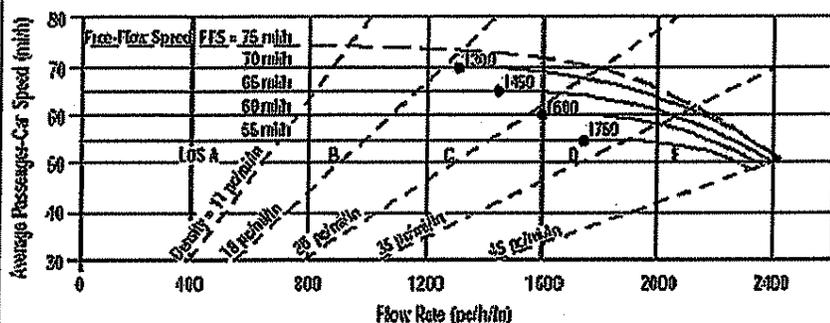
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: *DLD*
 Agency or Company: *ATE*
 Date Performed: *8/18/2008*
 Analysis Time Period: *P.M. PEAK*

Site Information

Highway/Direction of Travel: *SR 126 WB*
 From/To: *W/O SR 118*
 Jurisdiction: *VENTURA COUNTY*
 Analysis Year: *EXISTING*

Project Description

Oper.(LOS)

Des.(N)

Planning Data

Flow Inputs

Volume, V	2135	veh/h	Peak-Hour Factor, PHF	0.90
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	2
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade %	Length
Driver type adjustment	1.00		Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.972

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	l/mi
Number of Lanes, N	2	
FFS (measured)	70.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	70.0	mi/h

LOS and Performance Measures

Operational (LOS)

$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1221	pc/h/ln
S	70.0	mi/h
$D = v_p / S$	17.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
S	mi/h
$D = v_p / S$	pc/mi/ln
Required Number of Lanes, N	

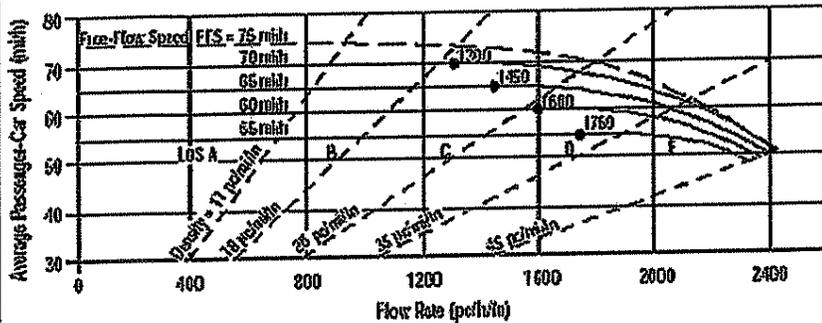
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v _p	LOS, S, D
Design (N)	FFS, LOS, v _p	N, S, D
Design (v _p)	FFS, LOS, N	v _p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v _p)	FFS, LOS, N	v _p , S, D

General Information

Analyst: **DLD**
 Agency or Company: **ATE**
 Date Performed: **8/18/2008**
 Analysis Time Period: **P.M. PEAK**

Site Information

Highway/Direction of Travel: **SR 126 WB**
 From/To: **W/O SR 118**
 Jurisdiction: **VENTURA COUNTY**
 Analysis Year: **EXISTING + PROJECT**

Project Description

Oper.(LOS) Des.(N) Planning Data

Flow Inputs

Volume, V	2195	veh/h	Peak-Hour Factor, PHF	0.90
AAADT		veh/day	%Trucks and Buses, P _T	5
Peak-Hr Prop. of AAADT, K			%RVs, P _R	2
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.972

Speed Inputs

Lane Width	12.0	ft	f _{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f _{LC}	mi/h
Interchange Density	0.50	l/mi	f _{ID}	mi/h
Number of Lanes, N	2		f _N	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

Calc Speed Adj and FFS

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p) 1255 pc/h/ln

S = 70.0 mi/h

D = v_p / S 17.9 pc/mi/ln

LOS B

Design (N)

Design (N)

Design LOS

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p) pc/h

f_p

S mi/h

D = v_p / S pc/mi/ln

Required Number of Lanes, N

Glossary

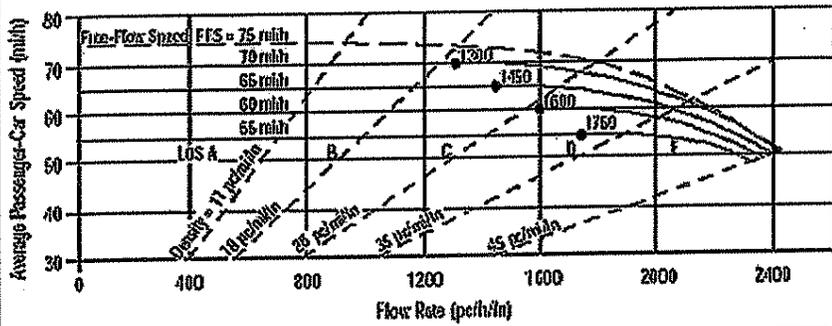
N - Number of lanes S - Speed
 V - Hourly volume D - Density
 v_p - Flow rate FFS - Free-flow speed
 LOS - Level of service BFFS - Base free-flow speed
 DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 23-8, 23-10 f_{LW} - Exhibit 23-4
 E_T - Exhibits 23-8, 23-10, 23-11 f_{LC} - Exhibit 23-5
 f_p - Page 23-12 f_N - Exhibit 23-6
 LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	DLD	Highway/Direction of Travel	SR 126 EB
Agency or Company	ATE	From/To	W/O SR 118
Date Performed	8/18/2008	Jurisdiction	VENTURA COUNTY
Analysis Time Period	P.M. PEAK	Analysis Year	CUMULATIVE

Project Description

Oper.(LOS) Des.(N) Planning Data

Flow Inputs			
Volume, V	2770	veh/h	Peak-Hour Factor, PHF
AA DT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

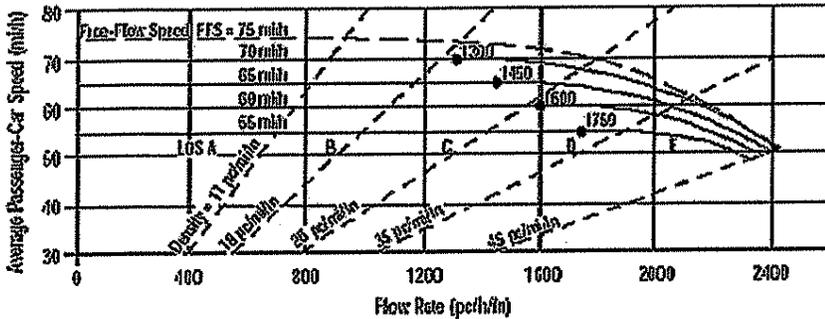
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.972

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 /mi	f_{ID}	mi/h
Number of Lanes, N	2	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1584 pc/h/ln	Design LOS	
S	69.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.8 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information	Site Information
Analyst: DLD	Highway/Direction of Travel: SR 126 EB
Agency or Company: ATE	From/To: W/O SR 118
Date Performed: 8/18/2008	Jurisdiction: VENTURA COUNTY
Analysis Time Period: P.M. PEAK	Analysis Year: CUMULATIVE + PROJECT

Project Description	
<input checked="" type="checkbox"/> Oper.(LOS)	<input type="checkbox"/> Des.(N)
<input checked="" type="checkbox"/> Planning Data	

Flow Inputs

Volume, V	2851	veh/h	Peak-Hour Factor, PHF	0.90
AA DT		veh/day	% Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			% RVs, P_R	2
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

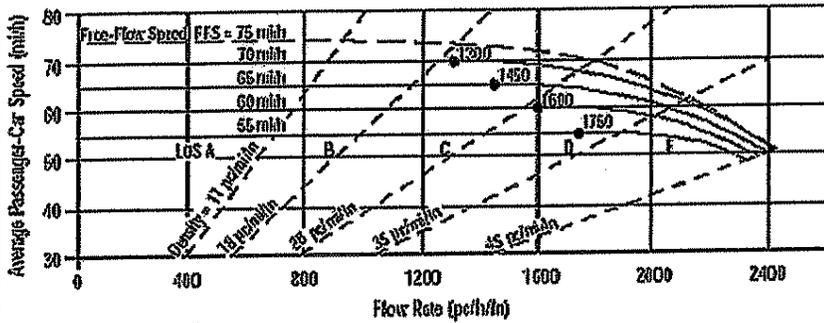
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.972

Speed Inputs	Calc Speed Adj and FFS
Lane Width: 12.0 ft	f_{LW} mi/h
Rt-Shoulder Lat. Clearance: 6.0 ft	f_{LC} mi/h
Interchange Density: 0.50 l/mi	f_{ID} mi/h
Number of Lanes, N: 2	f_N mi/h
FFS (measured): 70.0 mi/h	FFS: 70.0 mi/h
Base free-flow Speed, BFFS: mi/h	

LOS and Performance Measures	Design (N)
Operational (LOS)	Design (N)
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	Design LOS
v_p : 1630 pc/h/ln	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$
S: 69.3 mi/h	f_p : pc/h
D = v_p / S : 23.5 pc/mi/ln	S: mi/h
LOS: C	D = v_p / S : pc/mi/ln
	Required Number of Lanes, N

Glossary	Factor Location
N - Number of lanes	E_R - Exhibits 23-8, 23-10
V - Hourly volume	E_T - Exhibits 23-8, 23-10, 23-11
v_p - Flow rate	f_p - Page 23-12
LOS - Level of service	LOS, S, FFS, v_p - Exhibits 23-2, 23-3
DDHV - Directional design hour volume	f_{LW} - Exhibit 23-4
S - Speed	f_{LC} - Exhibit 23-5
D - Density	f_N - Exhibit 23-6
FFS - Free-flow speed	f_{ID} - Exhibit 23-7
BFFS - Base free-flow speed	

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information

Analyst: DLD
 Agency or Company: ATE
 Date Performed: 8/18/2008
 Analysis Time Period: P.M. PEAK

Site Information

Highway/Direction of Travel: SR 126 WB
 From/To: W/O SR 118
 Jurisdiction: VENTURA COUNTY
 Analysis Year: CUMULATIVE

Project Description

Oper.(LOS) Des.(N) Planning Data

Flow Inputs

Volume, V: 2265 veh/h
 AADT: veh/day
 Peak-Hr Prop. of AADT, K:
 Peak-Hr Direction Prop, D:
 DDHV = AADT x K x D: veh/h
 Driver type adjustment: 1.00

Peak-Hour Factor, PHF: 0.90
 %Trucks and Buses, P_T : 5
 %RVs, P_R : 2
 General Terrain: Level
 Grade % Length: mi
 Up/Down %

Calculate Flow Adjustments

f_p : 1.00 E_R : 1.2
 E_T : 1.5 $f_{HV} = 1/[1+P_T(E_T-1)+P_R(E_R-1)]$: 0.972

Speed Inputs

Lane Width: 12.0 ft
 Rt-Shoulder Lat. Clearance: 6.0 ft
 Interchange Density: 0.50 /mi
 Number of Lanes, N: 2
 FFS (measured): 70.0 mi/h
 Base free-flow Speed, BFFS: mi/h

Calc Speed Adj and FFS

f_{LW} : mi/h
 f_{LC} : mi/h
 f_{ID} : mi/h
 f_N : mi/h
 FFS: 70.0 mi/h

LOS and Performance Measures

Operational (LOS)
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: 1295 pc/h/ln
 S: 70.0 mi/h
 $D = v_p / S$: 18.5 pc/mi/ln
 LOS: C

Design (N)

Design (N)
 Design LOS
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: pc/h
 f_p : mi/h
 S: mi/h
 $D = v_p / S$: pc/mi/ln
 Required Number of Lanes, N

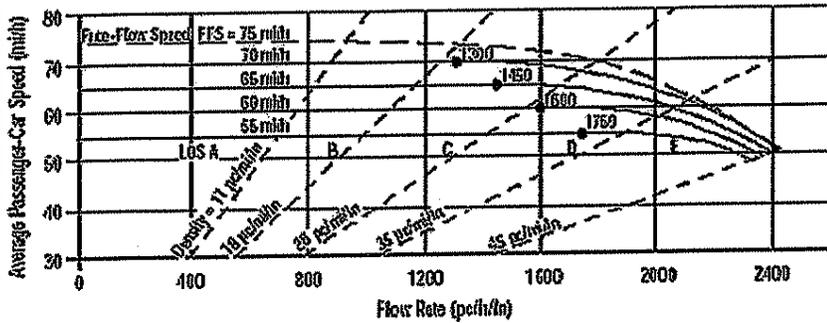
Glossary

N - Number of lanes S - Speed
 V - Hourly volume D - Density
 v_p - Flow rate FFS - Free-flow speed
 LOS - Level of service BFFS - Base free-flow speed
 DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 23-8, 23-10 f_{LW} - Exhibit 23-4
 E_T - Exhibits 23-8, 23-10, 23-11 f_{LC} - Exhibit 23-5
 f_p - Page 23-12 f_N - Exhibit 23-6
 LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	DLD	Highway/Direction of Travel	SR 126 WB
Agency or Company	ATE	From/To	W/O SR 118
Date Performed	8/18/2008	Jurisdiction	VENTURA COUNTY
Analysis Time Period	P.M. PEAK	Analysis Year	CUMULATIVE + PROJECT

Project Description		
<input checked="" type="checkbox"/> Oper.(LOS)	<input checked="" type="checkbox"/> Des.(N)	<input checked="" type="checkbox"/> Planning Data

Flow Inputs			
Volume, V	2326	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.972

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	2	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1330 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.0 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

EXISTING+PROJECT_A.M.
9: SR 126 WB RAMPS & Wells

HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑↑	↑		↑↑	↑
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	0	138	0	481	0	0	844	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	150	0	523	0	0	917	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1329	1440	459	982	1440	261	917			523		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1329	1440	459	982	1440	261	917			523		
iC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
iC, 2 stage (s)												
iF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	80	100			100		
cM capacity (veh/h)	90	132	549	204	132	737	739			1040		

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	150	261	261	0	459	459	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	150	0	0	0	0	0	0
cSH	1700	737	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.20	0.15	0.15	0.00	0.27	0.27	0.00
Queue Length 95th (ft)	0	19	0	0	0	0	0	0
Control Delay (s)	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B						
Approach Delay (s)	0.0	11.1	0.0			0.0		
Approach LOS	A	B						

Intersection Summary		
Average Delay		1.0
Intersection Capacity Utilization	28.5%	ICU Level of Service
Analysis Period (min)		15
		A

EXISTING+PROJECT_P.M.
9: SR126 WB RAMPS & Wells

HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑↑	↑		↑↑	↑
Sign Control		Yield			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	0	126	0	1014	0	0	620	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	137	0	1102	0	0	674	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)	635											
pX, platoon unblocked	0.88	0.88		0.88	0.88	0.88					0.88	
vC, conflicting volume	1362	1776	337	1439	1776	551	674				1102	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1274	1745	337	1362	1745	351	674				978	
iC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	100	100	76	100				100	
cM capacity (veh/h)	83	75	659	94	75	567	913				616	

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	137	551	551	0	337	337	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	137	0	0	0	0	0	0
cSH	1700	567	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.24	0.32	0.32	0.00	0.20	0.20	0.00
Queue Length 95th (ft)	0	23	0	0	0	0	0	0
Control Delay (s)	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B						
Approach Delay (s)	0.0	13.4	0.0			0.0		
Approach LOS	A	B						

Intersection Summary		
Average Delay		1.0
Intersection Capacity Utilization	42.5%	ICU Level of Service
Analysis Period (min)	15	A

EXISTING+PROJECT_A.M.
10: SR126 EB Ramps & Wells

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	
Lane Util. Factor	1.00		1.00					0.95			0.95	
Fr _t	1.00		0.85					1.00			1.00	
Fl _t Protected	0.95		1.00					1.00			1.00	
Satd. Flow (prot)	1770		1583					3539			3539	
Fl _t Permitted	0.95		1.00					1.00			1.00	
Satd. Flow (perm)	1770		1583					3539			3539	
Volume (vph)	101	0	220	0	0	0	0	620	0	0	1953	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	0	239	0	0	0	0	674	0	0	2123	0
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	110	0	230	0	0	0	0	674	0	0	2123	0
Turn Type	Prot		custom						Free			Free
Protected Phases	4							2			6	
Permitted Phases			4						Free			Free
Actuated Green, G (s)	13.3		13.3					43.7			43.7	
Effective Green, g (s)	13.3		13.3					43.7			43.7	
Actuated g/C Ratio	0.20		0.20					0.67			0.67	
Clearance Time (s)	4.0		4.0					4.0			4.0	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	362		324					2379			2379	
v/s Ratio Prot	0.06							0.19			0.60	
v/s Ratio Perm			0.15									
v/c Ratio	0.30		0.71					0.28			0.89	
Uniform Delay, d ₁	21.9		24.1					4.3			8.7	
Progression Factor	1.00		1.00					1.00			1.00	
Incremental Delay, d ₂	0.5		7.2					0.3			5.6	
Delay (s)	22.4		31.2					4.6			14.3	
Level of Service	C		C					A			B	
Approach Delay (s)		28.4			0.0			4.6			14.3	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

EXISTING+PROJECT_A.M.
 10: SR126 EB Ramps & Wells

Queues



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	110	239	674	2123
v/c Ratio	0.30	0.72	0.28	0.89
Control Delay	22.4	29.2	5.1	16.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.4	29.2	5.1	16.7
Queue Length 50th (ft)	37	83	49	314
Queue Length 95th (ft)	73	147	78	#581
Internal Link Dist (ft)			1008	555
Turn Bay Length (ft)				
Base Capacity (vph)	436	398	2378	2378
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.60	0.28	0.89

Intersection Summary

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

EXISTING+PROJECT_P.M.
10: SR126 EB Ramps & Wells

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗					↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	
Lane Util. Factor	1.00		1.00					0.95			0.95	
Fr't	1.00		0.85					1.00			1.00	
Flt Protected	0.95		1.00					1.00			1.00	
Satd. Flow (prot)	1770		1583					3539			3539	
Flt Permitted	0.95		1.00					1.00			1.00	
Satd. Flow (perm)	1770		1583					3539			3539	
Volume (vph)	271	0	360	0	0	0	0	1043	0	0	1315	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	0	391	0	0	0	0	1134	0	0	1429	0
RTOR Reduction (vph)	0	0	15	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	295	0	376	0	0	0	0	1134	0	0	1429	0
Turn Type	Prot	custom								Free	Free	
Protected Phases	4									2	6	
Permitted Phases			4							Free		Free
Actuated Green, G (s)	15.0	15.0								27.0	27.0	
Effective Green, g (s)	15.0	15.0								27.0	27.0	
Actuated g/C Ratio	0.30	0.30								0.54	0.54	
Clearance Time (s)	4.0	4.0								4.0	4.0	
Vehicle Extension (s)	3.0	3.0								3.0	3.0	
Lane Grp Cap (vph)	531	475								1911	1911	
v/s Ratio Prot	0.17									0.32	0.40	
v/s Ratio Perm			0.25									
v/c Ratio	0.56	0.79								0.59	0.75	
Uniform Delay, d1	14.7	16.1								7.8	8.9	
Progression Factor	1.00	1.00								1.00	1.00	
Incremental Delay, d2	1.3	8.7								1.4	2.7	
Delay (s)	16.0	24.8								9.1	11.6	
Level of Service	B	C								A	B	
Approach Delay (s)	21.0				0.0				9.1	11.6		
Approach LOS	C				A				A	B		

Intersection Summary

HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

EXISTING+PROJECT_P.M.
 10: SR126 EB Ramps & Wells

Queues



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	295	391	1134	1429
v/c Ratio	0.56	0.80	0.59	0.75
Control Delay	17.2	23.5	10.0	13.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.2	23.5	10.0	13.0
Queue Length 50th (ft)	67	91	115	166
Queue Length 95th (ft)	124	#203	169	243
Internal Link Dist (ft)			1008	555
Turn Bay Length (ft)				
Base Capacity (vph)	602	553	1911	1911
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.71	0.59	0.75

Intersection Summary

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

YEAR 2025+PROJECT_A.M.
9: SR 126 WB RAMPS & Wells

HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑↑	↑		↑↑	↑
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	0	160	0	470	0	0	920	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	174	0	511	0	0	1000	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)												635
pX, platoon unblocked												
vC, conflicting volume	1429	1511	500	1011	1511	255	1000				511	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1429	1511	500	1011	1511	255	1000				511	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	100	100	77	100				100	
cM capacity (veh/h)	73	119	516	194	119	744	688				1051	

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	174	255	255	0	500	500	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	174	0	0	0	0	0	0
cSH	1700	744	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.23	0.15	0.15	0.00	0.29	0.29	0.00
Queue Length 95th (ft)	0	23	0	0	0	0	0	0
Control Delay (s)	0.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B						
Approach Delay (s)	0.0	11.3	0.0				0.0	
Approach LOS	A	B						

Intersection Summary		
Average Delay		1.2
Intersection Capacity Utilization	29.6%	ICU Level of Service
Analysis Period (min)	15	A

YEAR 2025+PROJECT_P.M.
9: SR126 WB RAMPS & Wells

HCM Unsignalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑			↑		↑↑	↑		↑↑	↑
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	0	0	90	0	1210	0	0	620	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	98	0	1315	0	0	674	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage veh												
Upstream signal (ft)												635
pX, platoon unblocked	0.76	0.76		0.76	0.76	0.76					0.76	
vC, conflicting volume	1429	1989	337	1652	1989	658	674				1315	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1253	1986	337	1545	1986	243	674				1104	
iC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
iC, 2 stage (s)												
iF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	100	100	83	100				100	
cM capacity (veh/h)	82	46	659	60	46	579	913				480	

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	98	658	658	0	337	337	0
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	98	0	0	0	0	0	0
cSH	1700	579	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.17	0.39	0.39	0.00	0.20	0.20	0.00
Queue Length 95th (ft)	0	15	0	0	0	0	0	0
Control Delay (s)	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B						
Approach Delay (s)	0.0	12.5	0.0			0.0		
Approach LOS	A	B						

Intersection Summary		
Average Delay	0.6	
Intersection Capacity Utilization	45.7%	ICU Level of Service
Analysis Period (min)	15	A

YEAR 2025+PROJECT_A.M.
10: SR126 EB Ramps & Wells

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗				↑↑↑		↖		↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0				4.0		4.0		4.0	
Lane Util. Factor	1.00		1.00				0.91		0.91		0.91	
Frt	1.00		0.85				1.00		1.00		1.00	
Flt Protected	0.95		1.00				1.00		1.00		1.00	
Satd. Flow (prot)	1770		1583				5085		5085		5085	
Flt Permitted	0.95		1.00				1.00		1.00		1.00	
Satd. Flow (perm)	1770		1583				5085		5085		5085	
Volume (vph)	100	0	170	0	0	0	0	850	0	0	2620	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	0	185	0	0	0	0	924	0	0	2848	0
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	109	0	184	0	0	0	0	924	0	0	2848	0
Turn Type	Prot		custom				Free		Free		Free	
Protected Phases	4						2				6	
Permitted Phases			4				Free		Free		Free	
Actuated Green, G (s)	11.0		11.0				43.7		43.7		43.7	
Effective Green, g (s)	11.0		11.0				43.7		43.7		43.7	
Actuated g/C Ratio	0.18		0.18				0.70		0.70		0.70	
Clearance Time (s)	4.0		4.0				4.0		4.0		4.0	
Vehicle Extension (s)	3.0		3.0				3.0		3.0		3.0	
Lane Grp Cap (vph)	311		278				3544		3544		3544	
v/s Ratio Prot	0.06						0.18		0.56		0.56	
v/s Ratio Perm			0.12									
v/c Ratio	0.35		0.66				0.26		0.80		0.80	
Uniform Delay, d1	22.7		24.1				3.5		6.5		6.5	
Progression Factor	1.00		1.00				1.00		1.00		1.00	
Incremental Delay, d2	0.7		5.8				0.0		1.4		1.4	
Delay (s)	23.4		29.9				3.6		7.9		7.9	
Level of Service	C		C				A		A		A	
Approach Delay (s)			27.5		0.0		3.6		7.9		7.9	
Approach LOS			C		A		A		A		A	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	109	185	924	2848
v/c Ratio	0.32	0.61	0.26	0.79
Control Delay	19.9	24.0	4.4	10.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.9	24.0	4.4	10.6
Queue Length 50th (ft)	31	55	39	224
Queue Length 95th (ft)	66	107	70	#470
Internal Link Dist (ft)			1008	555
Turn Bay Length (ft)				
Base Capacity (vph)	429	384	3621	3621
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.48	0.26	0.79

Intersection Summary

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

YEAR 2025+PROJECT_P.M.
10: SR126 EB Ramps & Wells

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗					↑↑↑	↗		↑↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	
Lane Util. Factor	1.00		1.00					0.91			0.91	
Frt	1.00		0.85					1.00			1.00	
Flt Protected	0.95		1.00					1.00			1.00	
Satd. Flow (prot)	1770		1583					5085			5085	
Flt Permitted	0.95		1.00					1.00			1.00	
Satd. Flow (perm)	1770		1583					5085			5085	
Volume (vph)	310	0	640	0	0	0	0	1320	0	0	1650	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	0	696	0	0	0	0	1435	0	0	1793	0
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	337	0	695	0	0	0	0	1435	0	0	1793	0
Turn Type	Prot	custom						Free				Free
Protected Phases	4							2				6
Permitted Phases		4								Free		Free
Actuated Green, G (s)	22.9	22.9						19.0				19.0
Effective Green, g (s)	22.9	22.9						19.0				19.0
Actuated g/C Ratio	0.46	0.46						0.38				0.38
Clearance Time (s)	4.0	4.0						4.0				4.0
Vehicle Extension (s)	3.0	3.0						3.0				3.0
Lane Grp Cap (vph)	812	726						1936				1936
v/s Ratio Prot	0.19							0.28				0.35
v/s Ratio Perm		0.44										
v/c Ratio	0.42	0.96						0.74				0.93
Uniform Delay, d1	9.0	13.0						13.3				14.8
Progression Factor	1.00	1.00						1.00				1.00
Incremental Delay, d2	0.3	23.3						1.6				8.2
Delay (s)	9.4	36.3						14.9				22.9
Level of Service	A	D						B				C
Approach Delay (s)		27.5		0.0				14.9				22.9
Approach LOS		C		A				B				C

Intersection Summary

HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	337	696	1435	1793
v/c Ratio	0.42	0.96	0.74	0.93
Control Delay	11.0	41.1	16.2	25.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.0	41.1	16.2	25.6
Queue Length 50th (ft)	61	181	127	176
Queue Length 95th (ft)	111	#386	172	#276
Internal Link Dist (ft)			1008	555
Turn Bay Length (ft)				
Base Capacity (vph)	814	729	1938	1938
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.95	0.74	0.93

Intersection Summary

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