Appendix F

CVMP Traffic Study

CARMEL VALLEY MASTER PLAN

TRAFFIC STUDY

Submitted to:

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1.0 Introduction & Project Description

The purpose of this traffic study for the Carmel Valley Master Plan (CVMP) is to evaluate current traffic conditions, identify existing and potential future land use changes, and identify potential traffic improvements to maintain established CVMP traffic level of service (LOS) standards.

Project Background

Carmel Valley Master Plan. The CVMP was developed in the early 1980s to address the specific planning issues in Carmel Valley. The CVMP included growth controls and traffic monitoring measures, thresholds, and procedures. An Environmental Impact Report (EIR) was prepared concerning the impacts of the CVMP, was certified in 1986, and the CVMP was adopted. Policy 39.3.2.1 was adopted as follows:

> *39.3.2.1 (CV) To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following:*
>
> *a. Twice yearly monitoring by Public Works (in June and October) of average daily traffic at 12 locations identified in the Keith Higgins report in Carmel Valley on Carmel Valley Road, Carmel Rancho Boulevard and Rio Road.*
>
> *b. A yearly evaluation report (December) prepared jointly by the Public Works and Planning Departments to indicate segments approaching a traffic volume which would lower existing level service and which would compare average daily traffic (ADT) counts with service volumes for levels of service.*
>
> *c. Public hearings to be held in January immediately following a December report in (b) above in which only 100 or less ADT remain before a lower level of service would be reached for any of the 12 segments described on figure B-1 of EIR 85-002 on the Carmel Valley Master Plan.*
>
> *d. With respect to those 12 identified road segments that are at level of service (LOS) C or below, approval of development will be deferred if the approval would significantly impact roads in he Carmel Valley Master Plan area which area at level of service (LOS) C or below unless and until an EIR is prepared which includes mitigation measures necessary to raise the LOS to an acceptable level and appropriate findings as permitted by law are made which may include a statement of overriding considerations. For purposes of this policy, "acceptable level" shall mean, at a minimum, baseline LOS as contained in the Carmel Valley Master Plan EIR. To defer*

approval if there is significant impact means that, at a minimum, the County will not approve development without such an EIR where the traffic created by the development would impact the level of service along any segment of Carmel Valley Road (as defined in the Keith Higgins Traffic Report which is part of the Environmental Impact Report (EIR) for the Carmel Valley Master Plan "CVMP") to the point where the level of service would fall to the next lower level. As for those road segments which are at LOS C, D and E, this would, at a minimum, occur when the LOS F, this would occur when it would cause a significant impact and worsening of traffic conditions as compared with the present condition. Specific findings will be made with each project and may depend on the type and location of any proposed development. Cumulative traffic impacts from development in areas outside the CVMP area must be considered and will cause the same result as development within the plan area.

1991 Carmel Valley Road Improvement Plan Subsequent EIR. In 1991, the County of Monterey determined that traffic increases in the CVMP area had exceeded their expectations and that traffic thresholds were approaching the volumes established by Policy 39.3.2.1. The County prepared the Carmel Valley Road Improvement Plan Subsequent Environmental Impact Report (SEIR). The SEIR was a subsequent EIR to the 1986 EIR for the CVMP and updated traffic, noise, air quality conditions and updated the suite of traffic improvements then determined necessary to maintain established CVMP traffic LOS standards. The Monterey County Planning and Public Works Department certified the SEIR and adopted the project in November 1991.

2002 Subdivision Moratorium. In December 2001, annual monitoring determined that traffic thresholds along two portions of Carmel Valley Road (between Ford Road and Laureles Grade and between Schulte Road and Rancho San Carlos Road) had been reached. In response to traffic reaching these thresholds and due to the 1999 elimination of the prior plan to build the Hatton Canyon Freeway (previously assumed in the CVMP), pursuant to CVMP policies, the County Board of Supervisors (in Resolution 02-024, adopted January 22, 2002), made it policy to deny approval of new residential and commercial subdivisions in the CVMP area until:

- Left-turn pockets are constructed along Carmel Valley Road between Robinson Canyon Road and Rancho San Carlos Road
- Capacity-increasing improvements to State Route (SR) 1 between Carmel Valley Road and Morse Drive are constructed; and
- Updated General Plan/Master Plan policies relating to Level of Service on Carmel Valley Road are adopted.

Residential subdivisions with applications submitted before October 19, 1999 were allowed to proceed provided they addressed their traffic and other impacts. The policy is intended to remain in place until the criteria above are met.

Recent Traffic Improvements Relative to Moratorium Requirements. According to the Monterey County Public Works Department, some of the required left-turn pockets have been constructed along Carmel Valley Road between Robinson Canyon Road and Rancho San Carlos Road (Segment 3) (those currently scheduled to be completed by 2007 are Boronda and Country Club as listed under the Monterey County CIP 2006-2012). All other work along Segment 3 is scheduled to be completed by 2008. The Transportation Agency of Monterey County (TAMC) completed a northbound climbing lane on SR1 between Carmel Valley Road and Ocean Avenue in 2001 that has improved operations substantially along this portion of SR1. The County in conjunction with TAMC and Caltrans is also completing the SR1 northbound climbing lane north of Rio Road. The project is fully funded with STIP funding and is expected to be completed by 2010.

General Plan Update.

On January 3, 2007 Monterey County adopted an update to the General Plan for Monterey County, which includes an updated CVMP Area Plan, to include traffic improvements developed to address this level of service deficiency. In June 2007, the General Plan Update (commonly referred to as "GPU4") was the subject of three different ballot measures concerning the General Plan: Measure A asked the voters if they approved of an alternative Community General Plan; Measure B asked the voters if they wanted to repeal the approval of GPU4; (Measure C) asked the voters if they approved of GPU4. All three measures were defeated. On July 10, 2007, the Board of Supervisors determined that the existing 1982 General Plan (and the existing CVMP) were in effect as the legal General Plan pending a future General Plan Update.

Project Description

The project study area, the CVMP plan area, has not changed from that described in the 1991 SEIR. The overall project area encompasses much of Carmel Valley, located in Monterey County. It is south of the City of Monterey, southwest of the City of Salinas and east of the City of Carmel-by-the-Sea. Regional access to the project area is provided by Highway 1 to the west and Highway 68 via Laureles Grade to the north. Figure 1 illustrates the project study area and study intersections.

The changes being evaluated in this study involve:

- updated land uses projections;
- changes related to traffic volumes and service levels in Carmel Valley;
- existing and future traffic conditions for five scenarios and potential traffic improvements.

1.1 Changes since 1986

This study included an update of land use conditions that have changed since the 1986 EIR on the CVMP. From 1987 through 2005, building permits were issued for 522 single-family dwelling units and adjunct units. Including the recent approval of the September Ranch subdivision, Approximately 322 residential units were approved within the CVMP area within new subdivisions, with an additional residential 288 units approved outside the CVMP area in the Rancho San Carlos/Santa Lucia Preserve development (this area contributes directly to traffic on Carmel Valley Road), although not all of the units approved in new subdivisions have been built yet or have had building permits issued. In addition, 140 visitor-serving units were approved in the CVMP area between 1987 and 2005. Commercial growth has also occurred in some parts of the CVMP. In addition to growth within the CVMP area, Monterey County has experienced substantial growth over the last two decades.

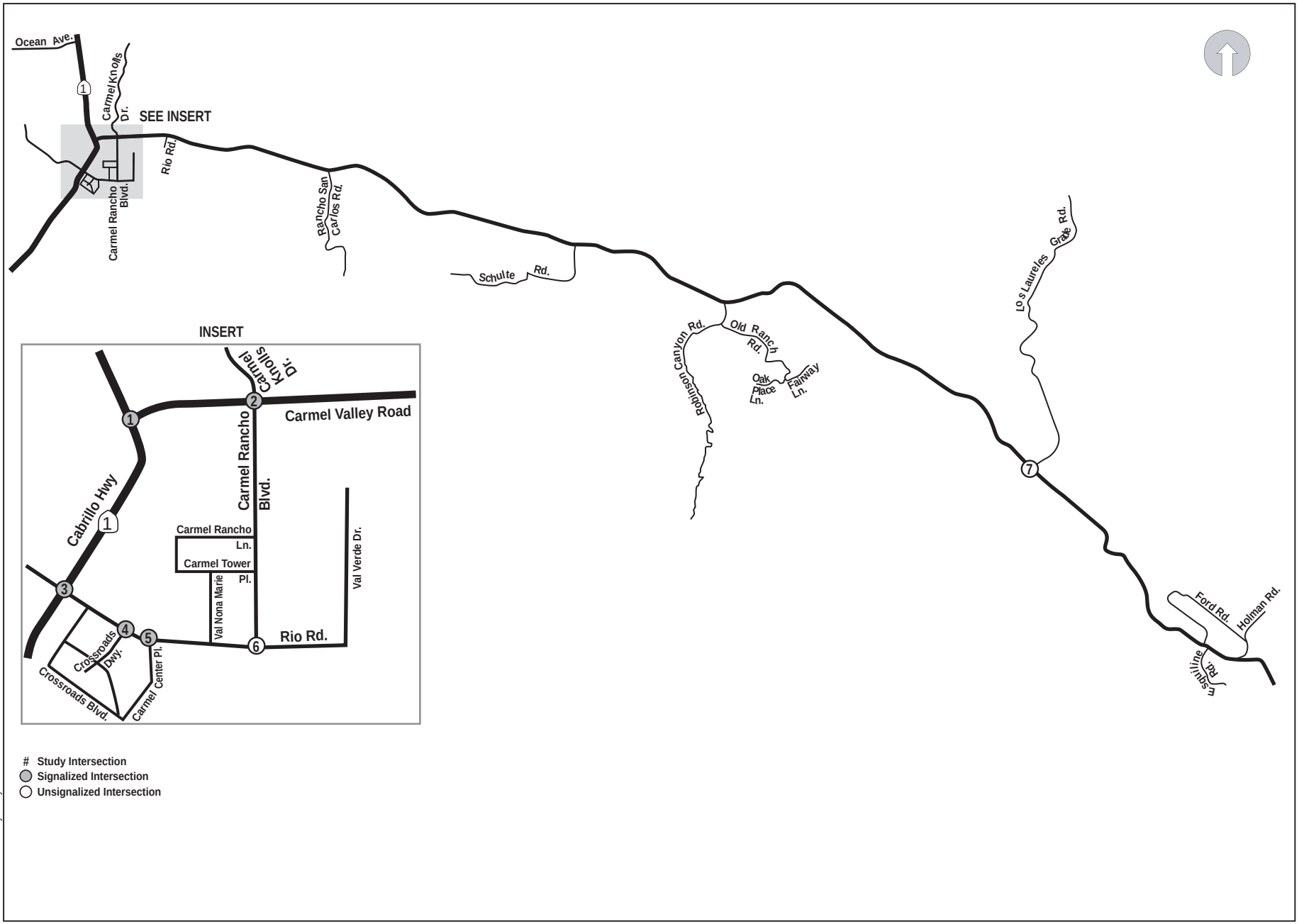

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Exhibit 1
Study Area

The traffic model used for this study was updated to take account of these land use changes and to better forecast potential future growth within the CVMP area.

The following roadway improvements have been partially or fully completed since the 1991 EIR; the improvements are derived from the CIP list that is part of the Master Plan Fee.

- Enforcement and Signage Program (Completed).
- Sight Improvements, parking restrictions and signage in Carmel Valley Village (Completed).
- Class II Bike Lanes (Partially Completed) - Class II bike striping was installed from Valley Greens to Dorris. A class III bike route was installed on Valley Greens to a point about ½ mile west of Rancho San Carlos.
- Left-Turn Channelization – West of Ford (partial - currently working on the left-turn pockets at Boronda and Country Club Drive).
- Upgrade to Class II bike lanes for Carmel Valley Road (Completed)
- Widen Refuge Area at Via Mallorca (Completed)
- Passing Lanes in front of September Ranch (Conditional - adopted as a condition of approval for the September Ranch Subdivision).
- Various improvements along Carmel Valley Road and the Carmel Valley Village include shoulder widening left-turn channelization as well as various safety enhancements.

1.2 Traffic Study Scenarios

For the purpose of this study and consistent with the previous SEIR, five scenarios were considered:

No Project Scenario: This scenario assumes no new traffic improvements and no additional residential or commercial subdivisions, as it is assumed that the existing subdivision moratorium will continue. It is assumed that additional single-family dwellings, visitor-serving units, and commercial developments can be approved within the CVMP land use framework without the need for subdivision up to the growth limits in the CVMP Area Plan. It is also assumed that previously approved projects will be completed.

Scenario A: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with anticipated additional residential subdivisions to be evenly

distributed across potential development locations, and no new traffic improvements beyond those completed or in development as listed in Section 1.1. Pending development proposals are not assumed to be built, but the land on which they are proposed is instead assumed to be developed in accordance with existing land use designations and zoning.

Scenario B: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with existing development proposals incorporated into the analysis, and with anticipated additional residential subdivisions to be evenly distributed across potential development locations, and no additional traffic improvements beyond those completed or in development as listed in Section 1.1.

Scenario C: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with existing development proposals incorporated into the analysis, and with anticipated additional residential subdivisions to be evenly distributed across potential development locations (same as Scenario B). This scenario includes the following traffic improvements, which are all included in the current County Capital Improvement Program (CIP) Carmel Valley Road Improvement List:

- left-turn channelization on Carmel Valley Road west of Ford (those currently scheduled to be completed by 2007 are Boronda and Country Club as listed under the Monterey County CIP 2006-2012);
- shoulder widening on Carmel Valley Road between Laureles Grade and Ford;
- passing lanes on Carmel Valley Road in front of the proposed September Ranch development;
- passing lanes opposite Garland Park;
- a climbing lane on Laureles Grade;
- a grade separation at Laureles Grade and Carmel Valley Road;
- paved turnouts, new signage, shoulder improvements and spot realignments on Laureles Grade; and
- upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 Bike Lanes.

Scenario D: This scenario is the same as Scenario C, except that it also includes two passing lanes along Segments 6, and 7. This scenario was included to

analyze potential improvements in level of service along these two segments. These passing lanes are not part of the current CIP.

- Schulte Road to Robinson Canyon Road (Segment 6)- Provide a ¼ mile passing lane anywhere along the segment where feasible.

- Rancho San Carlos Rd to Schulte Road (Segment 7) - Provide a ¼ mile passing lane anywhere along the segment where feasible.

2.0 Study Methodology

To evaluate existing and future traffic conditions, the Level of Service (LOS) was evaluated at study intersections and roadway segments. The LOS evaluation indicates the degree of congestion that occurs during peak travel periods and is the principal measure of intersection performance.

Study Intersections

The following intersections were selected for analysis, as they are the most likely to be potentially affected by the project.

- Highway 1 & Carmel Valley Road
- Carmel Rancho Boulevard & Carmel Valley Road
- Highway 1 & Rio Road
- Crossroads Driveway & Rio Road
- Carmel Center Place & Rio Road
- Carmel Rancho Boulevard & Rio Road
- Laureles Grade & Carmel Valley Road

Roadway Segments

For the purpose of this analysis, Carmel Valley Road has been divided into ten roadway segments, the same roadway segments analyzed in the previous SEIR.

- Segment 1: East of Holman Road
- Segment 2: Holman Road to Esquiline Road
- Segment 3: Esquiline Road to Ford Road
- Segment 4: Ford Road to Laureles Grade
- Segment 5: Laureles Grade to Robinson Canyon Road
- Segment 6: Robinson Canyon Road to Schulte Road
- Segment 7: Schulte Road to Rancho San Carlos Road
- Segment 8: Rancho San Carlos Road to Rio Road

- Segment 9: Rio Road to Carmel Rancho Boulevard
- Segment 10: Highway 1 to Carmel Rancho Boulevard

Note: Segment 2 and 3 were previously called Segment 2A and 2B and Segment 4 was previously called Segment 3 in the previous SEIR. However, this report provides a sequential numbering of the ten roadway segments.

Figure 2 illustrates the study roadway segments.

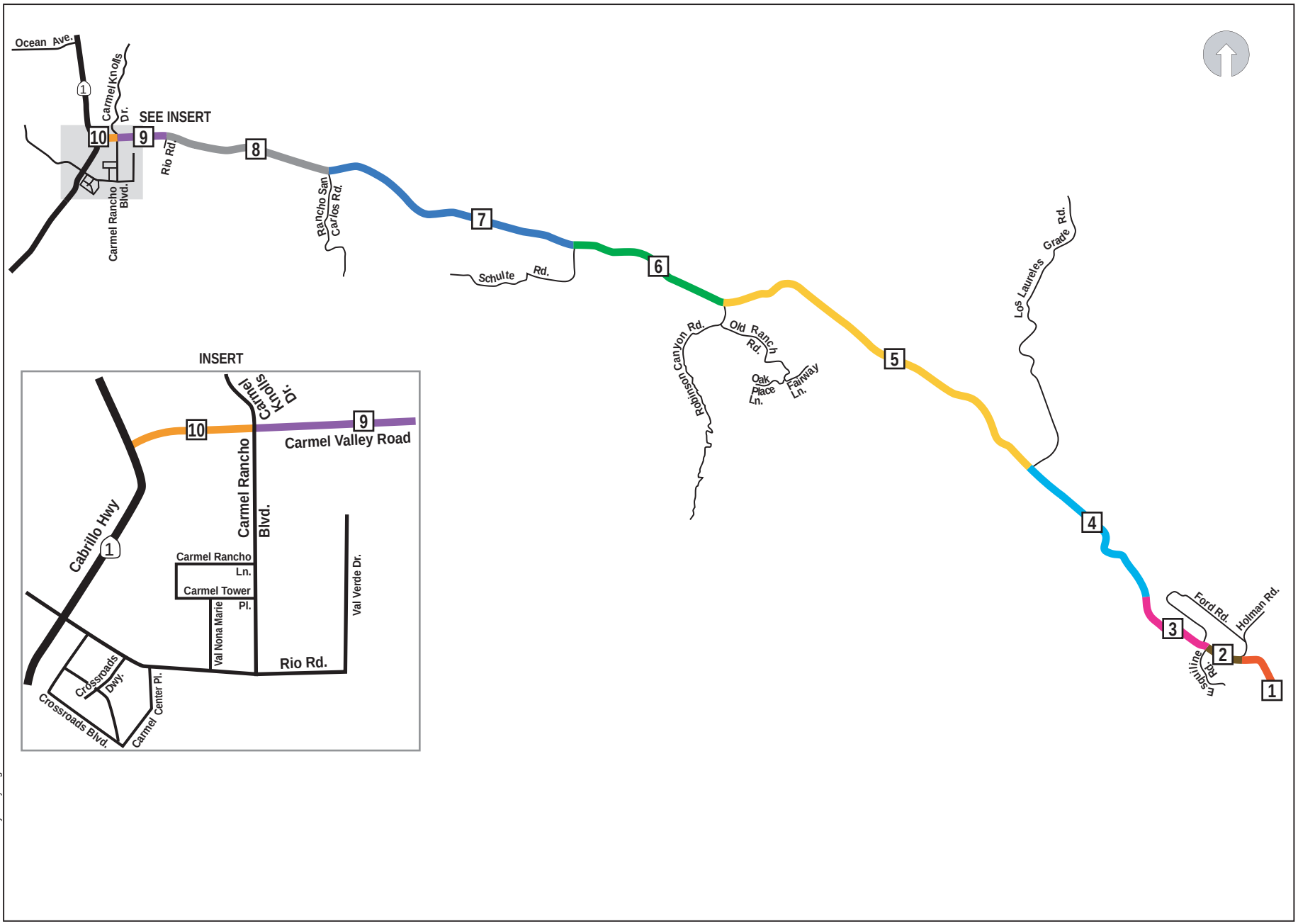

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Exhibit 2
Existing Roadway Segments

2.1 Intersection Analysis Methodology

Monterey County's designated intersection level of service analysis methodology is the 2000 Highway Capacity Manual (HCM) operations method for unsignalized and signalized intersections.

2.1.1 Level of Service General Definition

Level of service (LOS) is a common measure of traffic service that uses letters A through F (least to most traffic congestion, respectively) to indicate the amount of congestion and delay. The LOS concept was developed to correlate numerical traffic volumes to subjective descriptions of traffic performance at intersections, which are the controlling bottlenecks of traffic flow. In general practice, LOS A indicates free flow conditions, while LOS B and C signify stable conditions with acceptable delays. LOS D is typically considered acceptable for peak hours in urban areas. LOS E is approaching capacity and LOS F represents conditions at or above capacity.

2.1.2 Signalized Intersections

The LOS evaluation indicates the degree of congestion that occurs during peak travel periods and is the principal measure of roadway performance. Level of Service can range from "A" representing free-flow conditions, to "F" representing extremely long delays. LOS B and C signify stable conditions with acceptable delays. LOS D is typically considered acceptable for a peak hour in urban areas, with average delays in the range of 35 to 55 seconds. LOS E is approaching capacity and LOS F represents conditions at or above capacity, with average delays over 80 seconds.

The correlation between average control delay and level of service is contained in Table 1.

Table 1 Signalized Intersection LOS Definition

Level Of Service	Description	Avg. Control Delay (sec/veh)
A	Free flow; minimal to no delay	≤ 10.0
B	Stable flow, but speeds are beginning to be restricted by traffic condition; slight delays	10.1– 20.0
C	Stable flow, but most drivers cannot select their own speeds and feel somewhat restricted; acceptable delays.	20.1-35.0
D	Approaching unstable flow, and drivers have difficulty maneuvering; tolerable delays.	35.1 – 55.0
E	Unstable flow with stop and go; delays	55.1 – 80.0
F	Total breakdown; congested conditions with excessive delays.	≥ 80.0

Source: Highway Capacity Manual, Transportation Research Board, 2000

2.1.3 Unsignalized Intersections

At unsignalized intersections, each approach to the intersection is evaluated separately and assigned a LOS. The LOS is based on the average delay at the worst approach for two-way stop controlled intersections, in seconds per vehicle.

Total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

Table 2 provides definitions of LOS for two-way stop controlled intersections.

Table 2 Unsignalized Intersection LOS Definition

Level of Service	Average Control Delay (seconds per vehicle) [1]	Description
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short traffic delay
C	> 15 and ≤ 25	Average traffic delay
D	> 25 and ≤ 35	Long traffic delay
E	> 35 and ≤ 50	Very long traffic delay
F	> 50	Extreme delays potentially affecting other traffic movements in the intersection.

Source: Highway Capacity Manual, Transportation Research Board, 2000, Exhibit 17-2.
1 Worst Approach Delay (seconds per vehicle)

2.2 Roadway Segment Methodology

A roadway segment analysis was performed for ten roadway segments along Carmel Valley Road using the average daily traffic (ADT) volumes and the two-lane or multi-lane HCM Methodology.

2.2.1 Level of Service Definition

For the purpose of this analysis, Carmel Valley Road is categorized as a Class II Facility. As defined in the Highway Capacity Manual, a Class II facility consists of a "two-lane highway on which motorists do not necessarily expect to travel at high speeds. Two-lane highways that function as access routes to Class I facilities, serve as scenic or recreational routes that are not primary arterials, or pass through rugged terrain generally are assigned to Class II. Class II facilities most often serve relatively short trips, the beginning and ending portions of longer trips, or trips for which sightseeing plays a significant role." The multi-lane roadway segment of Carmel Valley Road between SR1 and Rancho San Carlos was also categorized as a Class II facility.

For two-lane highways, level of service is evaluated based on the "percent time-spent following". For multi-lane highways, level of service is evaluated based on vehicle density. Table 3 provides definitions of LOS for two-lane and multi-lane highways, respectively.

Table 3 Two-Lane and Multi-Lane Highway – LOS Criteria

Level of Service	Two-Lane[1]	Multi-Lane[2]
	Percent Time-Spent Following (PTSF)	Density (pc/mi/ln)
A	<= 40	<= 11
B	> 40 to 55	> 11 to 18
C	> 55 to 70	> 18 to 26
D	> 70 to 85	> 26 to 35
E	> 85	> 35 to 41
F	See note 3	> 41

[1] Highway Capacity Manual, Transportation Research Board, 2000, Exhibit 20-4, Class II Facility.
[2] Highway Capacity Manual, Transportation Research Board, 2000, Exhibit 21-2 – Facility with FFS of 55 mph.
[3] LOS F applies whenever the flow rate exceeds the roadway segment capacity.

As described in Section 4, CVMP policy establishes the roadway segment standard as LOS C, except for those segments that were LOS D or lower as of the time of the traffic study for the 1986 EIR on CVMP. For Carmel Valley Road between Ford Road to Rancho San Carlos Road, the LOS standard is the baseline LOS extant in 1986 which was LOS D. For Carmel Valley Road between Carmel Rancho Blvd. and SR1, the LOS extant in 1986 was LOS E.

2.3 Traffic Forecasting

This section describes the methodology for forecasting traffic volumes for each land use scenario for the project condition. An overview of the forecasting tool steps and modifications are described in detail.

In order to analyze the project conditions for this study, DKS Associates used the AMBAG Regional Travel Demand Model, hereafter referred to as AMBAG model, built using TransCAD software. The model was created by the Association of

Monterey Bay Area Governments and is the primary tool for forecasting in the AMBAG region. This model was significantly updated and migrated to TransCAD in 2005. The new AMBAG model was redesigned based on new traffic analysis zone structures, an updated roadway and transit network, updated land use forecasts, and updated socioeconomic data via surveys. The model has the capability to forecast 2000, 2010, 2020, 2025 and 2030 land use scenarios. For the purposes of this study, only the base 2000 and 2030 model was used to generate traffic volume changes. A detailed description of the model structure and changes made for this analysis is provided in Appendix A.

3.0 Setting

Regional access to the project areas is provided by Highway 1, Carmel Valley Road and Laureles Grade.

Highway 1 (State Route 1)

This facility is a state highway that runs along the Pacific coast. It extends from Las Cruces just south of Lompoc in the south to San Francisco in the north. In the vicinity of the project, this facility runs in the north-south direction as it passes through Carmel before becoming a freeway in Monterey. It includes two lanes of travel (one in each direction) south of Carmel Valley Road. North of Carmel Valley Road, Highway 1 provides three travel lanes (two in the northbound direction and one lane in the southbound direction) until Ocean Avenue. Highway 1 provides access to the project study area via Carmel Valley Road and Rio Road.

State Highway 68

This facility extends from Salinas in the northeast, to its interchange with Highway 1 in the southwest where it becomes Cabrillo Highway. State Highway 68 splits west of Aguajito Road in Monterey where it becomes Holman Highway and continues northwest towards Pacific Grove where it becomes Sunset Drive near Asilomar State Beach and ultimately becomes Ocean View Boulevard in Pacific Grove. In the vicinity of the project, State Highway 68 runs in the east-west direction and includes two lanes of travel (one in each direction) between Highway 1 and the Toro Regional Park area. North of the Toro Park Regional area, state highway 68 includes four-lanes of travel (two in each direction). State Highway 68 provides access to the project study area via Laureles Grade.

Carmel Valley Road

This facility is a major east-west two to four-lane major arterial; it extends from Highway 1 in the west, through the Carmel Valley to Arroyo Seco Road in the east. Arroyo Seco Road splits at its intersection with Elm Avenue in Greenfield and continues north. Arroyo Seco Road connects to U.S. 101, north of the City of Greenfield. Elm Avenue connects directly to U.S. 101 in the City of Greenfield. In the vicinity of the project, Carmel Valley Road runs in the west-east direction and provides two to four-lanes of travel. Carmel Valley Road has posted speed limits between 15 to 55 mph.

Laureles Grade

This facility extends from Carmel Valley Road, in the south, to Highway 68, in the north. In the vicinity of the project, Laureles Grade runs in the north-south direction, and includes two-lanes (one in each direction).

Local Access

Local access to the project study area is provided by Rio Road and Carmel Rancho Boulevard. Descriptions of local access roads are provided below.

Rio Road

This facility is a two to four-lane local street with an east-west direction that extends from Val Verde Drive in the east to its terminus at Junipero Avenue in the west where it becomes 13th Avenue in the City of Carmel by the Sea. It has a posted speed limit of 25 mph.

Carmel Rancho Boulevard

This facility is a four-lane local street with a north-south direction and has a posted speed limit of 35 mph. It extends from Rio Road in the south to its terminus at Carmel Valley Road where it becomes Carmel Knolls Drive.

3.1 Intersection Analysis

The County of Monterey Department of Public Works staff provided A.M. peak hour and P.M. peak hour intersection level of service calculations for four of the seven existing study intersections. To supplement data provided by County of Monterey staff, DKS recently conducted new weekday intersection turning movement counts at the following intersections:

- Crossroads Driveway & Rio Road
- Carmel Center Place & Rio Road
- Laureles Grade & Carmel Valley Road

Vehicle turning movement counts were conducted in November 2005. Counts were conducted during the weekday A.M. period of 7:00-9:00 A.M. and the P.M. peak hour period of 4:00-6:00 P.M.

Figure 3 illustrates the existing lane geometry and traffic control of each of the study intersections. Figure 4 illustrates the existing A.M. and P.M. peak hour volumes. The intersection and their corresponding existing LOS are presented in Table 4.

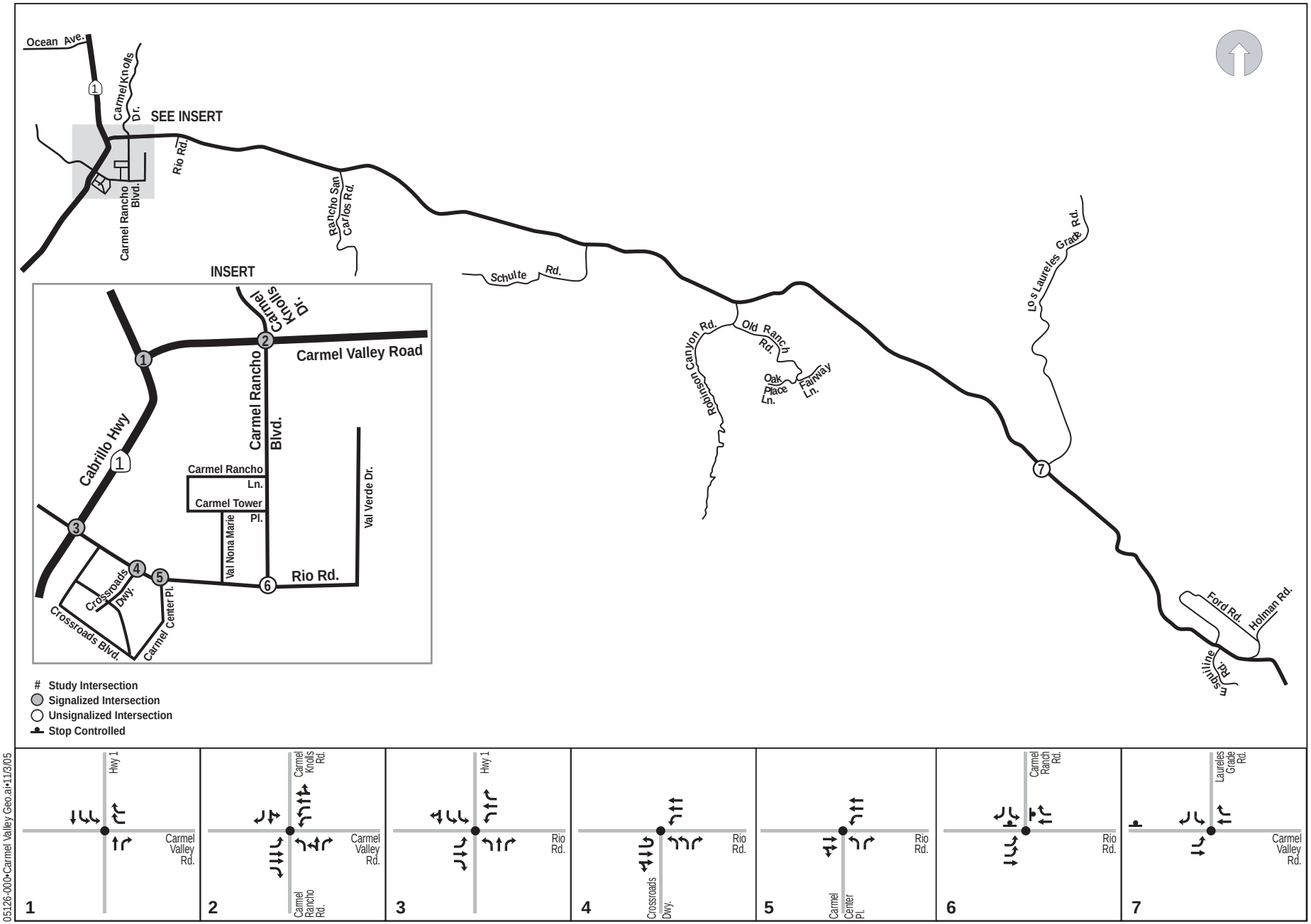

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Exhibit 3
Existing Intersection Geometry and Traffic Control

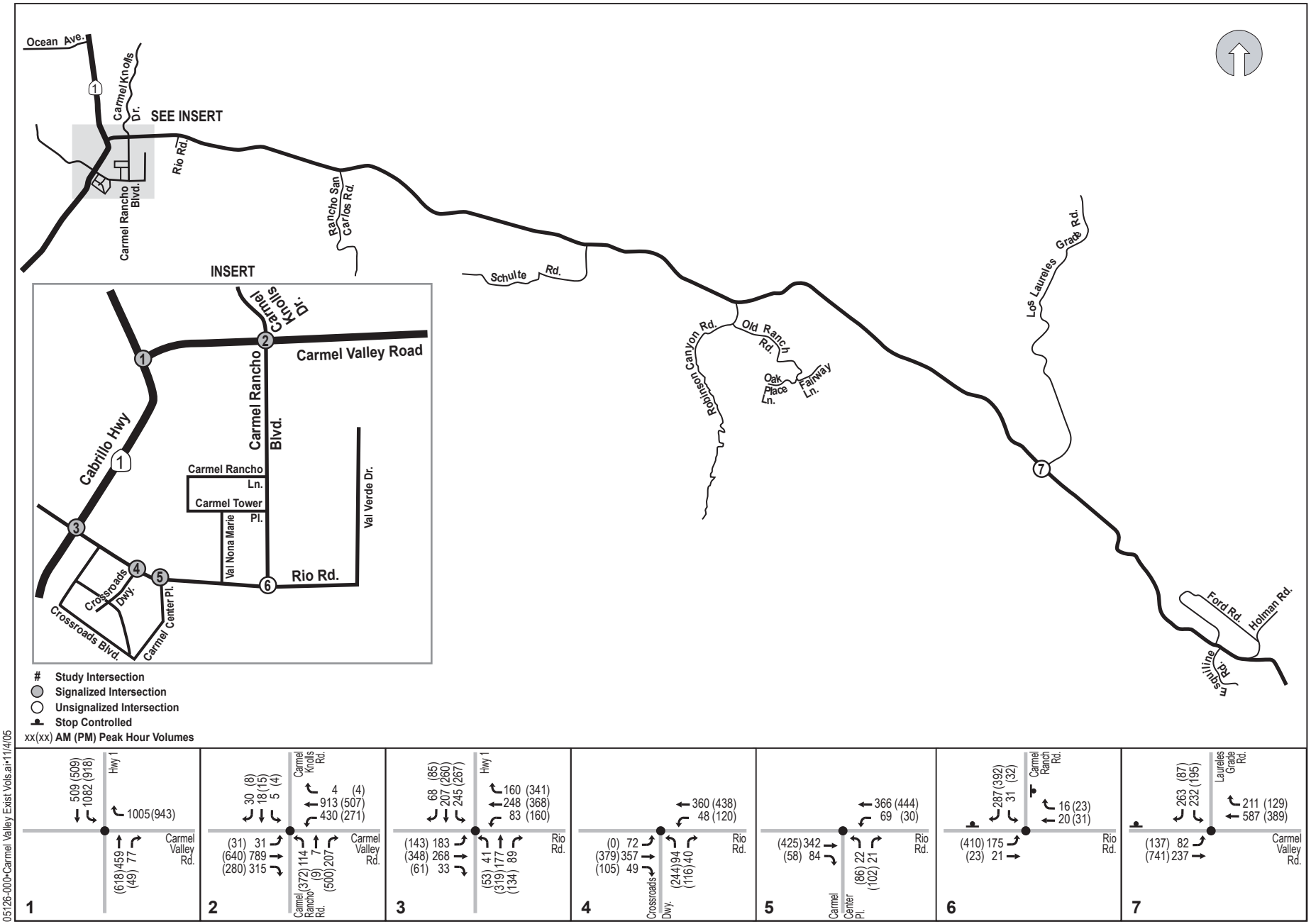

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Exhibit 4
Existing Intersection Volumes
Weekday AM and PM Peak Hour

Table 4 Intersection Level of Service – Existing Condition

#	Intersection Name	A.M. Peak		P.M. Peak	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1	Highway One & Carmel Valley Road	16.5	B	20.6	C
2	Carmel Rancho Boulevard & Carmel Valley Road	17.5	B	22.0	C
3	Highway One & Rio Road	28.7	C	30.2	C
4	Crossroads Driveway & Rio Road	9.9	A	11.2	B
5	Carmel Center Place & Rio Road	6.2	A	8.7	A
6	Carmel Rancho Boulevard & Rio Road[3]	3.5	A	7.9	B
7	Laureles Grade & Carmel Valley Road[3]	46.3	E	>50	F

[1] Average Delay in seconds per vehicle
[2] LOS: Level of Service
[3] Unsignalized Intersections, Delay is Worst Approach Delay In seconds per vehicle. Delay >50 sec/veh exceeds the delay threshold per HCM 2000 for Unsignalized Intersection.

According to the intersection level of service standards, all study intersections operate at acceptable level of service under the existing conditions with the exception of the intersection of Laureles Grade & Carmel Valley Road. The southbound movement at this intersection currently operates at LOS F during the P.M. peak hour.

Appendix B includes the detailed level of service analysis sheets for the A.M. and P.M. peak hour.

Signal Warrant Analysis

A peak-hour volume warrant (per the MUTCD California Supplement) was performed for the studied unsignalized intersections. Based on the analysis results, the intersection of Laureles Grade & Carmel Valley Road satisfied the warrant under the existing conditions for both the A.M. and P.M. peak hours. The intersection of Carmel Rancho Boulevard & Rio Road does not satisfy the peak-hour warrant criteria.

Appendix C includes the detailed peak-hour volume warrants for each of the unsignalized intersections during the A.M. and P.M. peak hours, respectively.

3.2 Roadway Segment Analysis

The Monterey County Department of Public Works provided 2005 ADT volumes for each of the ten roadway segments, as well as 24-hour threshold volumes. A detailed description of each roadway segment is provided below.

Segment 1 – East of Holman Road

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. East of Holman Road, the posted speed limit is 55 mph and no shoulders are provided.

Segment 2 – Holman Road to Esquiline Road

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. The posted speed limit is 35 mph and no shoulders are provided. Shoulders are provided in certain areas.

Segment 3 – Esquiline Road to Ford Road

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. The posted speed limit is 25 mph and no shoulders are provided. Transit stops for MST Line 24 are provided near the Ford Road intersection. Shoulders are provided in certain areas.

Segment 4 –Ford Road to Laureles Grade

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. The posted speed limit is 35 mph and no shoulders are provided. Transit stops for MST Line 24 are provided. Shoulders are provided in certain areas.

Segment 5 – Laureles Grade to Robinson Canyon Road

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. In the westbound direction, the posted speed limit is 50 mph west of Laureles Grade to Miramonte Road. West of Miramonte Road the posted speed limit is 55 mph until Haldorn Road. Just west of Haldron Road the posted speed limit is 45 mph. In the eastbound direction, the posted speed limit is 55 mph. Transit stops for MST Line 24 are provided.

Segment 6 – Robinson Canyon Road to Schulte Road

This roadway segment along Carmel Valley Road consists of two (2) travel lanes, one in each direction. In the westbound direction, the posted speed limit is 50 mph between Robinson Canyon Road and Loma Del Rey and 45 mph west of Loma Del Rey until Schulte Road. A flashing 25 mph posted speed limit is located near the Carmel Adult School and Saint Philip Church. In the eastbound direction, the posted speed limit is 50 mph between Schulte Road and Mercurio Doud Road. East of Mercurio Doud Road the posted speed limit is 45 mph.

Transit stops for MST Line 24 are provided.

Segment 7 - Schulte Road to Rancho San Carlos Road

This roadway segment along Carmel Valley Road consists of two lanes of travel (one lane in each direction) with a two-way left turn lane provided along the center of the roadway between Valley Green Drive and the farm driveway. Left-turn pockets are provided for vehicular turns at the intersections of Cañada Way and Valley Green Drive, as well as, at the farm entrance, near St. Philips Lutheran Church and Schulte Road. The two-way left turn lane continues east of the fire station to Schulte Road. Carmel Valley Road has a posted speed limit of 45 mph in the eastbound direction and a 50 mph in the westbound direction. Bike lanes and transit stops are provided along this segment of Carmel Valley Road.

Pedestrian facilities within this segment include sidewalks and crosswalks. Crosswalks are located west of the St. Philips Lutheran Church and accommodate pedestrian movements within the immediate vicinity. Pedestrian access to transit facilities is hampered by the lack of continuous sidewalks and walkways to transit stops.

Segment 8 – Rancho San Carlos Road to Rio Road

This roadway segment along Carmel Valley Road consists of four lanes of travel between Rio Road and Via Petra – Del Mesa Drive (two lanes in each direction). East of Via Petra – Del Mesa Drive, Carmel Valley Road becomes a two-lane (one lane in each direction) roadway with a two-way left turn lane provided along the center of the roadway. The two-lane roadway runs until it intersects with Rancho San Carlos. The posted speed limit is 55 mph. Signalized intersections include Via Mallorca and Rancho San Carlos. Left-turn pockets are provided for vehicular turns at the intersections of Rio Road, Martin Canyon Road, Via Mallorca, Via Petra and Rancho San Carlos.

Pedestrian facilities within this segment include sidewalks, crosswalks and pedestrian signals. Crosswalks and pedestrian signals at both of the signalized intersections accommodate pedestrian movements within the immediate vicinity. Ramps are provided at the signalized intersections for disabled person access. Pedestrian access to transit facilities is impeded by the lack of sidewalks and walkways to transit stops.

Segment 9 – Rio Road to Carmel Rancho Boulevard

This roadway segment along Carmel Valley Road consists of four travel lanes, two in each direction. The posted speed limit is 45 mph with a 25 mph posted speed limit enforced near Carmel Middle School. Signalized intersections include Carmel Rancho Boulevard and Carmel Valley Middle School. Left-turn pockets are provided for vehicular turns at the intersections of Carmel Rancho Boulevard, Rio Vista Drive, Carmel Middle School and Rio Road.

Pedestrian facilities within this segment include sidewalks, crosswalks and pedestrian signals. Crosswalks and pedestrian signals at both of the signalized intersections accommodate pedestrian movements within the immediate vicinity. Ramps are provided at the signalized intersections for disabled person access. Pedestrian access to transit facilities is hampered by the lack of continuous sidewalks and walkways to transit stops.

Segment 10 – Highway 1 to Carmel Rancho Boulevard

This roadway segment along Carmel Valley Road consists of four travel lanes, two in each direction. The posted speed limit is 45 mph. Signalized intersections include Carmel Rancho Boulevard and Highway 1. Left-turn pockets are provided for vehicular turns at the intersections of Carmel Rancho Boulevard and Highway 1.

Pedestrian facilities within this segment include sidewalks, crosswalks and pedestrian signals. Crosswalks and pedestrian signals are provided at Carmel Valley Road and Carmel Rancho Boulevard–Carmel Knolls Drive. Crosswalks accommodate pedestrian movements within the immediate vicinity. Ramps are provided at the signalized intersections for disabled person access. There are no sidewalks or walkways to aid pedestrian access to transit stops.

Table 5 provides a comparison analysis for each of the roadway segments.

Based on the 2005 Average Daily Traffic (ADT) volumes, nine of the ten roadway segments in the study area currently operate below the acceptable threshold. The exception is the roadway segment between Schulte Road and Rancho San Carlos Road.

Table 5 Roadway Segment – Existing ADT Monitoring

#	Roadway Segment	Lanes	24-Hr Threshold Volume	ADT 2005	Threshold Exceed
1.	East of Holman Road	2	8,487	3,774	No
2.	Holman Road to Esquiline Road	2	6,835	4,260	No
3.	Esquiline Road to Ford Road	2	n/a	8,651	No
4.	Ford Road to Laureles Grade	2	11,600	11,589	No
5.	Laureles Grade to Robinson Canyon Road	2	12,752	11,739	No
6.	Robinson Canyon Road to Schulte Road	2	15,499	14,736	No
7.	Schulte Road to Rancho San Carlos Road	2	16,340	16,694	Yes
8.	Rancho San Carlos to Rio Road	4	48,487	21,010	No
9.	Rio Road to Carmel Rancho Boulevard	4	51,401	25,484	No
10.	Carmel Rancho Boulevard to Highway One	4	n/a	23,847	No

Source: Monterey County Department of Public Works, data e-mailed September 2006.

Table 6 and Table 7 provide a comparison analysis for each of the two-lane and multi-lane roadway segments, respectively. Appendix C includes detailed calculation sheets for each of the roadway segments, including sample calculations.

Table 6 Two-Lane Roadway Segment – Existing Condition LOS Analysis

Segment	To/From	A.M. Peak			P.M. Peak		
		Two-Way Volume	PTSF[1]	LOS	Two-Way Volume	PTSF[1]	LOS
1	East Of Holman	373	32.46	A	430	37.98	A
2	Holman Road to Esquiline Road	390	32.39	A	473	39.50	A
3	Esquiline Road to Ford Road	774	55.81	C	790	54.57	B
4	Ford Road to Laureles Grade	1,114	68.00	C	1,112	66.60	C
5	Laureles Grade to Robinson Canyon Road	1,074	70.00	D	1,158	68.77	C
6	Robinson Canyon Road to Schulte Road	1,445	76.42	D	1,430	74.92	D
7	Schulte Road to Rancho San Carlos Road	1,629	82.98	D	1,556	76.75	D

Source: DKS Associates, August 2006
[1]PTSF: Percent Time-Spent Following

3.2.1 Two-Lane Roadway Segment Operation

Under the existing condition, all roadway segments operate at acceptable levels of service C, except for the segments of Laureles Grade to Robinson Canyon, Robinson Canyon Road to Schulte Road and Schulte Road to Rancho San Carlos Road. These segments currently operate at LOS D, which meets the LOS D standard for these segments.

3.2.2 Multi-Lane Roadway Segment Operation

Under the existing condition, all multi-lane roadway segments operate at acceptable levels of service. Table 7 lists the existing level of service for all multi-lane segments.

Table 7 Multi-Lane Roadway Segment – Existing Condition LOS Analysis

Segment	To/From	Direction	A.M. Peak				P.M. Peak			
			Volume (vph)	Flow Rate (pcphpl)	Density[1]	LOS	Volume (vph)	Flow Rate (pcphpl)	Density[1]	LOS
8	Rancho San Carlos to Rio Road	EB	769	470	7.53	A	1,034	550	10.00	A
		WB	937	586	10.65	A	874	475	8.64	A
9	Rio Road to Carmel Rancho Boulevard	EB	1,028	579	10.53	A	1,272	650	11.82	B
		WB	1,273	757	13.76	B	1,098	646	11.75	B
10	Carmel Rancho Boulevard to Highway One	EB	1,106	621	11.29	B	1,030	575	10.45	A
		WB	904	601	10.93	A	1,089	662	12.01	B

Source: DKS Associates, 2006.
[1]Density in passenger cars per mile per lane.

4.0 Level of Service Standards and Future Traffic Impacts

The LOS standards used for this study are described below.

4.0.1 Segments

Within the CVMP Area, the LOS standard for roadway segments was previously established by Policy 39.3.2.1. This policy establishes the roadway segment standard as LOS C, except for those segments that were LOS D or lower as of the time of the traffic study for the 1986 EIR on CVMP. According to the 1986 study (CVMP Traffic Analysis, Keith B. Higgins), the baseline LOS along Carmel Valley Road is as follows (LOS standards are noted applying the CVMP policy noted above in parentheses):

- Holman Road to Ford Road (Segments 1, 2, and 3) – Operated at LOS C or better in 1986 (standard of LOS C)
- Ford Road to Rancho San Carlos Road (Segments 4, 5, 6, and 7) – Operated at LOS D in 1986 (standard of LOS D).
- Rancho San Carlos Road to Carmel Rancho Blvd. (Segments 8, and 9) – Operated at LOS C or better in 1986 (standard of LOS C).
- Carmel Rancho Blvd. to SR1 (Segment 10) – This portion of Carmel Valley Road operated at LOS E in 1986 (standard of LOS E).

4.0.2 Intersections

According to Monterey County Public Works *Guide for the Preparation of Traffic Impact Studies* (Monterey County 2003), an acceptable level of service is LOS C for signalized intersections and LOS E for unsignalized intersections.

5.0 Traffic Scenario Analysis

For the purpose of this study and consistent with the previous SEIR, four scenarios to the project were considered. These scenarios are:

- No Project Scenario
- Scenario A
- Scenario B
- Scenario C

5.1 No Project Scenario - Intersection Operation

The No Project Scenario contains no new traffic improvements and no additional residential or commercial subdivisions. Previously approved development and new development that does not require subdivision is assumed to be built up to the limits of the CVMP Area Plan. The No Project Scenario would increase vehicular traffic on the study area roadways due to growth in the CVMP and in the County outside the CVMP.

According to the LOS standards described above, all study intersections would operate at an acceptable LOS except for the intersection of Highway One and Rio Road and the intersection of Laureles Grade and Carmel Valley Road.

At Highway One/Rio Road, the intersection would continue to operate at LOS C in the A.M. peak hour, but without improvement, would decline from an existing LOS C to LOS D in the P.M peak hour. The Transportation Agency for Monterey County (TAMC) is planning an improvement to the Highway One/Rio Road intersection that is expected to take place before projected CVMP buildout. The planned improvement includes an additional lane on Highway One northbound from this intersection and additional turning lanes. Traffic evaluation of this proposed improvement has not been completed yet, but it is likely that the improvement will result in acceptable levels of service. This improvement is included as part of the Highway 1 Carmel Area Operational Improvements in the TAMC Regional Fee Program (Source: Draft TAMC Regional Traffic Impact Fee Project Information, 9/29/2003 and Monterey County Public Works Department).

Similar to the existing condition, the Laureles Grade/Carmel Valley Road intersection would continue to operate at LOS F during the P.M. peak hour. The addition of allowed development projects traffic would cause this intersection to deteriorate from LOS E to LOS F during the A.M. peak hour. The intersections and their corresponding existing levels of service are presented in Table 8. The Laureles Grade / Carmel Valley Road intersection satisfies a peak-hour signal warrant for the A.M. and P.M. peak hours, respectively.

Table 8 No Project Scenario – 2030 Intersection LOS Summary

No Project Scenario 2030 Intersection Level of Service Summary							
#	Intersection Name	A.M. Peak			P.M. Peak		
		Avg. Delay[1]	LOS[2]	LOS[2] (2005)	Avg. Delay[1]	LOS[2]	LOS[2] (2005)
1	Highway One & Carmel Valley Road	23.0	C	B	26.6	C	C
2	Carmel Rancho Boulevard & Carmel Valley Road	19.6	B	B	31.6	C	C
3	Highway One & Rio Road	29.8	C	C	38.5	D	C
4	Crossroads Driveway & Rio Road	9.2	A	A	10.5	B	B
5	Carmel Center Place & Rio Road	5.6	A	A	7.8	A	A
6	Carmel Rancho Boulevard & Rio Road[2]	10.1	B	A	14.3	B	B
7	Laureles Grade & Carmel Valley Road[3]	>50	F	E	>50	F	F

Source: DKS Associates, August 2006
[1] Average Delay in seconds per vehicle
[2] LOS: Level of Service
[3] Unsignalized Intersections, Delay is Worst Approach Delay In seconds per vehicle. Delay >50 sec/veh exceeds the delay threshold per HCM 2000 for Unsignalized Intersection.

5.2 Scenario A - Intersection Operation

This scenario assumes a buildout of the CVMP under the proposed CVMP with anticipated additional subdivisions to be evenly distributed across potential development locations, and no additional traffic improvements. Scenario A would increase vehicular traffic on the study area roadways due to growth within and outside the CVMP.

According to the LOS standards described above, all study intersections would operate at an acceptable LOS except for the intersections at Highway One / Rio

Road and Laureles Grade / Carmel Valley Road, similar to the No Project Scenario.

Impacts at Highway One / Rio Road would be virtually identical to the No Project Scenario. As noted above, TAMC is planning improvement to this intersection separately from this planning effort.

Similar to the existing condition, the Laureles Grade / Carmel Valley Road intersection would continue to operate at LOS F during the P.M. peak hour. The addition of project-generated traffic would cause this intersection to deteriorate from LOS E to LOS F during the A.M. peak hour. Under this scenario, the increases in delay at Laureles Grade and Carmel Valley Road intersection would not be as great as under the No Project Scenario. The intersections and their corresponding existing levels of service are presented in Table 9**.** This intersection satisfies a peak-hour signal warrant for the A.M. and P.M. peak hours, respectively.

Table 9 Scenario A – 2030 Intersection LOS Summary

Scenario A 2030 Intersection Level of Service Summary							
#	Intersection Name	A.M. Peak			P.M. Peak		
		Avg. Delay[1]	LOS[2]	LOS[2] (2005)	Avg. Delay[1]	LOS[2]	LOS[2] (2005)
1	Highway One & Carmel Valley Road	23.7	C	B	26.4	C	C
2	Carmel Rancho Boulevard & Carmel Valley Road	19.6	B	B	32.6	C	C
3	Highway One & Rio Road	29.8	C	C	38.6	D	C
4	Crossroads Driveway & Rio Road	9.2	A	A	10.5	B	B
5	Carmel Center Place & Rio Road	5.6	A	A	7.8	A	A
6	Carmel Rancho Boulevard & Rio Road[3]	10.1	B	A	14.3	B	B
7	Laureles Grade & Carmel Valley Road[3]	>50	F	E	>50	F	F

Source: DKS Associates, August 2006
[1] Average Delay in seconds per vehicle
[2] LOS: Level of Service
[3] Unsignalized Intersections, Delay is Worst Approach Delay In seconds per vehicle. Delay >50 sec/veh exceeds the delay threshold per HCM 2000 for Unsignalized Intersection.

5.3 Scenario B - Intersection Operation

This scenario assumes a buildout of the CVMP under the proposed CVMP with existing development proposals incorporated into the analysis, and with anticipated additional subdivisions to be evenly distributed across potential development locations, and no additional traffic improvements. Scenario B would increase vehicular traffic on the study area roadways due to growth within and outside the CVMP.

According to the LOS standards described above, all study intersections would operate at acceptable LOS except for the intersections at Highway One / Rio road and Laureles Grade / Carmel Valley Road.

Impacts at Highway One / Rio Road would be virtually identical to the No Project Scenario. As noted above, TAMC is planning improvement to this intersection separately from this planning effort.

Similar to the existing condition, the Laureles Grade/ Carmel Valley Road intersection would continue to operate at LOS F during the P.M. peak hour. The addition of project-generated traffic would cause this intersection to deteriorate from LOS E to LOS F during the A.M. peak hour. Under this scenario, the increases in delay at Laureles Grade and Carmel Valley Road intersection would not be as great as under the No Project Scenario or Scenario A.

The intersections and their corresponding existing levels of service are presented in Table 10.

Table 10 Scenario B – 2030 Intersection LOS Summary

2030 Intersection Level of Service Summary Scenario B							
#	Intersection Name	A.M. Peak			P.M. Peak		
		Avg. Delay[1]	LOS[2]	LOS[2] (2005)	Avg. Delay[1]	LOS[2]	LOS[2] (2005)
1	Highway One & Carmel Valley Road	23.8	C	B	26.4	C	C
2	Carmel Rancho Boulevard & Carmel Valley Road	19.6	B	B	33.5	C	C
3	Highway One & Rio Road	29.8	C	C	38.0	D	C
4	Crossroads Driveway & Rio Road	9.2	A	A	10.5	B	B
5	Carmel Center Place & Rio Road	5.6	A	A	7.9	A	A
6	Carmel Rancho Boulevard & Rio Road[3]	10.1	B	A	14.4	B	B
7	Laureles Grade & Carmel Valley Road[3]	>50	F	E	>50	F	F

Source: DKS Associates, August 2006
[1] Average Delay in seconds per vehicle
[2] LOS: Level of Service
[3] Unsignalized Intersections, Delay is Worst Approach Delay In seconds per vehicle. Delay >50 sec/veh exceeds the delay threshold per HCM 2000 for Unsignalized Intersection.

5.4 Scenario C - Intersection Operation

This scenario assumes a buildout of the CVMP under the proposed CVMP with existing development proposals incorporated into the analysis, and with anticipated additional subdivisions to be evenly distributed across potential development locations and includes traffic improvements to maintain level of service standards along Carmel Valley Road. This scenario includes a grade separation improvement that is included in the Monterey County CIP. For the purposes of this analysis it was assumed that the southbound left turn movement would be grade separated. The Scenario C would increase vehicular traffic on the study area roadways due to growth within and outside the CVMP.

According to the LOS standards described above, all study intersections except Highway One / Rio Road would operate at an acceptable LOS. Impacts at Highway One / Rio Road would be virtually identical to the No Project Scenario. As noted above, TAMC is planning improvement to this intersection separately from this planning effort.

The intersections and their corresponding existing levels of service are presented in Table 11.

Table 11 Scenario C – 2030 LOS Summary

2030 Intersection Level of Service Summary
Scenario C

#	Intersection Name	A.M. Peak			P.M. Peak		
		Avg. Delay[1]	LOS[2]	LOS[1] (2005)	Avg. Delay[1]	LOS[2]	LOS[1] (2005)
1	Highway One & Carmel Valley Road	23.8	C	B	26.4	C	C
2	Carmel Rancho Boulevard & Carmel Valley Road	19.6	B	B	33.5	C	C
3	Highway One & Rio Road	29.8	C	C	38.0	D	C
4	Crossroads Driveway & Rio	9.2	A	A	10.5	B	B
5	Carmel Center Place & Rio Road	5.6	A	A	7.9	A	A
6	Carmel Rancho Boulevard & Rio	10.1	B	A	14.4	B	B
7	Laureles Grade & Carmel Valley[3]	15.6	C	E	10.1	C	F

Source: DKS Associates, August 2006
1 Average Delay in seconds per vehicle
2 LOS: Level of Service
3 Unsignalized Intersections, Delay is Worst Approach Delay In seconds per vehicle. Delay >50 sec/veh exceeds the delay threshold per HCM 2000 for Unsignalized Intersection.

5.5 Roadway Segment Level of Service

All studied scenarios include an increase in vehicular traffic along the study area roadways due to growth within and outside the CVMP. According to the roadway segment LOS standards described above, all study roadway segments would operate at an acceptable LOS for all scenarios except for the following roadway segments under the No Project Scenario, Scenario A, Scenario B and Scenario C conditions:

- From Esquiline Road to Ford Road (Segment 3) – This segment operates at LOS D in both the A.M. and P.M. peak hour for all scenarios.

- From Robinson Canyon Road to Laureles Grade (Segment 5) – This segment operates at LOS E in the A.M peak period for the No Project Scenario, Scenario A and Scenario B and in the P.M peak period for the No Project Scenario and Scenario B. It operates at LOS D in the P.M. peak period in Scenario A. It operates at LOS D in both the A.M. and P.M peak period for Scenario C.

- From Schulte Road to Robinson Canyon Road (Segment 6) – This segment operates at LOS E in both the A.M. and P.M. peak period for all scenarios. The respective percent-time spent following values are presented for roadway segments 1-10 in Tables 12 through 17 below.

- From Rancho San Carlos Road to Schulte Road (Segment 7) – This segment operates at LOS E in both the A.M. and P.M. peak period for all scenarios. The respective percent-time spent following values are presented for roadway segments 1-10 in Tables 12 through 17 below.

Scenario C incorporates CIP improvements planned along deficient roadway segments. The results of the A.M. and P.M. results are listed in Tables 18 and 19 below.

Scenario D incorporates CIP improvements in Scenario C plus the two additional passing lanes listed in Table 21.

Table 12 No Project Scenario- 2030 Two-Lane Segment LOS Summary

2030 No Project Scenario: Peak-Hour LOS Summary
Two-Lane Segments of Carmel Valley Road

Segment	Carmel Valley Road		AM Peak Hour					PM Peak Hour				
	From	To	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS
1	Holman Rd	East	683	65.68	C	373	A	683	68.09	C	430	A
2	Esquiline Rd	Holman Rd	703	65.31	C	390	A	725	68.63	C	473	A
3	Ford Rd	Esquiline Rd	1143	78.27	D	774	C	1031	72.50	D	790	B
4	Laureles Grade	Ford Rd	1590	84.64	D	1114	C	1490	81.40	D	1112	C
5	Robinson Cyn Rd	Laureles Grade	1559	90.88	E	1074	D	1581	87.89	E	1158	C
6	Schulte Rd	Robinson Cyn Rd	2012	90.82	E	1445	D	1893	88.28	E	1430	D
7	Rancho San Carlos Rd	Schulte Rd	2207	95.06	E	1629	D	2029	89.29	E	1556	D

Source: DKS Associates, 2006
[1] PTSF: Percent Time Spent Following.
[2] 2005 Volume and LOS provided for reference purpose only.

Table 13 No Project Scenario: 2030 Multi-Lane Segment LOS Summary

Segment	Carmel Valley Road From	To	Direction	AM Peak Hour Volume (vph)	AM Peak Hour Density[1] (pc/mi/ln)	AM Peak Hour LOS (2030)	AM Peak Hour LOS (2005)	PM Peak Hour Volume (vph)	PM Peak Hour Density[1] (pc/mi/ln)	PM Peak Hour LOS (2030)	PM Peak Hour LOS (2005)
8	Rio Rd	Rancho San Carlos Rd	EB	1014	9.93	A	A	1411	13.65	B	A
			WB	1463	16.65	B	A	1208	11.95	B	A
9	Carmel Rancho Blvd	Rio Rd	EB	1293	16.18	B	A	1646	19.14	C	B
			WB	1817	24.02	C	B	1363	17.82	B	B
10	Hwy 1	Carmel Rancho Blvd	EB	1383	17.27	B	B	1311	16.25	B	A
			WB	1207	17.83	B	A	1125	15.2	B	B

Source: DKS Associates, 2006
[1]Density in passenger cars per mile per lane.

Table 14 Scenario A: 2030 Two-Lane Segment LOS Summary

2030 Scenario A - Peak-Hour LOS Summary Two-Lane Segments of Carmel Valley Road											
Segment	Carmel Valley Road		AM Peak Hour					PM Peak Hour				
	From	To	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS
1	Holman Rd	East	680	64.90	C	373	A	680	67.30	C	430	A
2	Esquiline Rd	Holman Rd	700	64.54	C	390	A	723	67.89	C	473	A
3	Ford Rd	Esquiline Rd	1144	78.19	D	774	C	1031	72.39	D	790	B
4	Laureles Grade	Ford Rd	1598	84.80	D	1114	C	1498	81.48	D	1112	C
5	Robinson Cyn Rd	Laureles Grade	1596	87.49	E	1074	D	1613	84.44	D	1158	C
6	Schulte Rd	Robinson Cyn Rd	2048	91.30	E	1445	D	1924	88.75	E	1430	D
7	Rancho San Carlos Rd	Schulte Rd	2241	95.45	E	1629	D	2059	89.79	E	1556	D

Source: DKS Associates, 2006
[1] PTSF – Percent Time Spent Following
[2] 2005 Volume and LOS provided for reference purpose only.

Table 15 Scenario A: 2030 Multi-Lane Segment LOS Summary

Segment	Carmel Valley Road		Direction	AM Peak Hour				PM Peak Hour			
	From	To		Volume (vph)	Density[1] (pc/mi/ln)	LOS (2030)	LOS (2005)	Volume (vph)	Density[1] (pc/mi/ln)	LOS (2030)	LOS (2005)
8	Rio Rd	Rancho San Carlos Rd	EB	1022	10.01	A	A	1439	13.92	B	A
			WB	1501	17.09	B	A	1220	12.06	B	A
9	Carmel Rancho Blvd	Rio Rd	EB	1300	13.3	B	B	1672	19.44	C	B
			WB	1853	24.5	C	B	1375	17.97	B	B
10	Hwy 1	Carmel Rancho Blvd	EB	1386	17.30	B	B	1334	16.54	B	B
			WB	1240	18.32	C	B	1150	15.53	B	B

Source: DKS Associates, 2006
[1]Density in passenger cars per mile per lane.

Table 16 Scenario B: 2030 Two-Lane Segment LOS Summary

2030 Scenario B Peak-Hour LOS Summary Two-Lane Segments of Carmel Valley Road												
Segment	Carmel Valley Road		AM Peak Hour					PM Peak Hour				
	From	To	2-way Volume	PTSF[1]	LOS	2005[2]		2-way Volume	PTSF[1]	LOS	2005[2]	
						Vol	LOS				Vol	LOS
1	Holman Rd	East	680	65.52	C	373	A	679	67.88	C	430	A
2	Esquiline Rd	Holman Rd	701	65.01	C	390	A	721	68.43	C	473	A
3	Ford Rd	Esquiline Rd	1137	78.08	D	774	C	1023	72.21	D	790	B
4	Laureles Grade	Ford Rd	1578	84.39	D	1114	C	1478	81.12	D	1112	C
5	Robinson Cyn Rd	Laureles Grade	1563	90.86	E	1074	D	1578	87.73	E	1158	C
6	Schulte Rd	Robinson Cyn Rd	2007	90.76	E	1445	D	1893	92.28	E	1430	D
7	Rancho San Carlos Rd	Schulte Rd	2200	94.99	E	1629	D	2027	89.27	E	1556	D

Source: DKS Associates, 2006
[1] PTSF – Percent Time Spent Following
[2] 2005 Volume and LOS provided for reference purpose only.

Table 17 Scenario B: 2030 Multi-Lane Segment LOS Summary

Segment	Carmel Valley Road		Direction	AM Peak Hour				PM Peak Hour			
	From	To		Volume (vph)	Density[1] (pm/mi/ln)	LOS (2030)	LOS (2005)	Volume (vph)	Density[1] (pc/mi/ln)	LOS (2030)	LOS (2005)
8	Rio Rd	Rancho San Carlos Rd	EB	1023	10.01	A	A	1410	13.64	B	A
			WB	1459	16.61	B	A	1215	12.00	B	A
9	Carmel Rancho Blvd	Rio Rd	EB	1307	16.35	B	A	1681	19.54	C	B
			WB	1861	24.60	C	B	1381	18.04	C	B
10	Hwy 1	Carmel Rancho Blvd	EB	1388	17.33	B	B	1333	16.53	B	A
			WB	1241	18.33	C	A	1149	15.52	B	B

Source: DKS Associates, 2006
[1]Density in passenger cars per mile per lane.

Table 18 Scenario C: 2030 Two-Lane Segment LOS Summary

2030 Scenario C Peak-Hour Levels of Service on Two-Lane Segments of Carmel Valley Road Scenario C Scenario											
Segment	Carmel Valley Road		AM Peak Hour					PM Peak Hour				
	From	To	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS	2-way Volume	PTSF[1]	LOS	2005[2] Vol	2005[2] LOS
1	Holman Rd	East	680	65.52	C	373	A	679	67.88	C	430	A
2	Esquiline Rd	Holman Rd	701	65.01	C	390	A	721	68.43	C	473	A
3	Ford Rd	Esquiline Rd	1137	78.08	D	774	C	1023	72.21	D	790	B
4	Laureles Grade	Ford Rd	1578	84.39	D	1114	C	1478	81.12	D	1112	C
5	Robinson Cyn Rd	Laureles Grade	1563	72.92	D	1074	D	1578	70.41	D	1158	C
6	Schulte Rd	Robinson Cyn Rd	2007	90.76	E	1445	D	1893	92.28	E	1430	D
7	Rancho San Carlos Rd	Schulte Rd	2200	94.99	E	1629	D	2027	89.27	E	1556	D

Source: DKS Associates, 2006
[1] PTSF – Percent Time Spent Following
[2] 2005 Volume and LOS provided for reference purpose only.

Table 19 Scenario C: 2030 Multi-Lane Segment LOS Summary

Segment	Carmel Valley Road		Direction	AM Peak Hour				PM Peak Hour			
	From	To		Volume (vph)	Density[1] (pc/mi/ln)	LOS (2030)	LOS (2005)	Volume (vph)	Density[1] (pc/mi/ln)	LOS (2030)	LOS (2005)
8	Rio Rd	Rancho San Carlos Rd	EB	1023	10.01	A	A	1410	13.64	B	A
			WB	1459	16.61	B	A	1215	12.00	B	A
9	Carmel Rancho Blvd	Rio Rd	EB	1307	16.35	B	A	1681	19.54	C	B
			WB	1861	24.60	C	B	1381	18.04	C	B
10	Hwy 1	Carmel Rancho Blvd	EB	1388	17.33	B	B	1333	16.53	B	A
			WB	1241	18.33	C	A	1149	15.52	B	B

Source: DKS Associates, 2006
[1]Density in passenger cars per mile per lane.

5.6 Laureles Grade/Carmel Valley Rd – Improvement Options

The intersection of Laureles Grade and Carmel Valley Road would operate at a deficient LOS under the No Project, Scenario A and Scenario B scenarios in both A.M. and P.M. peak periods. The CIP includes a grade separation improvement. Two other optional improvement measures (improved geometry and traffic signalization) have been developed to improve the LOS and are described below.

Grade Separation (CIP Improvement)

The Scenario C includes a grade separation improvement that is included in the Monterey County CIP. For the purposes of this analysis, it was assumed that an above grade bridge with side-by-side intersections would allow traffic requiring access to Laureles Grade to operate independent of through traffic along Carmel Valley Road. With this improvement in place, the intersection would operate at LOS C or better in both the A.M. and P.M. peak periods.

Modified Intersection Geometry and Traffic Control

The intersection would be modified to an all-way stop, provide an additional through lane in the east and westbound directions, and provide right turns (receiving lanes) for vehicles traveling in the southbound and westbound direction. Implementing these modifications would improve the LOS from F (without the CIP improvement) to LOS D in the A.M. and P.M. peak periods.

Signalized Intersection

The intersection meets a traffic signal warrant during both the A.M. and P.M. peak periods. Converting the intersection to a signalized intersection would improve the LOS from F (without the CIP improvement) to LOS C in the A.M. peak period and LOS B in the P.M. peak period.

In addition to the listed improvements, all existing substandard facilities (i.e., shoulders, signage, sight distance, etc.) would be upgraded to current standards.

Table 20 provides a LOS comparison summary for all intersection options.

Table 20 Intersection Options, Laureles Grade/Carmel Valley Road

2030 Intersection LOS Summary Comparison of Intersection Control Options for Laureles Grade & Carmel Valley Rd							
Alt.	Int. #	Intersection Control		A.M. Peak		P.M. Peak	
				Delay[1]	LOS[2]	Delay[1]	LOS[2]
Scenario C	7	Grade Separation[3]: (Two-way Stop)	Northern Portion	12.6	C	3.9	A
			Southern Portion	15.6	C	10.1	C
		Expanded Intersection: (All-way Stop)		34.3	D	28.7	D
		Signalized Intersection		25.1	C	14.9	B

Source: DKS Associates, December, 2006
[1] Delay in seconds per vehicle. For two-way stop controlled intersection delay is based on worst approach. For signalized intersection, delay is based on average delay.
[2] LOS: Level of Service Unsignalized Intersections.
[3] Grade separation assumed southbound movement to be stop-controlled.

5.7 Roadway Segment Improvements

The roadway segments from Esquiline Road to Ford Road (Segment 3), Robinson Canyon Road to Laureles Grade (Segment 5), from Schulte Road to Robinson Canyon Road (Segment 6), and from Schulte Road to Rancho San Carlos Road (Segment 7) were found to be impacted under the No Project Scenario, Scenario A, and Scenario B conditions. Relevant improvements outlined in the CIP list alone included in Scenario C would improve the LOS for Segment 3, but not for Segments 6 and 7 to an acceptable level. Improvement measures listed in Table 21 on the next page are beyond those in the CIP and are necessary to improve the LOS operation to an acceptable level.

Table 21 2030 Roadway Segment Improvements in Scenario D

Roadway Segment Improvements in Scenario D			
Segment	From	To	Improvement
6	Schulte Rd	Robinson Cyn Rd	Provide a ¼ mile passing lane anywhere along the segment where possible
7	Rancho San Carlos Rd	Schulte Rd	Provide a ¼ mile passing lane anywhere along the segment where possible

Source: DKS Associates, 2007.

Tables 22 and 23 lists the 2030 Roadway Segment LOS Improvement with the provision of the passing lanes. These tables also indicate what the LOS would be for deficient segments if the two passing lanes listed in Table 21 are not included.

Table 22 2030 Roadway Segment Improvements - A.M. Peak Hour

Scenario C vs. Scenario D A.M. Peak Hour – Level of Service Summary						
Segment	From	To	Scenario C		Scenario D w/passing lane	
			PTSF[1]	LOS	PTSF[1]	LOS
6	Schulte Rd	Robinson Cyn Rd	90.76	E	77.96	D
7	Rancho San Carlos Rd	Schulte Rd	94.99	E	76.67	D

Source: DKS Associates, 2007.
[1] PTSF: Percent-Time Spent Following.
[2] LOS: Level of Service

Table 23 2030 Roadway Segment Improvements - P.M. Peak Hour

Scenario C vs. Scenario D PM. Peak Hour – Level of Service Summary						
Segment	From	To	Scenario C		Scenario D w/passing lane	
			PTSF[1]	LOS	PTSF[1]	LOS
6	Schulte Rd	Robinson Cyn Rd	92.28	E	79.27	D
7	Rancho San Carlos Rd	Schulte Rd	89.27	E	72.05	D

Source: DKS Associates, 2007.
[1] PTSF: Percent-Time Spent Following.
[2] LOS: Level of Service

In addition, Segment 3, which travels through the Carmel Valley Village, would operate below LOS C. Several improvement measures were investigated including an extended left-turn pocket lane along Carmel Valley Road in the Carmel Village area. Exclusive left-turn pockets and medians would have an effect on the average travel speed of the segment but would not affect the LOS

because the LOS is based upon roadway volumes. Passing lanes would improve the LOS from LOS D to LOS B in both the AM and PM peak hours; however, current policy restricts the introduction of passing lanes in the Carmel Village area. Similarly, a four-lane road would also improve LOS, but is not considered consistent with the CVMP.

As describe above, this segment does not meet the LOS standard even in the scenario with the least amount of buildout in CVMP (No Project Scenario). At this time, no feasible option has been identified that is consistent with the CVMP that would allow segment operations to meet LOS C.

Per CVMP policy, additional subdivisions and development approvals are not allowed unless it can be shown that traffic from new development will not result in traffic operations that do not meet the LOS standards. Thus, if the County decides to continue approving subdivisions and development approvals that contribute traffic through Carmel Valley Village, the County may need to consider changing the CVMP LOS standard for roadway Segment 3 from LOS C to LOS D.

5.8 CIP Evaluation

DKS incorporated projects from the CIP list into the Scenario C and D analysis where appropriate. Some of these projects have already been completed or are still in development. Table 24 provides a summary of the CIP status. The project number as listed in Table 24 on the next page is used for referencing.

Table 24 Status of Capital Improvement Projects (CIP)

Current Status of CIP			
No.	Improvement Name	Completed? (Yes/No)	Presently Required? (Yes/No)
1	Enforcement and Signage	Yes	n/a
2	Sight Improvements, parking restrictions and signage in CV Village	Yes	n/a
3	Class II Bike Lanes	Partially	Yes
4	Left-Turn Channelization - west of Ford	Partially	Yes
5	Sight Distance Improvements at Dorris Drive	No	Yes
6	Shoulder Widening Between Laureles and Ford [on CVR]	No	Yes
7	Paved Turnouts on Laureles Grade & Signs [north of CVR]	Partially	Yes
8	Upgrade to Class II Bike Lanes	Yes	n/a
9	Rio Road Extension & Signal; Relocate School Access	No	No
10	Widen Refuge Area at Via Mallorca	Yes	n/a
11	Shoulder Improvements & Spot Realignments on Laureles Grade	No	Yes
12	Grade Separation at Laureles Grade / CVR	No	Yes[1]
13	Passing Lanes in front of September Ranch	No[2]	Yes
14	Passing Lanes opposite Garland Park	No	Yes
15	Climbing Lane – Laureles Grade	No	Yes

Source: DKS Associates, February 2007.
1 Other options are provided in section 5.6 of the report
2 Passing lanes are part of the September Ranch development

For those projects that are not initiated in the CIP list, discussion is provided below as to why the improvement project would or would not be required in the future.

No. 5 Sight distance improvements at Dorris Drive would still be required in order to improve visibility for vehicles wishing to turn onto Carmel Valley Road.

No. 6 Shoulder widening along Carmel Valley Road between Laureles Grade and Ford Road would still be required to ensure continual traffic movement when roadside activities occur, such as vehicular emergencies, turning vehicles or pedestrian/bicycle activity.

No. 9 There are no deficiencies in the current and future conditions along the Carmel Valley Road segments between State Route 1 and the proposed Rio Road connection point at Carmel Valley Road. Based on analysis, the Rio Road extension and signal project would not be required under the future conditions.

No. 11 Shoulder improvements and spot realignments on Laureles Grade would still be required per DKS field observations in order to improve traffic flow along this steep road.

No. 12 Grade separation or another improvement at Laureles Grade and Carmel Valley Road would still be required to improve the LOS to an acceptable level. This report contains alternate options to the grade separation as included in the 1991 EIR. These options are described in section 5.6 of the report.

No. 13 Passing lanes in front of September Ranch (within Segment 5) would still be required since the roadway segment would still be deficient in the future. Passing lanes are a condition of this development.

No. 14 Passing lanes opposite of Garland Park would still be required since the roadway segment would still be deficient in the future.

No. 15 A climbing lane on Laureles Grade would still be required.

6.0 Conclusion

This report summarizes a study of traffic conditions, potential future growth, and potential traffic improvements for the Carmel Valley Master Plan area. A total of seven intersections and ten roadway segments were analyzed. In addition to the existing conditions, five future scenarios were analyzed (No Project Scenario, Scenario A, Scenario B, Scenario C, and Scenario D) were analyzed. To

undertake the analysis, DKS updated network and land use assumptions in the AMBAG travel forecast model, and also created a focused intersection impact model.

The intersection of Laureles Grade and Carmel Valley Road currently operates at an unacceptable level of service. A grade separation improvement is outlined in the Monterey County CIP, which would improve the LOS from LOS F to LOS C for both the A.M. and P.M. peak periods. Two other options, including intersection geometry and traffic control modification, as well as a traffic signal, as described in Section 5.6 of this report.

Three roadway segments (Segments 3, 6 and 7) are projected to operate at deficient service levels in the future.

- The recommended improvements included in Scenario D include passing lanes along Segments 6 (Robinson Canyon to Schulte Rd) and 7 (Schulte Rd to Rancho San Carlos Rd) to reduce the percent time vehicles have to follow slower vehicles, which in turn will improve the LOS to acceptable levels.

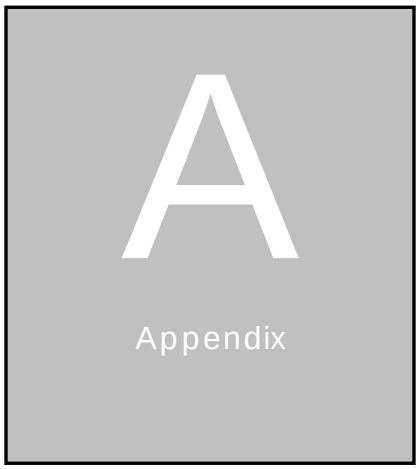
- No feasible improvement has been identified to improve the LOS for Segment 3, unless a change in CVMP Policy occurs that would allow passing lanes, or a strategy is developed to reduce through traffic along this segment.

The CIP in the 1991 EIR includes projects that have not been initiated. Upon further analysis conducted for this report, it has been concluded that the Rio Road extension is not required. The Rio Road extension would cause traffic diversions from segments 8, 9, and 10 along Carmel Valley Road, which currently operates at acceptable levels. Diversion of traffic is not required to improve LOS to acceptable levels today or in the future along Carmel Valley Road, therefore the Rio Road extension project is not required.

Table 25 provides a summary of the impacts and recommended improvements.

Table 25 Recommended Improvements

Recommended Improvements for Study Intersection and Roadway Improvements						
Intersection	#	Name		Impacts	Improvement	Improvement Result
	7	Laureles Grade & Carmel Valley Road		No Project Scenario, Scenario A, Scenario B, conditions result in LOS F for both A.M. and P.M. peak periods.	Grade Separation (Scenario C and D)	LOS C for both AM and PM Peak periods.
Segments	#	From	To	Impacts	Improvement	Improvement Result
	6	Schulte Rd	Robinson Cyn Rd	No Project, Scenario A, B, and C conditions result in LOS E for both A.M. and P.M. peak periods.	Provide a ¼ mile passing lane anywhere along the segment where possible (Scenario D)	LOS D during the A.M. and P.M. peak periods.
	7	Rancho San Carlos Rd	Schulte Rd	No Project, Scenario A, B, and C conditions result in LOS E for both A.M. and P.M. peak periods.	Provide a ¼ mile passing lane anywhere along the segment where possible (Scenario D)	LOS D during the A.M. and P.M. peak periods.



Scenario Development

- AMBAG Model Overview
- AMBAG Model Network Refinements
- Land Use Scenario Assumptions

Scenario Development

1 AMBAG Model Overview

The AMBAG model uses land use and socioeconomic data at zonal level to determine trip generation. The 2000 land use database and future land use projections were prepared by AMBAG using a detailed employer sample from Info USA and then adjusted to control totals from Woods and Poole Economics. The AMBAG model contains the following variables for each TAZ:

- Total number of housing units
- Total population
- Farm employment
- Industrial employment
- Retail employment
- Service employment
- Construction employment
- Government/Military employment
- Total employment
- Number of households by 4 income categories
- Number of households by 4 age of head categories
- Number of households by 4 vehicle availability categories
- Number of Hotel rooms
- Number of Visitor trips
- K-12 and University enrollment

Trip Generation. Trips are stratified by seven (7) basic trip purposes in the AMBAG model:

- Home-Based Work trips are commute trips between residences and places of employment, including both trips from home to work and from work to home.
- Home-Maintenance trips are trips between residences and places of commercial employment.
- Home-Discretionary trips account for all other trips which begin or end at home, and include social trips and recreational trips.
- Work-Based trips account for trips which do not have and end at home, such as driving to a restaurant during a lunch break from work, driving a delivery truck away from the main office.
- Other trips account for all other types of trips not covered by the other purposes.
- Home-Based School trips account for trips between residences and elementary, high schools, or universities.

- Visitor trips from private residences or hotel rooms to visitor attractions and to adjacent retail areas.

Trip Distribution. The trip distribution process estimates how many trips travel from one zone to another. The model uses a method known as the gravity model to estimate trips between zones based on the trip productions and attractions in each zone and on factors that relate the likelihood of travel between zones to the separation between the zones.

Mode Choice. The mode choice step estimates how many of the trips between each pair of zones will use each travel mode.

The AMBAG model uses a "nested logit" choice model for each trip purpose. A nested logit choice model recognizes the potential for something other than equal competition among modes. The choices are grouped so that choices in the same level have similar sensitivities to travel characteristics (Figure 2). A complete description of the mode choice model development and calibration is included in "Travel Demand Model Development Methodology Report for the Watsonville Junction to Santa Cruz Corridor" prepared for the Santa Cruz County Regional Transportation Commission (Parsons-Brinckerhoff, April, 1997).

Trip Assignment. The AMBAG model takes zone-to-zone trips from the trip distribution and mode choice steps and assigns them to the network. The two types of trips assigned are traffic and transit trips. Trips were assigned for A.M. peak hour, P.M. peak hour and Daily.

2 AMBAG Model Network Refinements

DKS Associates reviewed the new base AMBAG model and identified refinements to the TAZ structure as well as changes to roadway networks speeds in the original AMBAG that would improve forecasting capabilities in this study. In the updated TransCAD model received by DKS Associates in April 2006, requested changes had been incorporated into the 2000 and 2030 version of the AMBAG model. The specific refinements are noted below.

Additional Traffic Analysis Zones (TAZs)

The base AMBAG model had 27 Traffic Analysis Zones (TAZs) within the Carmel Valley Area directly around Carmel Valley Road off Highway 1 in Monterey County. DKS Associates had identified a split of several TAZ's to improve model loading in Carmel Valley.

TAZ 1400. This zone, bounded by Highway 1, Carmel Rancho Blvd, Rio Road and Carmel Valley Road was too large and the traffic sheds were putting too much loading on Carmel Valley Road and not enough on Rio Road. This TAZ was split into two pieces, and adding new centroid connectors were added.

TAZ 1403. This TAZ, north of Carmel Valley Road from west of Carmel Knolls to Roach Canyon, included several developments that load onto the network at different points. This TAZ was split into four pieces to allow a split between the Carmel Knolls Drive traffic, the Rio Vista Drive traffic, and the Carpenter Street traffic (which should empty onto Highway 1 north of Carmel). New centroid connectors were added that reflect the loading patterns of the new TAZs.

TAZ 1399. This TAZ, which covers a long area south of Carmel Valley Road between Carmel Rancho Boulevard and Rancho San Carlos, had some traffic that should load via Rio Road and Carmel Valley Road. Also, the proposed Rancho Cañada development is part of this TAZ. Four (4) new TAZs were created for traffic west of Val Verde Drive and south of Rio Road; traffic north of Rio Road and generally west of Val Verde Drive; the Rancho Cañada Golf Club property; and for points east of Rancho Cañada Golf Club to Rancho San Carlos. New centroid connectors were added to reflect the loading patterns of the new TAZs.

TAZ 1270. This TAZ, which loads west of Laureles Grade, should load further down along Carmel Valley Road at Boronda Road / Rancho Road. The centroid connector south of Laureles Grade was moved.

TAZ 1405. This TAZ, which covers a large area north of Caermel Valley Road between Laureles Grade and just west of Terra Grande, included several developments that load onto the network at different points. Two (2) new TAZs were created so that Laureles Grade development can load further down Carmel Valley Road as well as Laureles Grade, with new centroid connectors that would reflect the loading patterns of the new TAZs.

TAZ 1266. This TAZ, which loads at Rancho Road, was not loading via Rancho Road, Country Club Drive and Pilot Road. Three (3) new TAZs for traffic east and

west Carmel Valley Village and new centroid connectors were created to reflect the loading patterns of the new TAZs.

TAZ 1261. The location of the centroid connector was not property loading where the majority of local traffic enters the network from this TAZ. The centroid connector was relocated so that it loads directly to Carmel Valley Road at Pilot Road.

TAZ 1271. The location of the centroid connector was not property loading where the majority of local traffic enters the network from this TAZ. The centroid connector was relocated so that it loads directly on Los Ositos Road.

TAZ 1272. The location of the centroid connector was not property loading where the majority of local traffic enters the network from this TAZ. The centroid connector north towards the end of Esquiline Road was relocated.

TAZ 1275. The Sleepy Hollow Drive area containing many of the dwelling units in this TAZ was located at the far northwest corner of the TAZ, away from the centroid connector location. This TAZ was split into two (2) pieces east of Sleepy Hollow Drive.

Network Model Adjustments

DKS Associates also identified the need to modify the network loading along specific portions of Carmel Valley Road, based on an analysis of model results for 2000 and 2030. In particular, the model showed that traffic was leaving Carmel Valley major roads and instead using side streets in three specific areas. For these areas, the speeds were reduced to 10 mph for local roadways to increase the link travel time. This resulted in an appropriate reassignment of traffic in the travel demand model to respond accordingly, so that vehicles stayed on major streets in these areas. The three areas described below were the areas where the travel times along major Carmel Valley roadways were too long, resulting in local traffic shifts.

Rio Road and Carmel Rancho Boulevard. The base AMBAG model assigned traffic to use Via Nona Maria and Clock Tower Place and thus avoided the intersection and approach segments to Rio Road and Carmel Rancho Boulevard. DKS adjusted the speeds along Rio Road and Via Nona Maria to 10 mph so that traffic would be appropriately assigned to these roadways.

Laureles Grade and Carmel Valley Road. The base AMBAG model assigned traffic to use Miramonte Road as a shortcut between Laureles Grade and Carmel Valley road to/from the west. DKS adjusted the speeds along Miramonte to 10 mph so that traffic would be appropriately assigned to these roadways.

Ford Road and Carmel Valley Road. The base AMBAG model assigned traffic to use Ford Road and Via Contenta as an alternate route to Carmel Valley Road in the segments near Carmel Valley Village. DKS adjusted the speeds along Ford Road and Via Contenta to 10 mph so that most through traffic in this area would remain on Carmel Valley Road.

3 Traffic Study Scenario Assumptions

This section describes the methodology used to forecast potential transportation impacts associated with the four (4) land use/transportation scenarios for the Carmel Valley Master Plan area. The study scenarios are described as follows:

No Project Scenario: This scenario assumes no new traffic improvements and no additional residential or commercial subdivisions, as it is assumed that the existing subdivision moratorium will continue. It is assumed that additional single-family dwellings, visitor-serving units, and commercial developments can be approved within the CVMP land use framework without the need for subdivision up to the growth limits in the CVMP Area Plan. It is also assumed that previously approved projects will be completed.

Scenario A: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with anticipated additional residential subdivisions to be evenly distributed across potential development locations, and no new traffic improvements. Pending development proposals are not assumed to be built, but the land on which they are proposed is instead assumed to be developed in accordance with existing land use designations and zoning.

Scenario B: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with existing development proposals incorporated into the analysis, and with anticipated additional residential subdivisions to be evenly distributed across potential development locations, and no additional traffic improvements.

Scenario C: This scenario assumes buildout of the CVMP under the adopted CVMP Area Plan with existing development proposals incorporated into the analysis, and with anticipated additional residential subdivisions to be evenly distributed across potential development locations (same as Scenario B). This scenario includes the following traffic improvements, which are all included in the current County Capital Improvement Program (CIP) Carmel Valley Road Improvement List:

- left-turn channelization on Carmel Valley Road west of Ford;
- shoulder widening on Carmel Valley Road between Laureles Grade and Ford;
- passing lanes on Carmel Valley Road in front of the proposed September Ranch development;
- passing lanes opposite Garland Park;
- climbing lane on Laureles Grade;
- grade separation at Laureles Grade and Carmel Valley Road;

- paved turnouts, new signage, shoulder improvements and spot realignments on Laureles Grade; and
- upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 Bike Lanes.

Scenario D: This scenario used the same assumptions as in Scenario C, except that it also includes two passing lanes along Segments 6 and 7. The passing lanes were analyzed using methodologies described in Highway Capacity Manual 2000, as the AMBAG model cannot assess the effects of passing lanes on roadway segment Level of Service. These passing lanes are not part of the current CIP.

- Schulte Road to Robinson Canyon Road- Provide a ¼ mile passing lane anywhere along the segment where feasible.
- Rancho San Carlos Rd to Schulte Road - Provide a ¼ mile passing lane anywhere along the segment where feasible.

3.1 General Assumptions

DKS analyzed future year 2030 traffic conditions based upon the recently-released TransCAD model by the Association of Monterey Bay Area Governments (AMBAG). The AMBAG Travel Demand Model is intended to be a comprehensive traffic forecasting tool useful for a wide range of applications including major transportation planning studies, project study reports, regional transportation plans, county general plans, regional air quality conformity analysis, and other planning studies. For the purposes of this study, the AMBAG model was used because it allows for better land use regional allocation, a parcel-based land use allocation methodology, refined link speeds for all public roadways, and updated land use and travel data from reliable sources.

The project scenarios analyzed here are based upon several sources of information:

- **Regional Assumptions.** Regional assumptions on county projections for land use, employment and related items, as well as the 2030 approved Regional Transportation Plan.
- **Data Sources**. DKS analyzed the likely future land use scenarios for Carmel Valley based on proposed pipeline projects and an additional allocation of vacant land uses as provided by Jones and Stokes on December 2, 2006.
- **Base and Forecast years.** The AMBAG model base year was 2000. Thus, in updating the forecast to 2030 for the CVMP area, the forecast took into account development approved through 2006, including development approved prior to 2000 that was not built by 2000 and was thus not included in the AMBAG model base year, as well as forecasted growth from 2007 to 2030.

- **Previously Approved Units.** All land use scenarios include 655 residential units and 108 visitor-serving units associated with prior approvals (up to 2006) that were not built prior to 2000 (AMBAG model base year).
- **Future Residential Units.** CVMP policies allowed up to 1,310 total units to be built after 1986. Per County data of building permits issued between 1986 and 2005, building permits were issued for a total of 334.5 single family dwelling units and 120.5 adjunct units on lots in existence prior to 1/1/87 for a total of 455 units. From 1986 to 2006, the County approved an estimated 322 units in subdivisions in the CVMP. Thus, from 1986 to 2006, the County has approved 777 units, which leaves an assumed remaining residential unit quota of up to 533 units. All future residential units were presumed to be on residentially-designated vacant lots, unless specifically assumed otherwise.
- **Future Visitor-Serving Units.** Per County data, it is assumed that the CVMP will allow 285 visitor-serving units after 1/1/2006. All future visitor-serving units will be on commercially-designated vacant lots, unless specifically assumed otherwise.
- **Future Commercial Growth**. The AMBAG model assumptions for commercial growth in the CVMP area were used. The AMBAG model forecasts 3,457 additional employees in the CVMP area by 2030. The AMBAG model did not include any increase in employees related to visitor-serving units, which are covered by the assumptions noted above related to the 285 visitor-serving units.
- **Vacant Residential Parcels.** Vacant Residential Parcels were based on the Assessors Parcel Data Categories 1A, 1B, 2A, 3A, 3B, 3C, 3D and residentially zoned parcels in Category 5A. Based on these categories there are 390 vacant residential parcels. When you remove parcels designated for incompatible uses (like commercial), parcels with known locations of approved but not yet built subdivisions (like September Ranch), and parcels with substantive development (> $100,000/acre in improvements), there are 302 remaining vacant parcels. These were used in the forecast for Scenarios A, B and the Scenario C below.
- **Developable Visitor-Serving Parcels.** Visitor-Serving developable parcels were based on the visitor-serving zoned parcels greater than 1 acre in size, with less than $100,000/acre improvements and total improvement value of less than $5 million. Parcels identified as Category 8A (private roads, etc.), 8B (SBE roll), and 99 (no other code/not buildable) were excluded.

3.2 No Project Scenario

The No Project Scenario forecasts are based on a detailed land use projection method. This scenario was developed assuming Monterey County Board Resolution 02-024 becomes permanent policy for the duration of CVMP buildout to 2030. Note that in addition to 02-024, pursuant to CVMP Policy 39.3.2.1, the County's policy is to deny residential and commercial subdivision in the area of

the CMVP that results in significant impact to CVMP roads unless an EIR is prepared which includes mitigation measures to improve operations to acceptable levels.

However, for this scenario, it is presumed that traffic measures are developed now (with a fee program) or as projects come forward than can address the effects of development as they occur. Essentially, this scenario is a "lesser buildout" scenario (less than 50 percent of potential residential building within Scenarios A or B).

Monterey County Board Resolution 02-024 states that the policy is to deny any residential or commercial subdivision until:

- Left turn pockets on segments 6 and 7 of Carmel Valley Road are constructed.
- Capacity-increasing improvement to SR1 between Carmel Valley Road and Morse Drive are constructed.
- Updated General Plan/Master Plan policies related to level of service on Carmel Valley Road are adopted.

Land use changes for the No Project Scenario forecast were based upon these assumptions and analysis:

- Subdivision moratorium becomes permanent policy.
- Further residential or commercial subdivisions would be prohibited, but residential, visitor-serving, or commercial development not requiring subdivision could occur. In addition, previously approved development is assumed to be built, as noted above.
- A total of 655 residential units associated with prior approvals is included in the forecast.
- Based on County data, there are 258.5 remaining vacant lots of record. It is assumed that one unit per lot would be built in this scenario. No data on the location of these lots was located. The location of the 390 residential vacant parcels from the assessor's parcel data were used to project location of residential new units. However, parcels with known approved but not yet built subdivisions, with > $100,000 in improvements, or that are designated for uses that do not allow residential units were removed from the parcel set. This resulted in 297 vacant parcels. Thus, the 258.5 units were proportionally spread by TAZ based on the location of the 297 residential vacant parcels identified from the assessor's parcel data.
- Employment and commercial activity assumptions in the AMBAG model were assumed. Commercial development is assumed to not be impeded by lack of ability to subdivide land.
- Visitor-serving development was assumed to total 285 units by 2030. Previously approved visitor-serving units (total of 108) are also included.

- Outside of CVMP, assumptions in the AMBAG model for land uses and funded roadway projects were assumed.

The allocated amount of additional housing for each TAZ under No Project Scenario is shown in **Table 1**. The total number of housing units equals 914 (655 units from prior approvals and 259 from new approvals).

Table 1 No Project Scenario Housing Unit Projections
Additional Housing Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units	TAZ	Additional Units
1256	9	1403	3
1257	0	1404	176
1258	0	1405	42
1260	0	1406	7
1261	3	1407	244
1263	12	1408	13
1265	3	1409	7
1266	11	1410	17
1267	4	1815	4
1268	165	1819	3
1271	15	1820	11
1272	16	1822	37
1273	0	1828	17
1274	4	1846	3
1278	34	1848	0
1399	3	1849	21
1402	29		

Source: Jones & Stokes, December, 2006

From 2000 to 2030, the No Project Scenario assumes 393 visitor-serving units (108 previously approved and 285 additional) that are allowable in various locations within the Carmel Valley study area. These are allocated to specific TAZs according to a study of potential locations where visitor-service units can be constructed. These are shown in **Table 2**.

Table 2 No Project Scenario Visitor-Serving Unit Projections
Additional Hotel Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units
1263	12
1265	5
1268	93
1271	32
1402	40
1410	36
1815	175

Source: Jones & Stokes, December, 2006

Scenario A

The development of Scenario A is based upon buildout allowed by the current CVMP. The basis of this scenario is as follows:

- There would no assumption that currently proposed projects (such as Rancho Canada Village) that do not have approval are not built.
- Previously approved residential units are assumed to be built. As noted above, there are 655 previously approved residential units not built as of the 2000 base year that are included in the forecast.
- The 533 remaining residential units in the CVMP quota were split over the 302 vacant residential parcels proportionally. The buildout potential of the 302 vacant residential parcels was estimated by calculating the allowed density per site zoning as 1,592 units. Then the portion of buildout represented by the remaining units (per plan) was calculated. Since this exceeds the allowable limit of 533 units, the amount of buildout was scaled by a factor of 33% (= 533 / 1,592). Then the scalar (33%) was applied to the potential buildout for each TAZ. Thus, if TAZ1 has a buildout potential of 100 units, the forecast would assign 33 units to TAZ1.
- Employment and commercial activity assumptions in the AMBAG model were assumed.
- Visitor-serving development was assumed to total 285 units by 2030. Previously approved visitor-serving units (total of 108) are also included.
- Assumptions for additional visitor-serving units, commercial development or land use and transportation projects outside of the Carmel Valley Master Plan study area were assumed as constant from the No Project Scenario, as no changes to policy would result in making any changes were these assumptions.

The allocated amount of additional housing for each TAZ under Scenario A is shown in **Table 3**. The total number of residential units equals 1188 housing units. **Table 4** lists the location by TAZ of additional visitor serving units.

Table 3 Scenario A Housing Unit Projections
Additional Housing Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units	TAZ	Additional Units
1256	9	1403	2
1257	0	1404	234
1258	0	1405	127
1260	0	1406	29
1261	2	1407	277
1263	7	1408	9
1265	2	1409	5
1266	8	1410	13
1267	3	1815	5
1268	177	1819	1
1271	25	1820	6
1272	18	1822	58
1273	1	1828	52
1274	2	1846	2
1278	43	1848	0
1399	1	1849	42
1402	27		

Source: Jones & Stokes, December, 2006

Table 4 Scenario A Visitor-Serving Unit Projections
Additional Hotel Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units
1263	12
1265	5
1268	93
1271	32
1402	40
1410	36
1815	175

Source: Jones & Stokes, December, 2006

Scenarios B, C, and D

Land use forecasts to support the development of Scenarios B, C, and D are based upon buildout allowed by the existing CVMP. The basis of these project scenarios are as follows:

- Previously approved residential units are assumed to be built. As noted above, there are 655 previously approved residential units not built as of the 2000 base year that are included in the forecast.
- The projects currently in project review are assumed to be approved as proposed, based on development proposal information provided from County staff. A buildout of the pipeline projects would result in 281 new residential units.
- The 252 remaining potential residential units (remaining in the 533 unit quota after the 281 pipeline units) were split over the remaining vacant residential parcels proportionally. The buildout potential of the remaining vacant residential parcels was estimated by calculating the allowed density per site zoning by parcel which resulted in an estimate of 1,592 potential units. Since this exceeds the allowable limit of 252 units, the amount of buildout was scaled by a factor of 16% (= 252 / 1,592). Then the scalar (16%) was applied to the potential buildout for each TAZ. Thus if TAZ1 has a buildout potential of 100 units, the forecast would assign 16 units to TAZ1.
- Scenario B, Scenario C, and Scenario D also contain 393 visitor-serving units (108 previously approved and 285 future) that are assumed to be be built throughout the Carmel Valley study area. This is the same total number as under the No Project and Scenario A condition, although the locations of the new unites are different to reflect the use of the Rancho Canada site for residential units instead of visitor-serving units in these scenarios.
- Employment and commercial activity assumptions in the AMBAG model were assumed.
- Assumptions for commercial units, or land use and transportation projects outside of the Carmel Valley Master Plan study area were assumed as constant from the No Project Scenario, as no changes to policy would result in making any changes were these assumptions.

As Scenario C and D are the same as Scenario B with a transportation improvement program in place, the land use assumptions for housing units and visitor server units are the same. Scenario D is the same as Scenario C, but with three passing langes, and thus the land use assumptions are also the same.

Table 5 details the additional 1,188 housing units assumed by 2030 in this scenario. **Table 6** details the additional 393 visitor-serving units assumed in this scenario.

Table 5 Scenarios B, C, and D Housing Unit Projections

Additional Housing Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units	TAZ	Additional Units
1256	5	1403	1
1257	0	1404	197
1258	0	1405	75
1260	0	1406	16
1261	1	1407	247
1263	4	1408	5
1265	1	1409	3
1266	4	1410	7
1267	2	1815	284
1268	165	1819	0
1271	13	1820	3
1272	9	1822	33
1273	0	1828	28
1274	1	1846	1
1278	32	1848	0
1399	0	1849	23
1402	27		

Source: Jones & Stokes, December, 2006

Table 6 Scenarios B, C, and D
Visitor-Serving Unit Projections

Additional Hotel Units Allocated between 2000 and 2030 by TAZ

TAZ	Additional Units
1263	32
1265	13
1268	170
1271	44
1402	40
1410	94
1815	0

Source: Jones & Stokes, December, 2006

B

Appendix

Intersection Level of Service Sheets

- Existing
- No Project Scenario
- Scenario A
- Scenario B
- Scenario C
- Scenario C – Intersection Geometry + Traffic Control Modification
- Scenario C – Signalized Intersection

Carmel Valley Master Plan EIR
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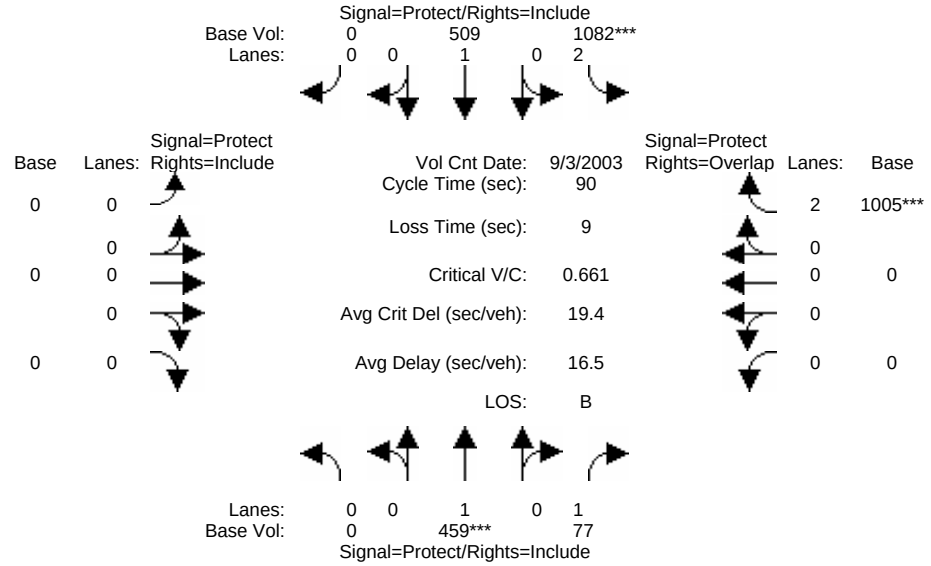
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM Peak

Intersection #1: Highway 1 & Carmel Valley Road



Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 3 Sep 2003 << 7:30-8:30 AM (Rancho Canada TIA)												
Base Vol:	0	459	77	1082	509	0	0	0	0	0	0	1005
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	459	77	1082	509	0	0	0	0	0	0	1005
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	459	77	1082	509	0	0	0	0	0	0	1005
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	459	77	1082	509	0	0	0	0	0	0	1005
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	459	77	1082	509	0	0	0	0	0	0	1005
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.05	0.31	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.37	0.37	0.47	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.53
Volume/Cap:	0.00	0.66	0.13	0.66	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Delay/Veh:	0.0	26.3	19.1	19.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	26.3	19.1	19.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	16.2
DesignQueue:	0	16	2	31	5	0	0	0	0	0	0	25

Carmel Valley Master Plan EIR
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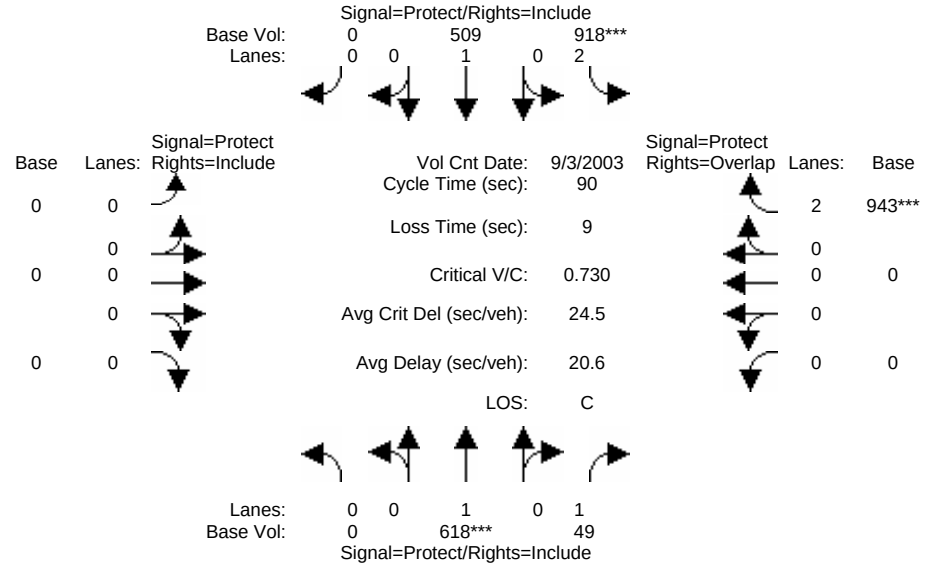
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM Peak

Intersection #1: Highway 1 & Carmel Valley Road

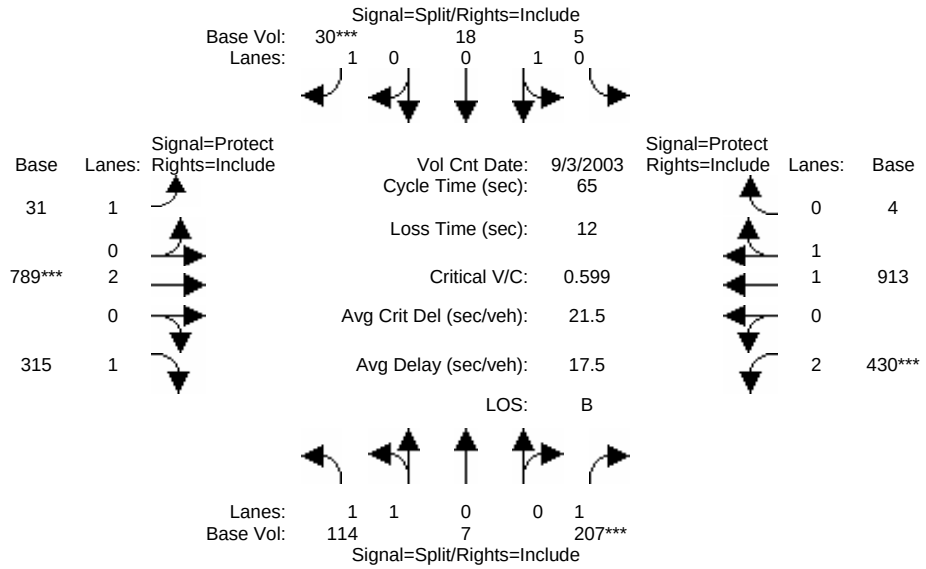


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 3 Sep 2003 << 4:45-5:45 PM (Rancho Canada)												
Base Vol:	0	618	49	918	509	0	0	0	0	0	0	943
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	618	49	918	509	0	0	0	0	0	0	943
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	618	49	918	509	0	0	0	0	0	0	943
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	618	49	918	509	0	0	0	0	0	0	943
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	618	49	918	509	0	0	0	0	0	0	943
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.03	0.26	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.33
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.45	0.45	0.36	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.45
Volume/Cap:	0.00	0.73	0.07	0.73	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.73
Delay/Veh:	0.0	23.8	14.3	27.3	2.5	0.0	0.0	0.0	0.0	0.0	0.0	22.2
User DelAdj:	0.94	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	23.8	13.4	27.3	2.5	0.0	0.0	0.0	0.0	0.0	0.0	22.2
DesignQueue:	0	19	1	31	5	0	0	0	0	0	0	28

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

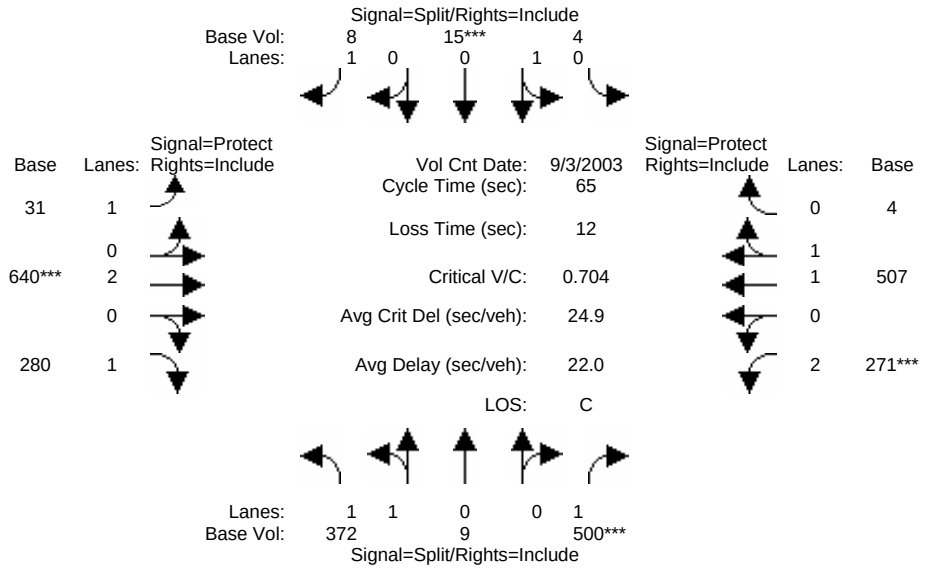


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 3 Sep 2003 << 7:30-8:30 AM (Rancho Canada TIA)												
Base Vol:	114	7	207	5	18	30	31	789	315	430	913	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	7	207	5	18	30	31	789	315	430	913	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	7	207	5	18	30	31	789	315	430	913	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	7	207	5	18	30	31	789	315	430	913	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	114	7	207	5	18	30	31	789	315	430	913	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.95	0.95
Lanes:	1.88	0.12	1.00	0.22	0.78	1.00	1.00	2.00	1.00	2.00	1.99	0.01
Final Sat.:	3419	210	1615	409	1471	1615	1805	3610	1615	3502	3591	16
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.13	0.01	0.01	0.02	0.02	0.22	0.20	0.12	0.25	0.25
Crit Moves:			****			****		****		****		
Green/Cycle:	0.21	0.21	0.21	0.03	0.03	0.03	0.04	0.37	0.37	0.21	0.53	0.53
Volume/Cap:	0.16	0.16	0.60	0.39	0.39	0.60	0.48	0.60	0.53	0.60	0.48	0.48
Delay/Veh:	20.9	20.9	25.9	35.2	35.2	49.5	36.1	17.5	17.2	24.8	9.6	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	20.9	25.9	35.2	35.2	49.5	36.1	17.5	17.2	24.8	9.6	9.6
DesignQueue:	3	0	6	0	1	1	1	19	8	13	16	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

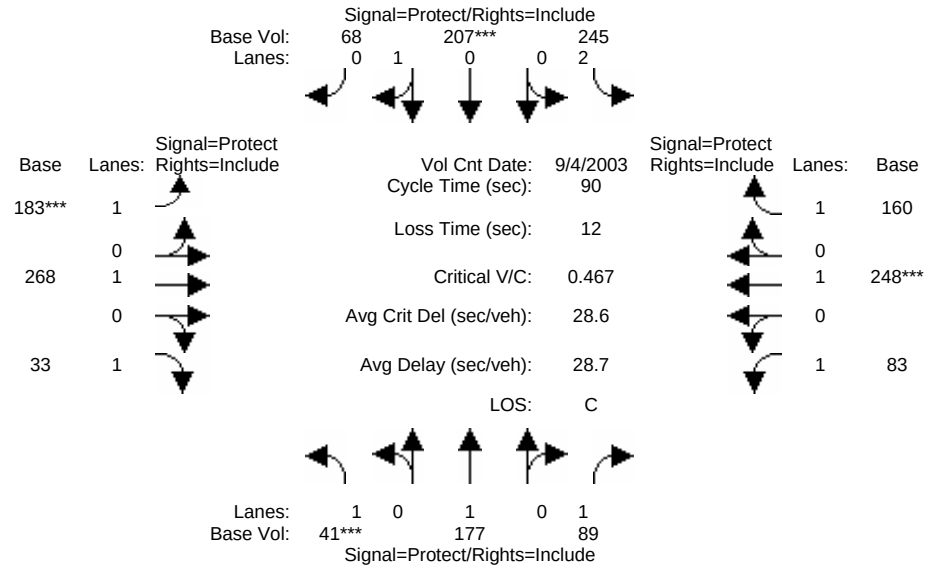


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 3 Sep 2003 << 4:30-5:30 PM (Rancho Canada)												
Base Vol:	372	9	500	4	15	8	31	640	280	271	507	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	9	500	4	15	8	31	640	280	271	507	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	372	9	500	4	15	8	31	640	280	271	507	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	372	9	500	4	15	8	31	640	280	271	507	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	372	9	500	4	15	8	31	640	280	271	507	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.95	0.95
Lanes:	1.95	0.05	1.00	0.21	0.79	1.00	1.00	2.00	1.00	2.00	1.98	0.02
Final Sat.:	3536	86	1615	396	1485	1615	1805	3610	1615	3502	3578	28
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.31	0.01	0.01	0.00	0.02	0.18	0.17	0.08	0.14	0.14
Crit Moves:			****		****			****		****		
Green/Cycle:	0.44	0.44	0.44	0.01	0.01	0.01	0.04	0.25	0.25	0.11	0.32	0.32
Volume/Cap:	0.24	0.24	0.70	0.70	0.70	0.35	0.44	0.70	0.69	0.70	0.44	0.44
Delay/Veh:	11.5	11.5	18.0	91.8	91.8	40.5	34.9	24.7	27.0	33.7	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.5	11.5	18.0	91.8	91.8	40.5	34.9	24.7	27.0	33.7	17.6	17.6
DesignQueue:	8	0	11	0	1	0	1	18	8	9	13	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM Peak

Intersection #3: Highway 1 & Rio Road

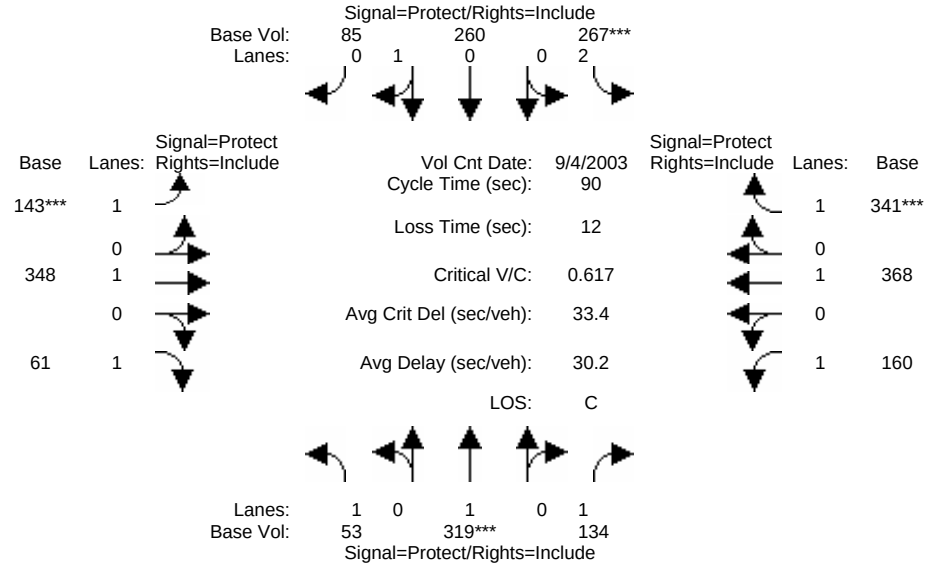


Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 4 Sep 2003 << 7:45-8:45 AM (Rancho Canada TIA)												
Base Vol:	41	177	89	245	207	68	183	268	33	83	248	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	177	89	245	207	68	183	268	33	83	248	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	177	89	245	207	68	183	268	33	83	248	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	177	89	245	207	68	183	268	33	83	248	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	41	177	89	245	207	68	183	268	33	83	248	160
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1377	452	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.06	0.07	0.15	0.15	0.10	0.14	0.02	0.05	0.13	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.05	0.21	0.21	0.16	0.32	0.32	0.22	0.37	0.37	0.12	0.28	0.28
Volume/Cap:	0.47	0.44	0.26	0.44	0.47	0.47	0.47	0.38	0.05	0.38	0.47	0.35
Delay/Veh:	45.6	31.6	30.0	34.8	25.0	25.0	31.6	20.8	18.0	37.4	27.5	26.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.6	31.6	30.0	34.8	25.0	25.0	31.6	20.8	18.0	37.4	27.5	26.4
DesignQueue:	2	7	4	10	7	2	7	9	1	4	9	6

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM Peak

Intersection #3: Highway 1 & Rio Road

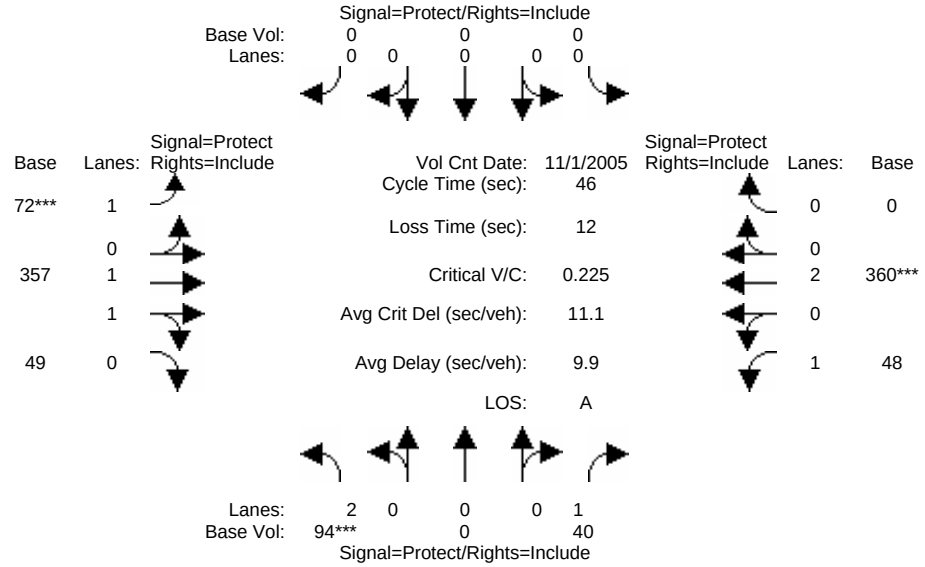


Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 4 Sep 2003 << 4:00-5:00 PM (Rancho Canada)												
Base Vol:	53	319	134	267	260	85	143	348	61	160	368	341
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	319	134	267	260	85	143	348	61	160	368	341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	319	134	267	260	85	143	348	61	160	368	341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	319	134	267	260	85	143	348	61	160	368	341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	53	319	134	267	260	85	143	348	61	160	368	341
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1379	451	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.17	0.08	0.08	0.19	0.19	0.08	0.18	0.04	0.09	0.19	0.21
Crit Moves:		****		****			****					****
Green/Cycle:	0.05	0.27	0.27	0.12	0.34	0.34	0.13	0.32	0.32	0.15	0.34	0.34
Volume/Cap:	0.55	0.62	0.30	0.62	0.55	0.55	0.62	0.58	0.12	0.58	0.57	0.62
Delay/Veh:	48.2	30.9	26.4	40.1	25.0	25.0	42.1	27.1	21.9	38.4	25.3	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	30.9	26.4	40.1	25.0	25.0	42.1	27.1	21.9	38.4	25.3	26.8
DesignQueue:	3	12	5	12	9	3	6	12	2	7	13	12

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM Peak

Intersection #4: Rio Road & Crossroad Driveway

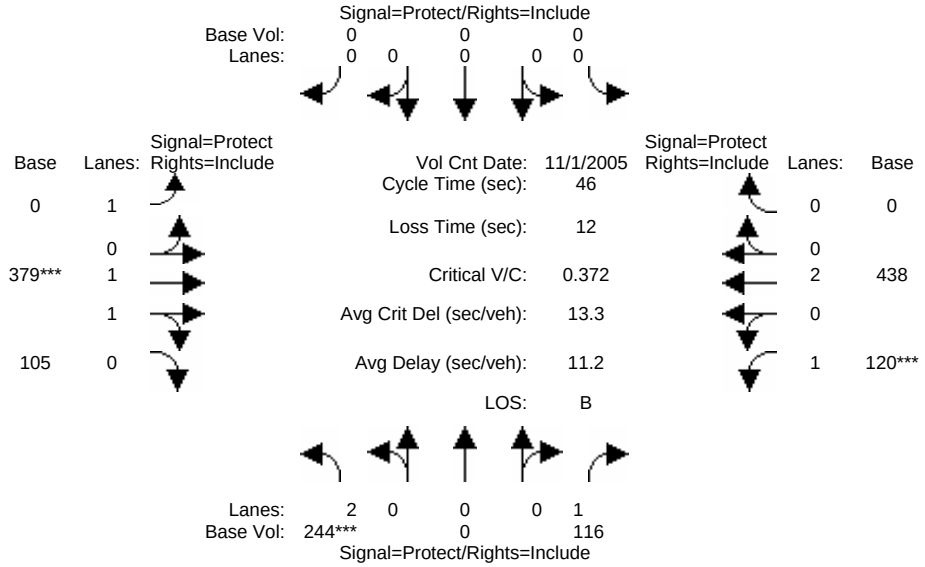


Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 1 Nov 2005 << 7:30-8:30 AM (DKS - WILTEC)												
Base Vol:	94	0	40	0	0	0	72	357	49	48	360	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	0	40	0	0	0	72	357	49	48	360	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	94	0	40	0	0	0	72	357	49	48	360	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	0	40	0	0	0	72	357	49	48	360	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	94	0	40	0	0	0	72	357	49	48	360	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.76	0.24	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1805	3117	428	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.00	0.00	0.00	0.04	0.11	0.11	0.03	0.10	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.12	0.00	0.12	0.00	0.00	0.00	0.18	0.50	0.50	0.12	0.44	0.00
Volume/Cap:	0.23	0.00	0.21	0.00	0.00	0.00	0.23	0.23	0.23	0.23	0.23	0.00
Delay/Veh:	18.6	0.0	18.8	0.0	0.0	0.0	16.6	6.5	6.5	19.0	8.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	0.0	18.8	0.0	0.0	0.0	16.6	6.5	6.5	19.0	8.0	0.0
DesignQueue:	2	0	1	0	0	0	2	5	1	1	5	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM Peak

Intersection #4: Rio Road & Crossroad Driveway

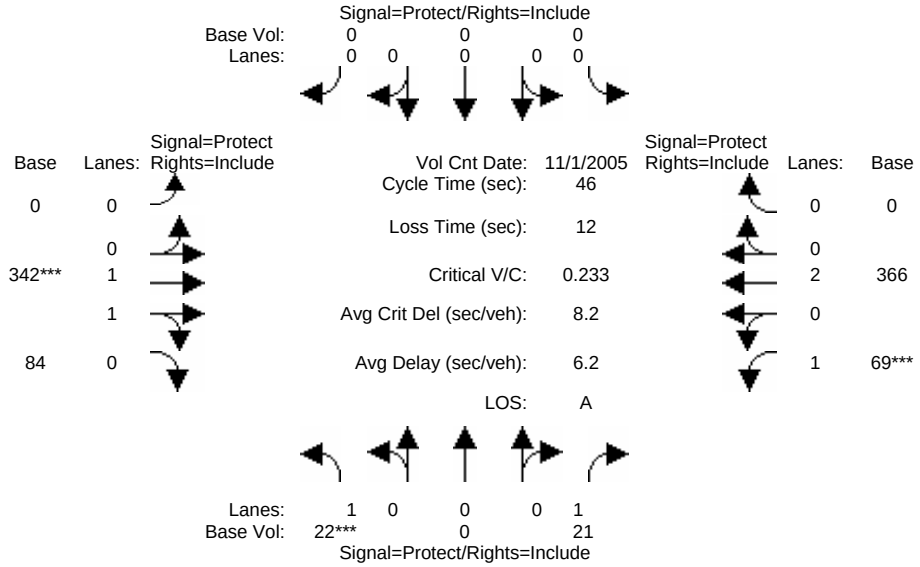


Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 1 Nov 2005 << 5:00-6:00 PM (DKS - WILTEC)												
Base Vol:	244	0	116	0	0	0	0	379	105	120	438	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	244	0	116	0	0	0	0	379	105	120	438	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	244	0	116	0	0	0	0	379	105	120	438	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	244	0	116	0	0	0	0	379	105	120	438	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	244	0	116	0	0	0	0	379	105	120	438	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.57	0.43	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	2734	757	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.14	0.14	0.07	0.12	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.19	0.00	0.19	0.00	0.00	0.00	0.00	0.37	0.37	0.18	0.55	0.00
Volume/Cap:	0.37	0.00	0.38	0.00	0.00	0.00	0.00	0.37	0.37	0.37	0.22	0.00
Delay/Veh:	16.7	0.0	17.2	0.0	0.0	0.0	0.0	10.7	10.7	17.3	5.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	0.0	17.2	0.0	0.0	0.0	0.0	10.7	10.7	17.3	5.3	0.0
DesignQueue:	5	0	2	0	0	0	0	6	2	3	5	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing AM Peak

Intersection #5: Rio Road & Carmel Center Place

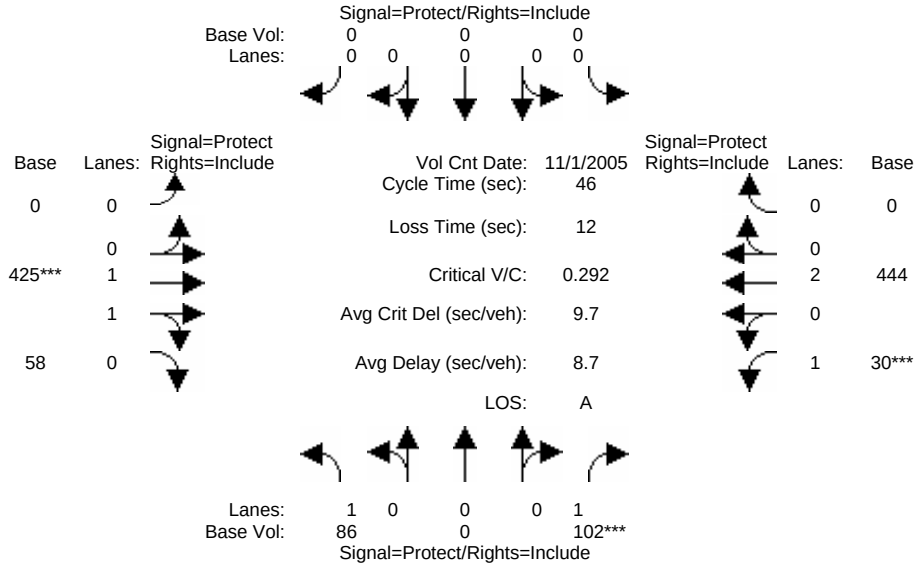


Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 1 Nov 2005 << 7:45-8:45 AM (DKS - WILTEC)												
Base Vol:	22	0	21	0	0	0	0	342	84	69	366	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	0	21	0	0	0	0	342	84	69	366	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	0	21	0	0	0	0	342	84	69	366	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	0	21	0	0	0	0	342	84	69	366	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	22	0	21	0	0	0	0	342	84	69	366	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.61	0.39	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2811	690	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.12	0.12	0.04	0.10	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.52	0.52	0.16	0.69	0.00
Volume/Cap:	0.23	0.00	0.25	0.00	0.00	0.00	0.00	0.23	0.23	0.23	0.15	0.00
Delay/Veh:	22.2	0.0	22.5	0.0	0.0	0.0	0.0	6.0	6.0	17.1	2.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.2	0.0	22.5	0.0	0.0	0.0	0.0	6.0	6.0	17.1	2.5	0.0
DesignQueue:	1	0	1	0	0	0	0	4	1	1	3	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Existing PM Peak

Intersection #5: Rio Road & Carmel Center Place

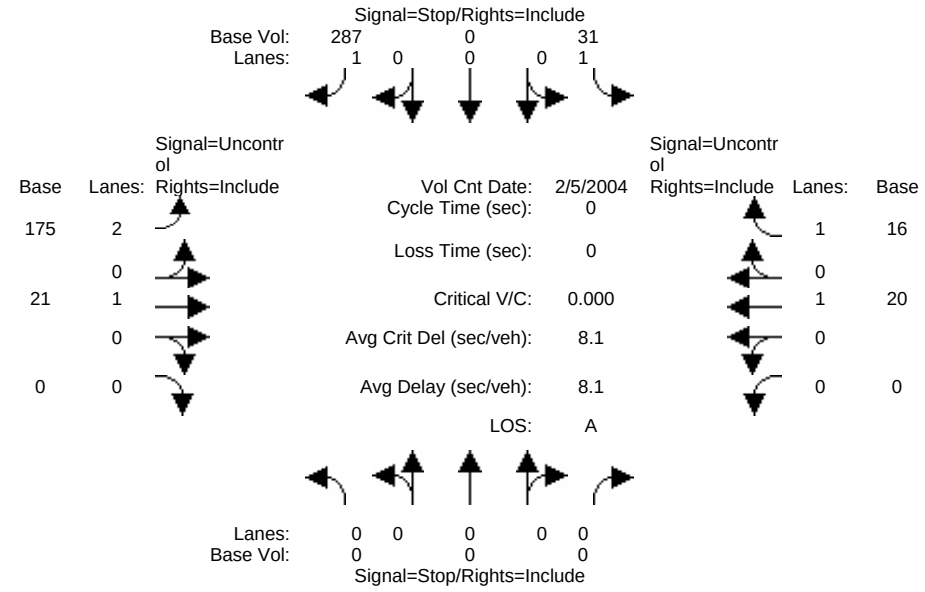


Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 1 Nov 2005 << 4:30-5:30 PM (DKS - WILTEC)												
Base Vol:	86	0	102	0	0	0	0	425	58	30	444	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	102	0	0	0	0	425	58	30	444	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	0	102	0	0	0	0	425	58	30	444	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	0	102	0	0	0	0	425	58	30	444	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	0	102	0	0	0	0	425	58	30	444	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.76	0.24	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	3119	426	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.14	0.14	0.02	0.12	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.47	0.47	0.06	0.52	0.00
Volume/Cap:	0.22	0.00	0.29	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.24	0.00
Delay/Veh:	15.1	0.0	15.6	0.0	0.0	0.0	0.0	7.7	7.7	22.4	6.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.1	0.0	15.6	0.0	0.0	0.0	0.0	7.7	7.7	22.4	6.0	0.0
DesignQueue:	2	0	2	0	0	0	0	6	1	1	6	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road

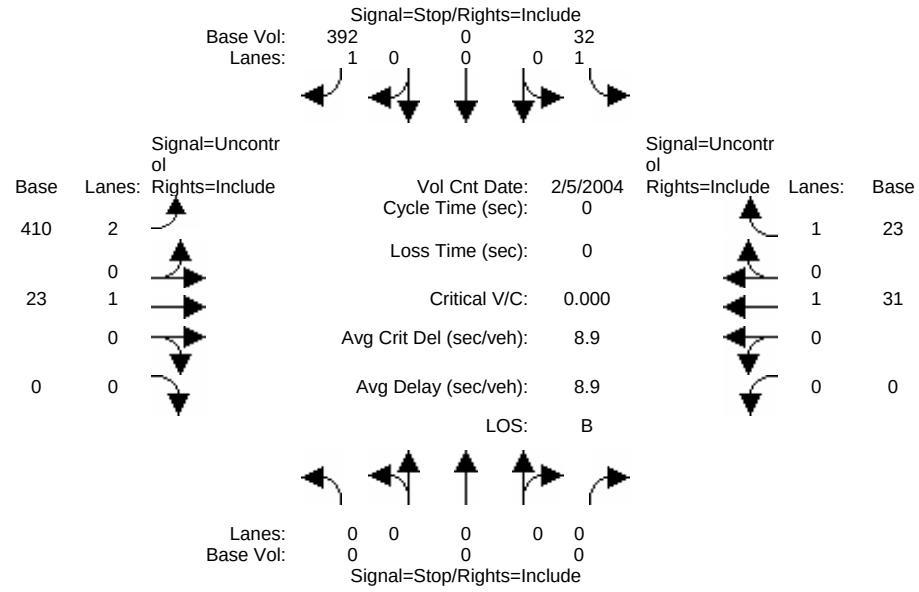


Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 5 Feb 2004 << (Rancho Canada TIA)												
Base Vol:	0	0	0	31	0	287	175	21	0	0	20	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	287	175	21	0	0	20	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	31	0	287	175	21	0	0	20	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	31	0	287	175	21	0	0	20	16
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	391	xxxx	20	36	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	617	xxxx	1064	1588	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	565	xxxx	1064	1588	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	0.27	0.11	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.2	xxxx	1.1	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.7	xxxx	9.6	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			9.8			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road

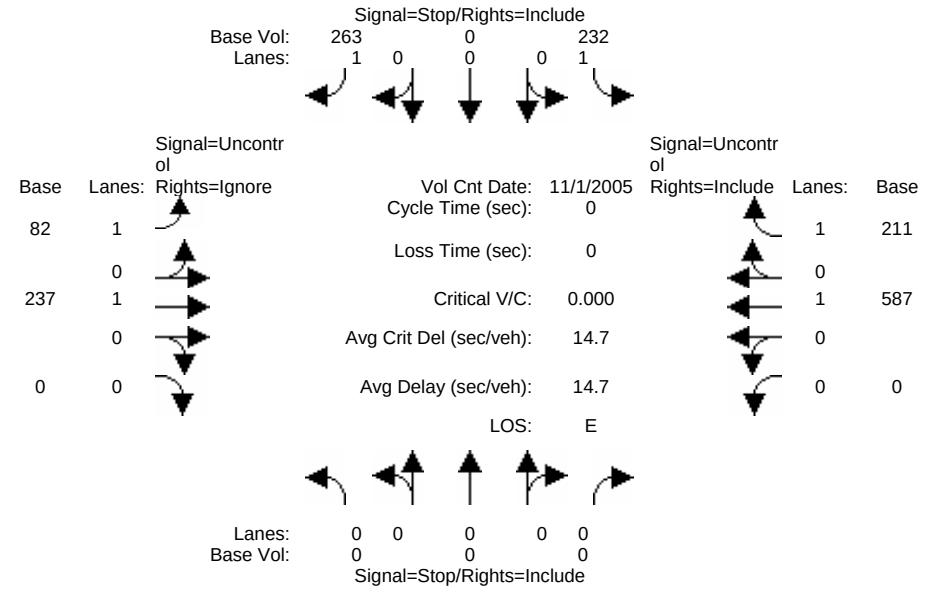


Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 5 Feb 2004 << (Rancho Canada TIA)												
Base Vol:	0	0	0	32	0	392	410	23	0	0	31	23
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	32	0	392	410	23	0	0	31	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	32	0	392	410	23	0	0	31	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	32	0	392	410	23	0	0	31	23
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	874	xxxx	31	54	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	323	xxxx	1049	1564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	257	xxxx	1049	1564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.12	xxxx	0.37	0.26	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.4	xxxx	1.8	1.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	21.0	xxxx	10.5	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	B	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			11.3			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing AM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 1 Nov 2005 << 7:15-8:15 AM (DKS - WILTEC)												
Base Vol:	0	0	0	232	0	263	82	237	0	0	587	211
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	232	0	263	82	237	0	0	587	211
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	232	0	263	82	237	0	0	587	211
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	232	0	263	82	237	0	0	587	211
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	988	xxxx	587	798	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	276	xxxx	513	833	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	256	xxxx	513	833	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.91	xxxx	0.51	0.10	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	8.0	xxxx	2.9	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	77.0	xxxx	19.2	9.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	C	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			46.3			xxxxxx			xxxxxx		
ApproachLOS:	*			E			*			*		
HevVeh:	0%			0%			0%			0%		
Grade:	0%			0%			0%			0%		
Peds/Hour:	0			0			0			0		
Pedestrian Walk Speed: 4.00 feet/sec												
LaneWidth:	12 feet			12 feet			12 feet			12 feet		

Time Period: 0.25 hour

Peak Hour Delay Signal Warrant Report

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Intersection #7 Laureles Grade Road & Carmel Valley Road

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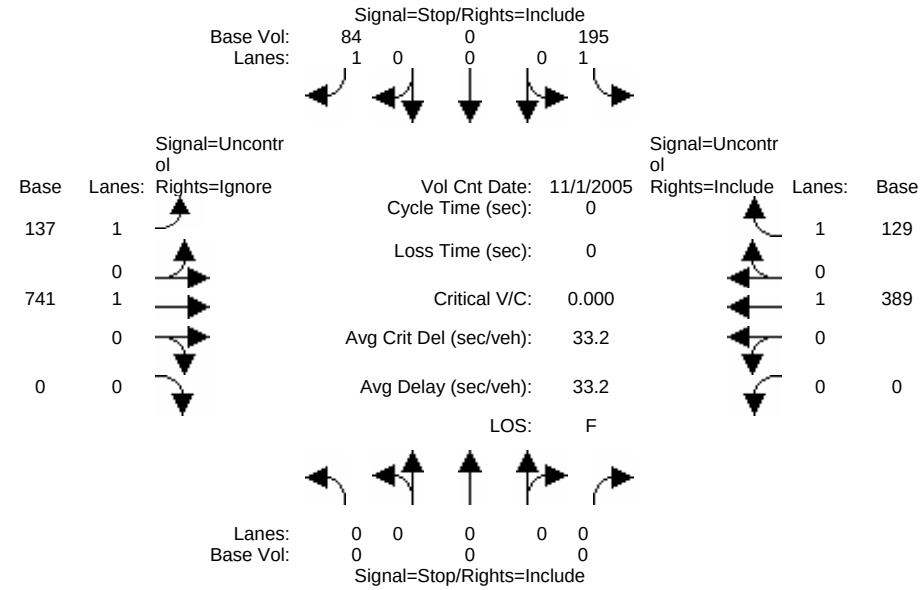
Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 1 0 0			0 0 1 0 1		
Final Vol.:	0	0	0	232	0	263	82	237	0	0	587	211
ApproachDel:	xxxxxx			46.3			xxxxxx			xxxxxx		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Existing PM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 1 Nov 2005 << 4:45-5:45 PM (DKS - WILTEC)												
Base Vol:	0	0	0	195	0	84	137	741	0	0	389	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	195	0	84	137	741	0	0	389	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	195	0	84	137	741	0	0	389	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	195	0	84	137	741	0	0	389	129
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1404	xxxx	389	518	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	155	xxxx	664	1058	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	140	xxxx	664	1058	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	1.39	xxxx	0.13	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	12.7	xxxx	0.4	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	273.9	xxxx	11.2	8.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	B	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			194.8			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		
HevVeh:	0%			0%			0%			0%		
Grade:	0%			0%			0%			0%		
Peds/Hour:	0			0			0			0		
Pedestrian Walk Speed: 4.00 feet/sec												
LaneWidth:	12 feet			12 feet			12 feet			12 feet		
Time Period: 0.25 hour												

Peak Hour Delay Signal Warrant Report

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Intersection #7 Laureles Grade Road & Carmel Valley Road

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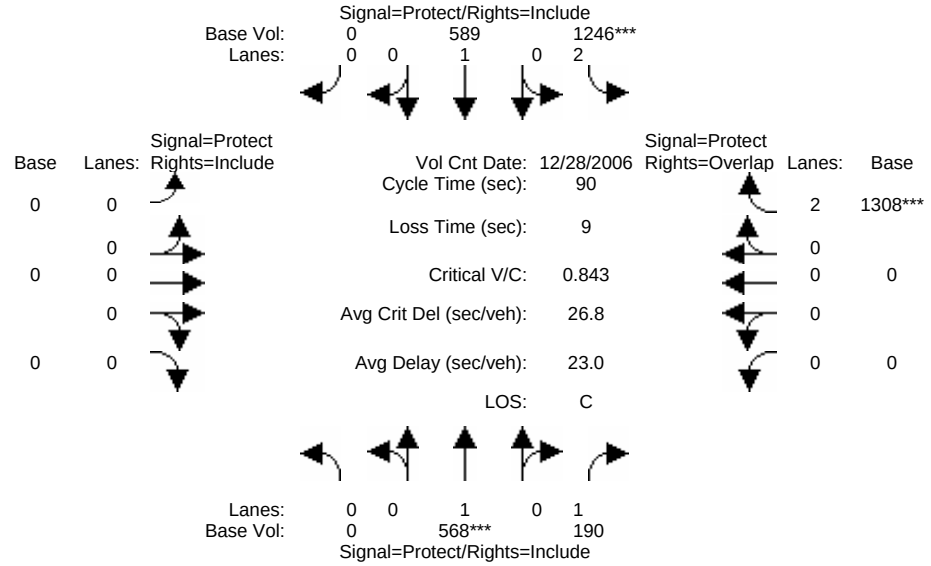
Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Lanes:	0	0	0	0	1	0	0	1	1	0	1	0	0	1	0	1
Final Vol.:	0	0	0		195	0	84		137	741	0		0	389	129	
ApproachDel:	xxxxxx				194.8				xxxxxx				xxxxxx			

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #1: Highway 1 & Carmel Valley Road

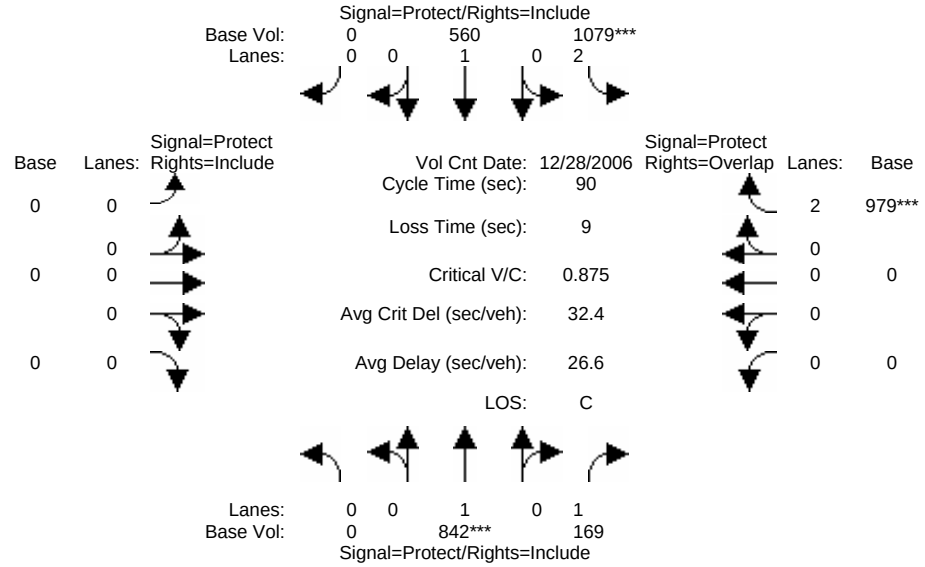


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	0	568	190	1246	589	0	0	0	0	0	0	1308
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	568	190	1246	589	0	0	0	0	0	0	1308
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	568	190	1246	589	0	0	0	0	0	0	1308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	568	190	1246	589	0	0	0	0	0	0	1308
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	568	190	1246	589	0	0	0	0	0	0	1308
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.12	0.36	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.46
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.35	0.35	0.42	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Volume/Cap:	0.00	0.84	0.33	0.84	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.84
Delay/Veh:	0.0	36.3	21.6	28.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	36.3	21.6	28.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	21.6
DesignQueue:	0	20	6	39	7	0	0	0	0	0	0	33

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #1: Highway 1 & Carmel Valley Road

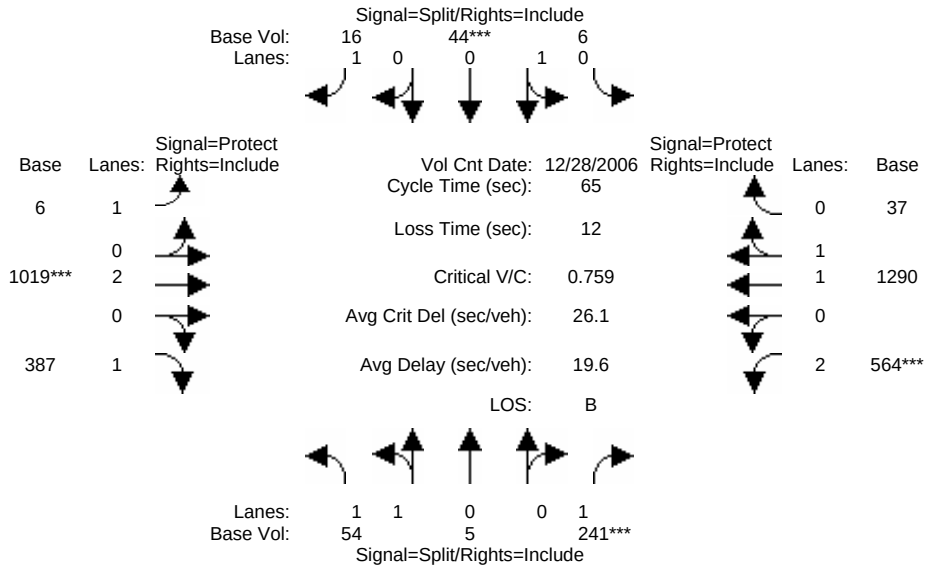


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	0	842	169	1079	560	0	0	0	0	0	0	979
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	842	169	1079	560	0	0	0	0	0	0	979
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	842	169	1079	560	0	0	0	0	0	0	979
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	842	169	1079	560	0	0	0	0	0	0	979
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	842	169	1079	560	0	0	0	0	0	0	979
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.44	0.10	0.31	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.34
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.51	0.51	0.35	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.39
Volume/Cap:	0.00	0.88	0.21	0.88	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.88
Delay/Veh:	0.0	28.7	12.4	34.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	33.1
User DelAdj:	0.94	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	28.7	11.6	34.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	33.1
DesignQueue:	0	24	4	38	4	0	0	0	0	0	0	32

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

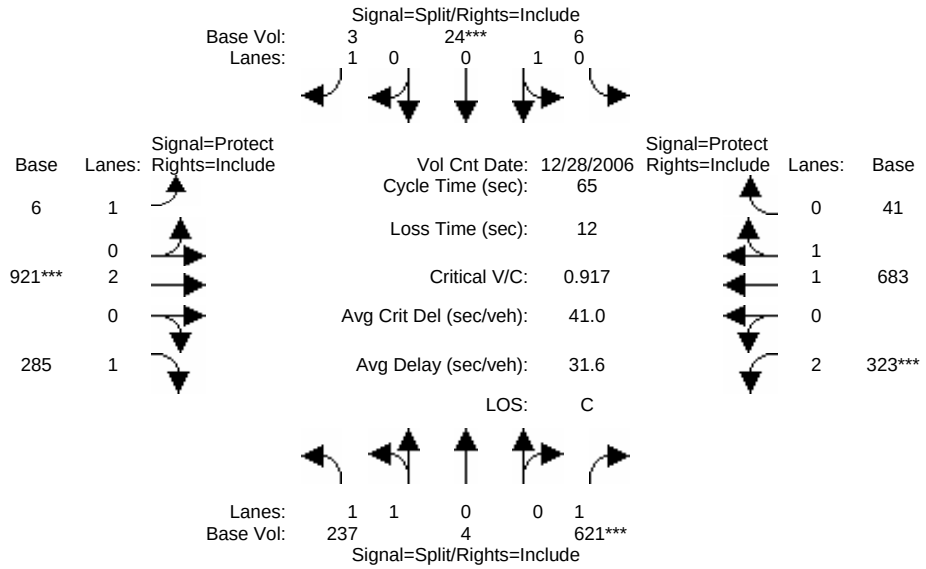


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	54	5	241	6	44	16	6	1019	387	564	1290	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	5	241	6	44	16	6	1019	387	564	1290	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	5	241	6	44	16	6	1019	387	564	1290	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	5	241	6	44	16	6	1019	387	564	1290	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	5	241	6	44	16	6	1019	387	564	1290	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.95	0.95
Lanes:	1.83	0.17	1.00	0.12	0.88	1.00	1.00	2.00	1.00	2.00	1.94	0.06
Final Sat.:	3325	308	1615	227	1662	1615	1805	3610	1615	3502	3495	100
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.15	0.03	0.03	0.01	0.00	0.28	0.24	0.16	0.37	0.37
Crit Moves:			****		****			****		****		
Green/Cycle:	0.20	0.20	0.20	0.03	0.03	0.03	0.01	0.37	0.37	0.21	0.58	0.58
Volume/Cap:	0.08	0.08	0.76	0.76	0.76	0.28	0.64	0.76	0.64	0.76	0.64	0.64
Delay/Veh:	21.4	21.4	34.8	70.5	70.5	33.3	126.3	20.4	19.3	28.6	9.8	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.4	21.4	34.8	70.5	70.5	33.3	126.3	20.4	19.3	28.6	9.8	9.8
DesignQueue:	2	0	7	0	2	1	0	25	9	17	22	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

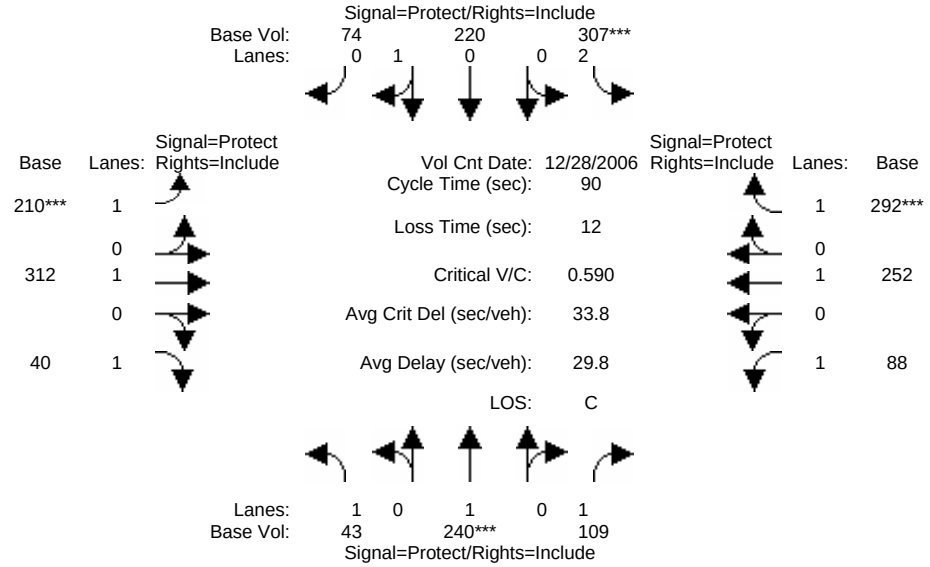


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	237	4	621	6	24	3	6	921	285	323	683	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	4	621	6	24	3	6	921	285	323	683	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	4	621	6	24	3	6	921	285	323	683	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	4	621	6	24	3	6	921	285	323	683	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	237	4	621	6	24	3	6	921	285	323	683	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.94	0.94
Lanes:	1.97	0.03	1.00	0.20	0.80	1.00	1.00	2.00	1.00	2.00	1.89	0.11
Final Sat.:	3561	60	1615	376	1505	1615	1805	3610	1615	3502	3375	203
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.38	0.02	0.02	0.00	0.00	0.26	0.18	0.09	0.20	0.20
Crit Moves:			****		****			****		****		
Green/Cycle:	0.42	0.42	0.42	0.02	0.02	0.02	0.01	0.28	0.28	0.10	0.37	0.37
Volume/Cap:	0.16	0.16	0.92	0.92	0.92	0.11	0.54	0.92	0.63	0.92	0.54	0.54
Delay/Veh:	11.8	11.8	35.2	154.8	155	33.1	78.0	35.5	23.5	57.0	16.5	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.8	11.8	35.2	154.8	155	33.1	78.0	35.5	23.5	57.0	16.5	16.5
DesignQueue:	5	0	14	0	1	0	0	26	8	11	16	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #3: Highway 1 & Rio Road

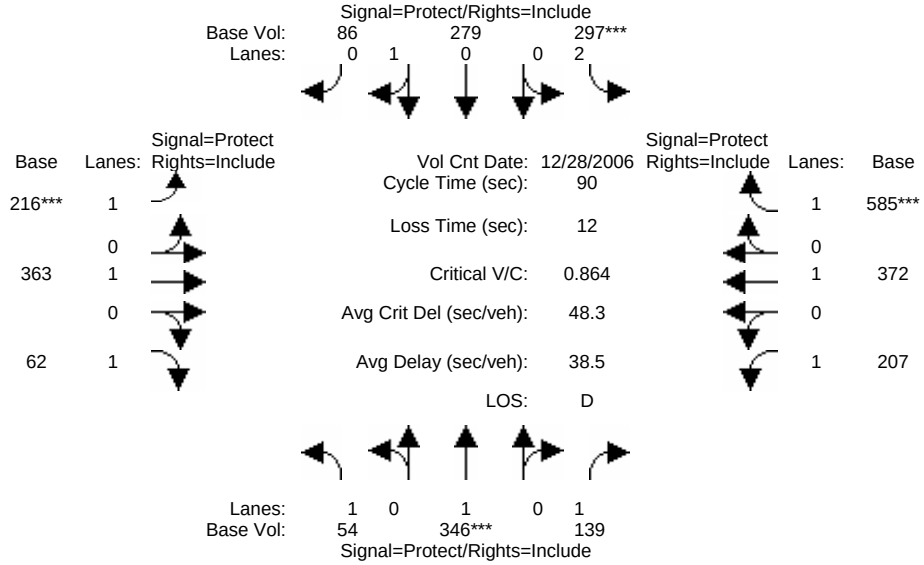


Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	43	240	109	307	220	74	210	312	40	88	252	292
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	240	109	307	220	74	210	312	40	88	252	292
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	240	109	307	220	74	210	312	40	88	252	292
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	240	109	307	220	74	210	312	40	88	252	292
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	43	240	109	307	220	74	210	312	40	88	252	292
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1368	460	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.07	0.09	0.16	0.16	0.12	0.16	0.02	0.05	0.13	0.18
Crit Moves:		****		****			****					****
Green/Cycle:	0.05	0.21	0.21	0.15	0.32	0.32	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.51	0.59	0.32	0.59	0.51	0.51	0.59	0.42	0.06	0.42	0.43	0.59
Delay/Veh:	46.9	34.1	30.3	37.5	25.8	25.8	35.4	20.5	17.3	38.4	25.5	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	34.1	30.3	37.5	25.8	25.8	35.4	20.5	17.3	38.4	25.5	28.3
DesignQueue:	2	10	4	13	8	3	9	10	1	4	9	11

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #3: Highway 1 & Rio Road



Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	54	346	139	297	279	86	216	363	62	207	372	585
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	346	139	297	279	86	216	363	62	207	372	585
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	346	139	297	279	86	216	363	62	207	372	585
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	346	139	297	279	86	216	363	62	207	372	585
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	346	139	297	279	86	216	363	62	207	372	585
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.97	0.97	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.76	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1401	432	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.09	0.08	0.20	0.20	0.12	0.19	0.04	0.11	0.20	0.36
Crit Moves:		****		****			****					****
Green/Cycle:	0.04	0.21	0.21	0.10	0.27	0.27	0.14	0.35	0.35	0.21	0.42	0.42
Volume/Cap:	0.74	0.86	0.41	0.86	0.74	0.74	0.86	0.55	0.11	0.55	0.47	0.86
Delay/Veh:	75.7	51.7	31.5	59.7	36.0	36.0	63.3	24.6	19.9	33.5	19.3	35.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.7	51.7	31.5	59.7	36.0	36.0	63.3	24.6	19.9	33.5	19.3	35.0
DesignQueue:	3	14	6	14	11	3	10	12	2	8	11	18

Carmel Valley Master Plan EIR
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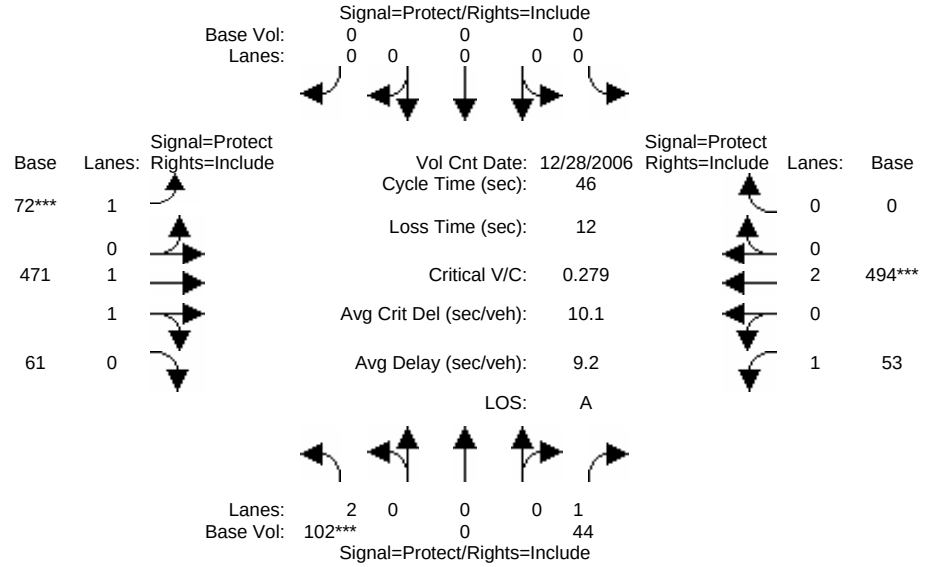
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	102	0	44	0	0	0	72	471	61	53	494	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	0	44	0	0	0	72	471	61	53	494	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	102	0	44	0	0	0	72	471	61	53	494	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	0	44	0	0	0	72	471	61	53	494	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	0	44	0	0	0	72	471	61	53	494	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.77	0.23	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1805	3142	407	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.04	0.15	0.15	0.03	0.14	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.14	0.53	0.53	0.10	0.49	0.00
Volume/Cap:	0.28	0.00	0.26	0.00	0.00	0.00	0.28	0.28	0.28	0.28	0.28	0.00
Delay/Veh:	19.4	0.0	19.8	0.0	0.0	0.0	18.2	6.0	6.0	19.9	7.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	0.0	19.8	0.0	0.0	0.0	18.2	6.0	6.0	19.9	7.0	0.0
DesignQueue:	2	0	1	0	0	0	2	6	1	1	7	0

Carmel Valley Master Plan EIR
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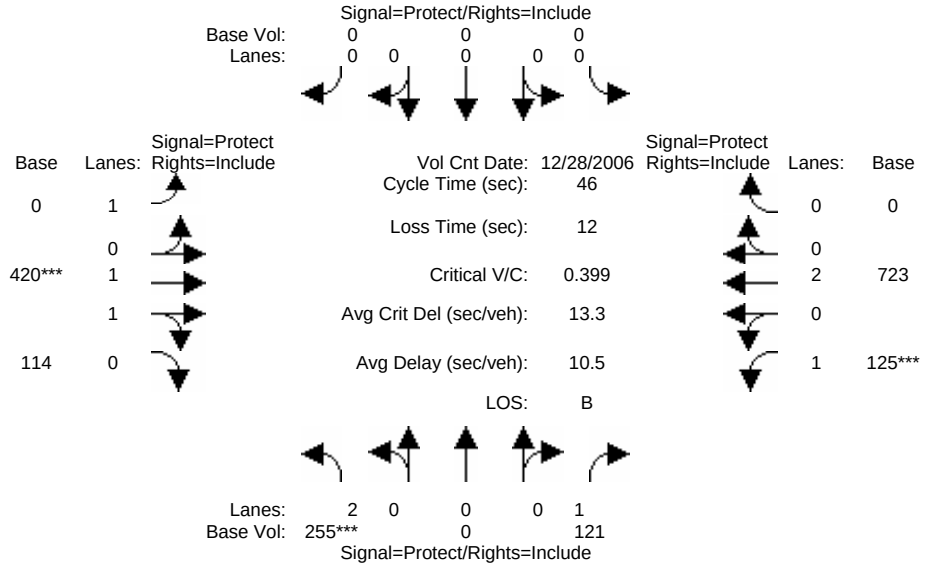
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #4: Rio Road & Crossroad Driveway

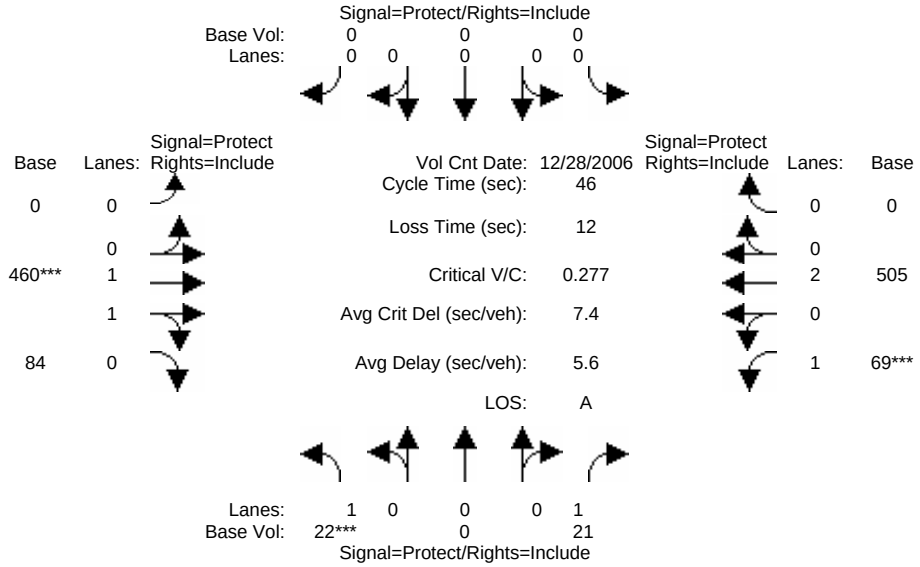


Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	255	0	121	0	0	0	0	420	114	125	723	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	255	0	121	0	0	0	0	420	114	125	723	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	255	0	121	0	0	0	0	420	114	125	723	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	0	121	0	0	0	0	420	114	125	723	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	255	0	121	0	0	0	0	420	114	125	723	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.57	0.43	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	2748	746	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.15	0.15	0.07	0.20	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.38	0.38	0.17	0.56	0.00
Volume/Cap:	0.40	0.00	0.41	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.36	0.00
Delay/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.8	0.0
DesignQueue:	5	0	3	0	0	0	0	7	2	3	9	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #5: Rio Road & Carmel Center Place

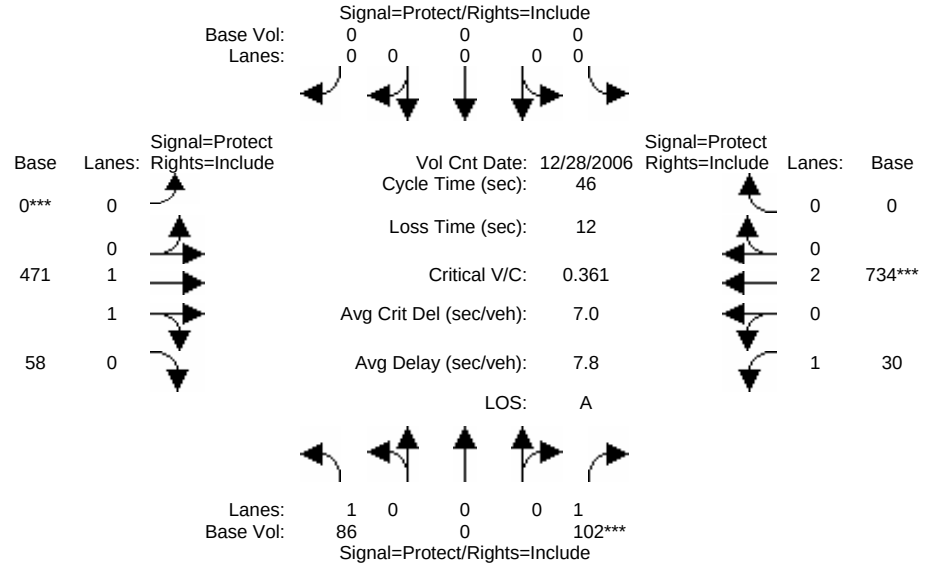


Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	22	0	21	0	0	0	0	460	84	69	505	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	0	21	0	0	0	0	460	84	69	505	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	0	21	0	0	0	0	460	84	69	505	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	0	21	0	0	0	0	460	84	69	505	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	22	0	21	0	0	0	0	460	84	69	505	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.69	0.31	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2982	545	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.04	0.14	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.56	0.56	0.14	0.70	0.00
Volume/Cap:	0.28	0.00	0.30	0.00	0.00	0.00	0.00	0.28	0.28	0.28	0.20	0.00
Delay/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
DesignQueue:	1	0	1	0	0	0	0	5	1	2	4	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #5: Rio Road & Carmel Center Place



Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	86	0	102	0	0	0	0	471	58	30	734	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	102	0	0	0	0	471	58	30	734	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	0	102	0	0	0	0	471	58	30	734	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	0	102	0	0	0	0	471	58	30	734	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	0	102	0	0	0	0	471	58	30	734	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	3163	389	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.15	0.15	0.02	0.20	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.51	0.51	0.06	0.56	0.00
Volume/Cap:	0.27	0.00	0.36	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.36	0.00
Delay/Veh:	16.9	0.0	17.5	0.0	0.0	0.0	0.0	6.7	6.7	22.4	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	0.0	17.5	0.0	0.0	0.0	0.0	6.7	6.7	22.4	5.6	0.0
DesignQueue:	2	0	2	0	0	0	0	6	1	1	9	0

Carmel Valley Master Plan EIR
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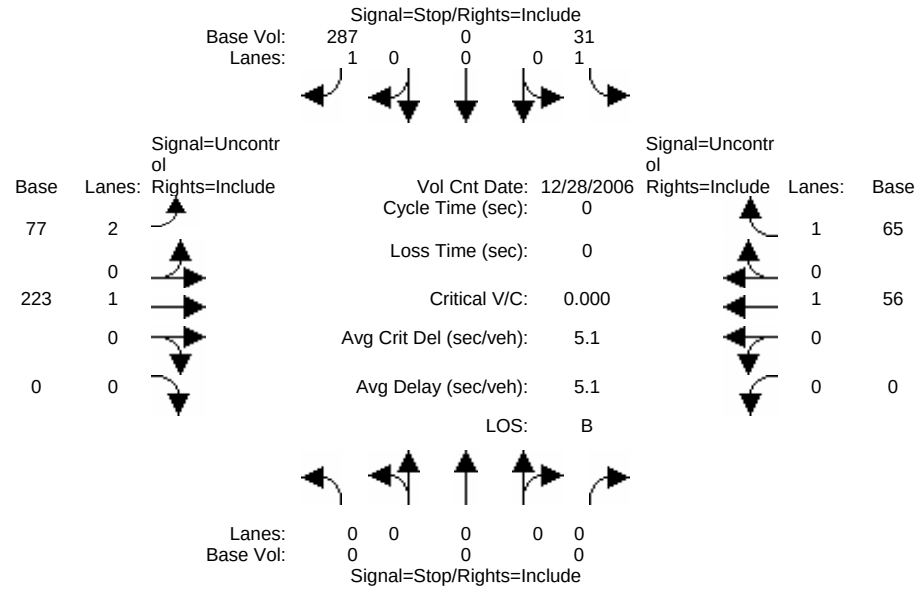
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	0	0	0	31	0	287	77	223	0	0	56	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	287	77	223	0	0	56	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	31	0	287	77	223	0	0	56	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	31	0	287	77	223	0	0	56	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	433	xxxx	56	121	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	584	xxxx	1016	1479	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	560	xxxx	1016	1479	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	0.28	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.2	xxxx	1.2	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.8	xxxx	9.9	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
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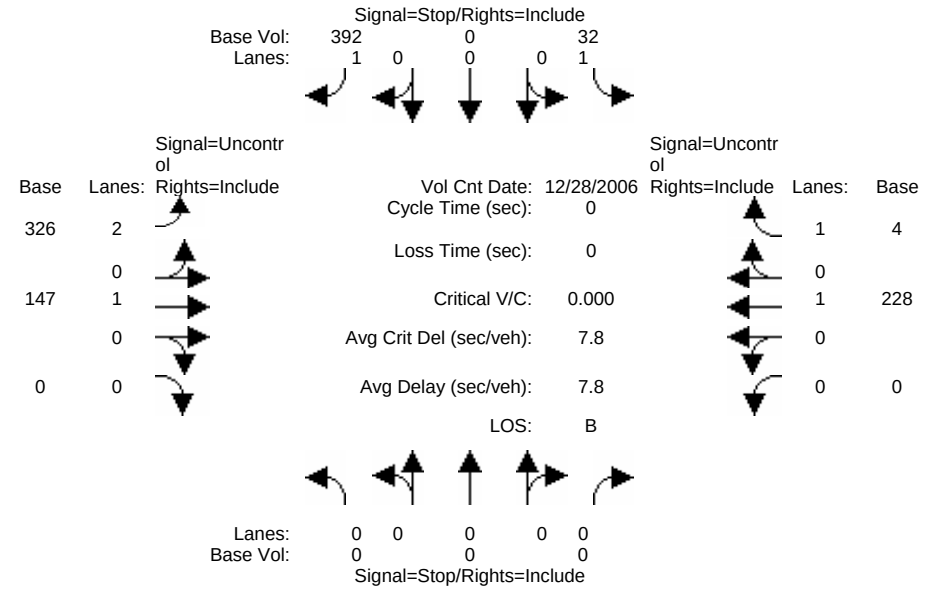
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road

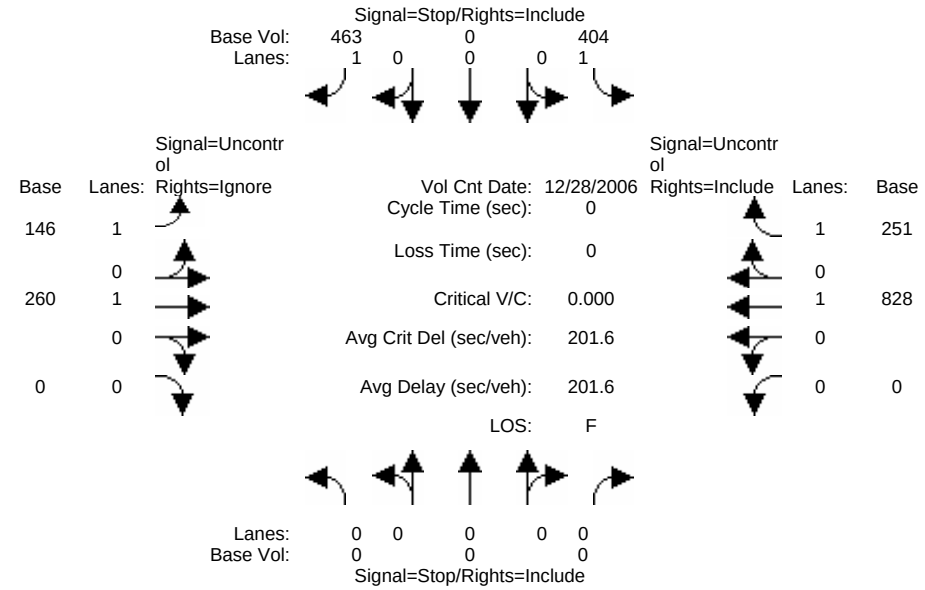


Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	0	0	0	32	0	392	326	147	0	0	228	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	32	0	392	326	147	0	0	228	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	32	0	392	326	147	0	0	228	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	32	0	392	326	147	0	0	228	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1027	xxxx	228	232	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	262	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	213	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.15	xxxx	0.48	0.24	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.5	xxxx	2.6	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	24.9	xxxx	13.4	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	B	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			14.3			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
No Project Scenario AM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - am												
Base Vol:	0	0	0	404	0	463	146	260	0	0	828	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	404	0	463	146	260	0	0	828	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	404	0	463	146	260	0	0	828	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	404	0	463	146	260	0	0	828	251
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1380	xxxx	828	1079	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	161	xxxx	374	654	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	133	xxxx	374	654	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	3.04	xxxx	1.24	0.22	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	37.9	xxxx	19.9	0.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	987.1	xxxx	158.8	12.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	F	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			544.8			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Carmel Valley Master Plan EIR
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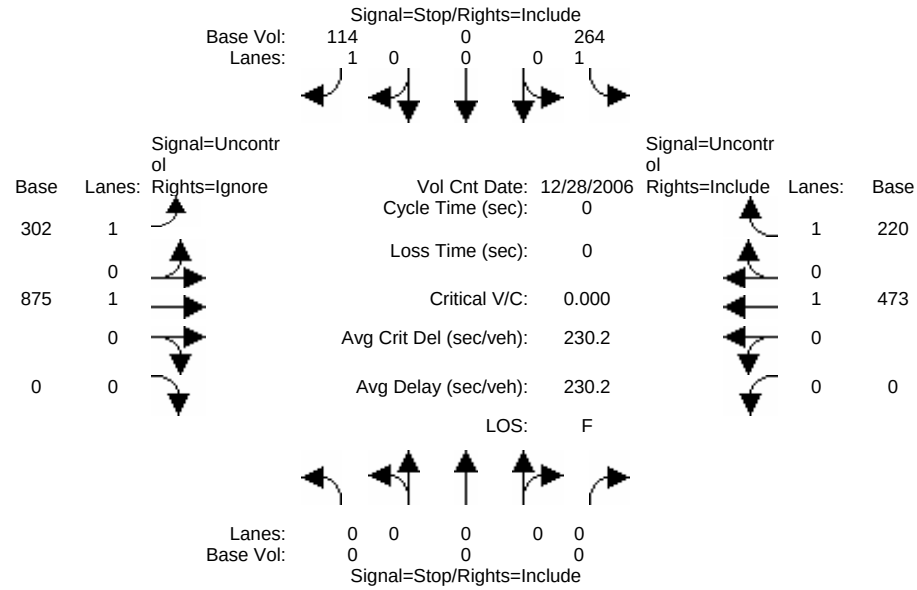
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
No Project Scenario PM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road

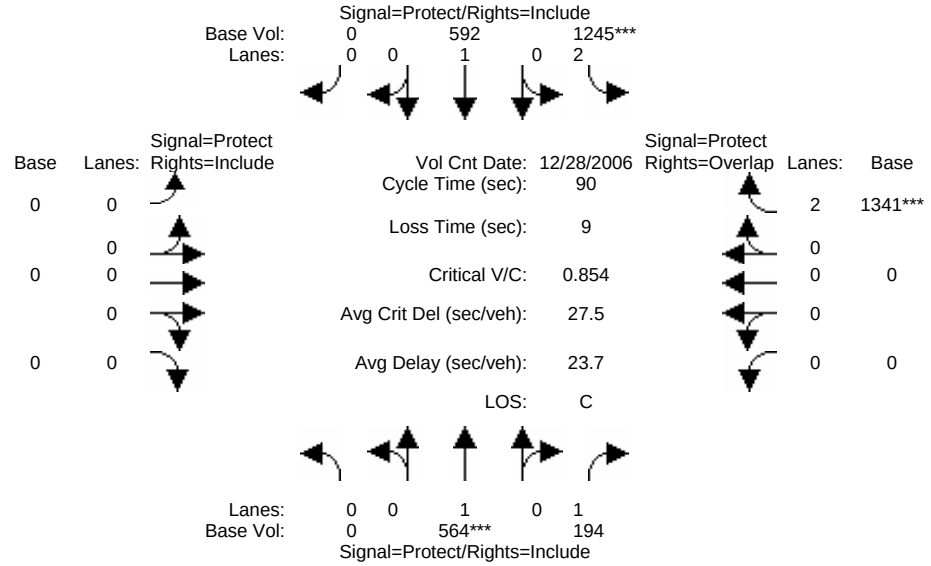


Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 NoProj - pm												
Base Vol:	0	0	0	264	0	114	302	875	0	0	473	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	264	0	114	302	875	0	0	473	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	264	0	114	302	875	0	0	473	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	264	0	114	302	875	0	0	473	220
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1952	xxxx	473	693	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	71	xxxx	595	912	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	53	xxxx	595	912	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	4.97	xxxx	0.19	0.33	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	29.7	xxxx	0.7	1.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	1942	xxxx	12.5	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	B	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1360.2			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A AM Peak

Intersection #1: Highway 1 & Carmel Valley Road

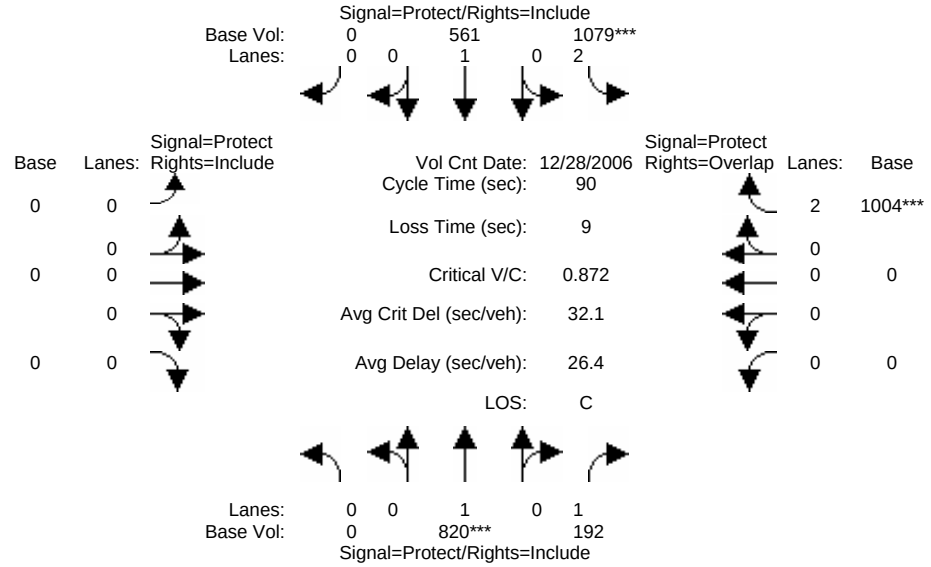


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	0	564	194	1245	592	0	0	0	0	0	0	1341
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	564	194	1245	592	0	0	0	0	0	0	1341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	564	194	1245	592	0	0	0	0	0	0	1341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	564	194	1245	592	0	0	0	0	0	0	1341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	564	194	1245	592	0	0	0	0	0	0	1341
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.12	0.36	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.35	0.35	0.42	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Volume/Cap:	0.00	0.85	0.35	0.85	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.85
Delay/Veh:	0.0	37.8	22.1	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	21.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	37.8	22.1	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	21.9
DesignQueue:	0	20	7	40	8	0	0	0	0	0	0	33

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A PM Peak

Intersection #1: Highway 1 & Carmel Valley Road



Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	0	820	192	1079	561	0	0	0	0	0	0	1004
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	820	192	1079	561	0	0	0	0	0	0	1004
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	820	192	1079	561	0	0	0	0	0	0	1004
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	820	192	1079	561	0	0	0	0	0	0	1004
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	820	192	1079	561	0	0	0	0	0	0	1004
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.12	0.31	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.49	0.49	0.35	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Volume/Cap:	0.00	0.87	0.24	0.87	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Delay/Veh:	0.0	29.2	13.2	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.1
User DelAdj:	0.94	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.2	12.4	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.1
DesignQueue:	0	23	5	38	5	0	0	0	0	0	0	32

Carmel Valley Master Plan EIR
DKS Associates

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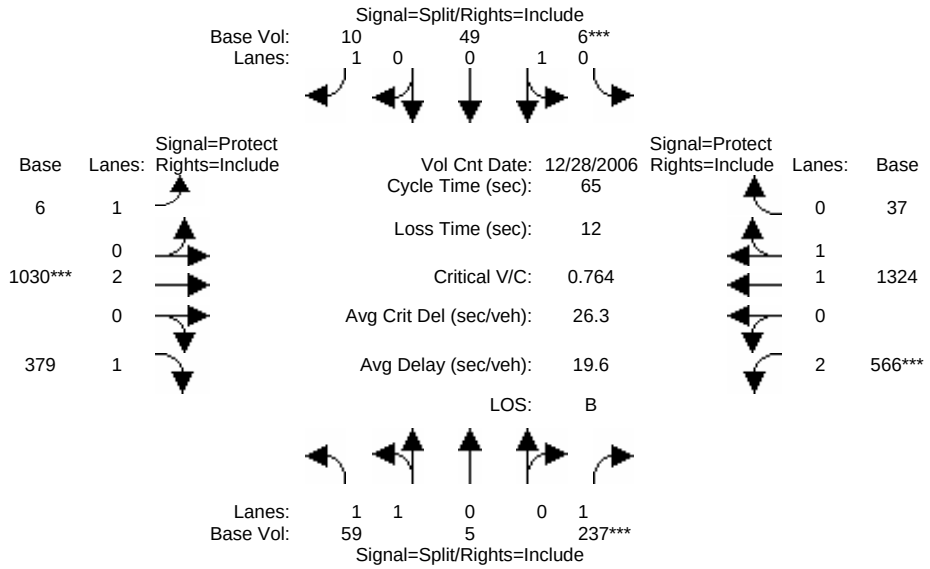
2000 HCM Operations (Base Volume Alternative)
Scenario A AM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

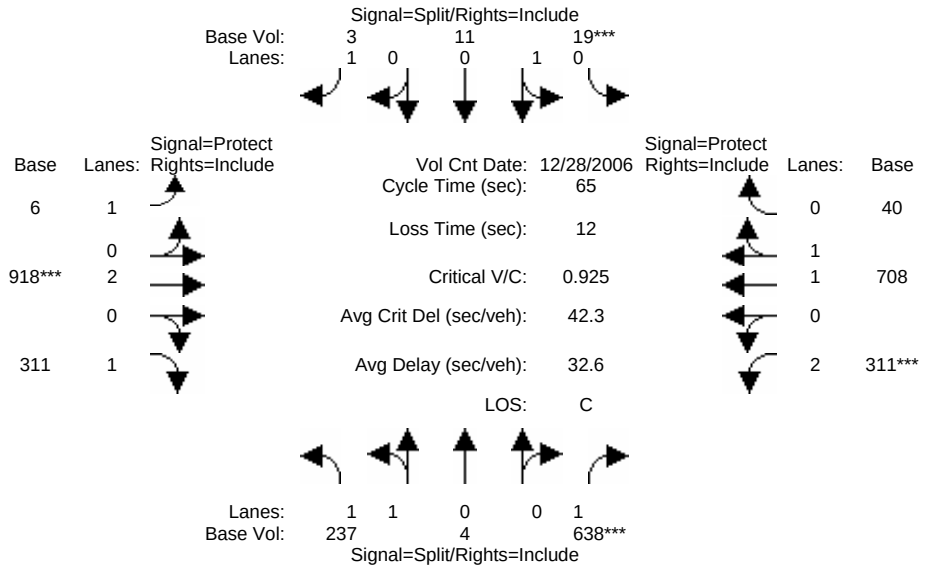


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	59	5	237	6	49	10	6	1030	379	566	1324	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	5	237	6	49	10	6	1030	379	566	1324	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	5	237	6	49	10	6	1030	379	566	1324	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	5	237	6	49	10	6	1030	379	566	1324	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	59	5	237	6	49	10	6	1030	379	566	1324	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	1.00	1.00	0.85	0.95	0.95	0.85	0.92	0.95	0.95
Lanes:	1.84	0.16	1.00	0.11	0.89	1.00	1.00	2.00	1.00	2.00	1.95	0.05
Final Sat.:	3349	284	1615	206	1684	1615	1805	3610	1615	3502	3498	98
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.15	0.03	0.03	0.01	0.00	0.29	0.23	0.16	0.38	0.38
Crit Moves:			****	****				****		****		
Green/Cycle:	0.19	0.19	0.19	0.04	0.04	0.04	0.01	0.37	0.37	0.21	0.58	0.58
Volume/Cap:	0.09	0.09	0.76	0.76	0.76	0.16	0.65	0.76	0.63	0.76	0.65	0.65
Delay/Veh:	21.6	21.6	35.6	68.6	68.6	31.5	135.2	20.5	18.8	28.8	10.0	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.6	21.6	35.6	68.6	68.6	31.5	135.2	20.5	18.8	28.8	10.0	10.0
DesignQueue:	2	0	7	0	2	0	0	25	9	17	22	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A PM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

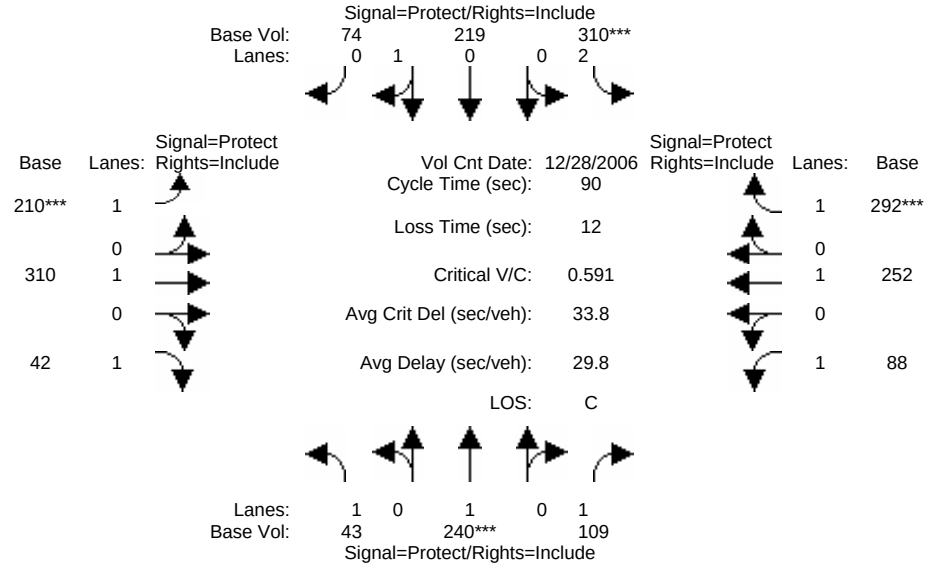


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	237	4	638	19	11	3	6	918	311	311	708	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	4	638	19	11	3	6	918	311	311	708	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	4	638	19	11	3	6	918	311	311	708	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	4	638	19	11	3	6	918	311	311	708	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	237	4	638	19	11	3	6	918	311	311	708	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.97	0.97	0.85	0.95	0.95	0.85	0.92	0.94	0.94
Lanes:	1.97	0.03	1.00	0.63	0.37	1.00	1.00	2.00	1.00	2.00	1.89	0.11
Final Sat.:	3561	60	1615	1166	675	1615	1805	3610	1615	3502	3390	192
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.40	0.02	0.02	0.00	0.00	0.25	0.19	0.09	0.21	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.43	0.43	0.43	0.02	0.02	0.02	0.01	0.27	0.27	0.10	0.37	0.37
Volume/Cap:	0.16	0.16	0.93	0.93	0.93	0.11	0.57	0.93	0.70	0.93	0.57	0.57
Delay/Veh:	11.5	11.5	36.0	158.7	159	33.1	91.2	36.9	26.1	59.7	17.2	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.5	11.5	36.0	158.7	159	33.1	91.2	36.9	26.1	59.7	17.2	17.2
DesignQueue:	5	0	14	1	0	0	0	26	9	10	17	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A AM Peak

Intersection #3: Highway 1 & Rio Road

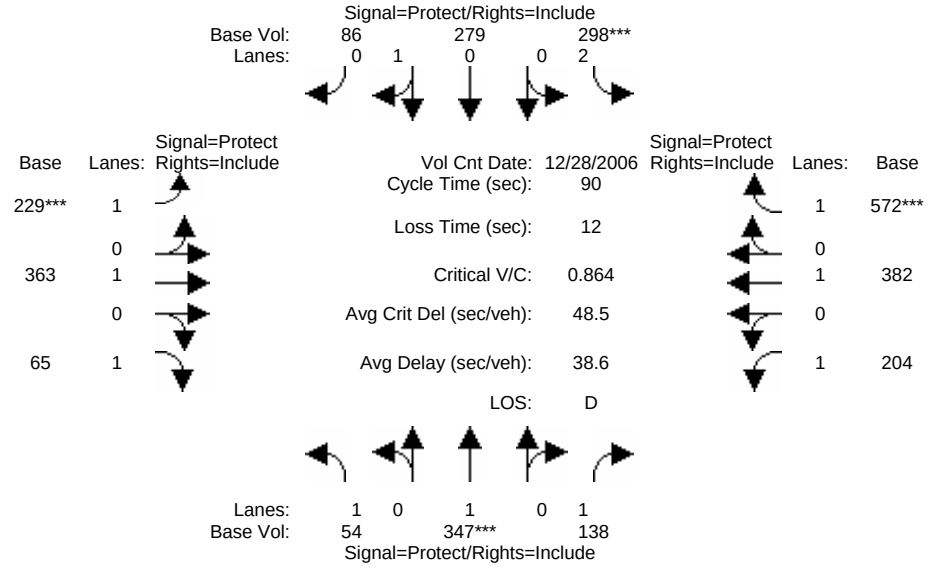


Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	43	240	109	310	219	74	210	310	42	88	252	292
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	240	109	310	219	74	210	310	42	88	252	292
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	240	109	310	219	74	210	310	42	88	252	292
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	240	109	310	219	74	210	310	42	88	252	292
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	43	240	109	310	219	74	210	310	42	88	252	292
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1366	462	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.07	0.09	0.16	0.16	0.12	0.16	0.03	0.05	0.13	0.18
Crit Moves:		****		****			****					****
Green/Cycle:	0.05	0.21	0.21	0.15	0.32	0.32	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.51	0.59	0.32	0.59	0.51	0.51	0.59	0.42	0.07	0.42	0.43	0.59
Delay/Veh:	46.8	34.1	30.4	37.5	25.8	25.8	35.5	20.6	17.4	38.4	25.5	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	34.1	30.4	37.5	25.8	25.8	35.5	20.6	17.4	38.4	25.5	28.4
DesignQueue:	2	10	4	13	8	3	9	10	1	4	9	11

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A PM Peak

Intersection #3: Highway 1 & Rio Road



Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	54	347	138	298	279	86	229	363	65	204	382	572
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	347	138	298	279	86	229	363	65	204	382	572
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	347	138	298	279	86	229	363	65	204	382	572
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	347	138	298	279	86	229	363	65	204	382	572
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	347	138	298	279	86	229	363	65	204	382	572
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.97	0.97	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.76	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1401	432	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.09	0.09	0.20	0.20	0.13	0.19	0.04	0.11	0.20	0.35
Crit Moves:		****		****			****					****
Green/Cycle:	0.04	0.21	0.21	0.10	0.27	0.27	0.15	0.35	0.35	0.21	0.41	0.41
Volume/Cap:	0.74	0.86	0.40	0.86	0.74	0.74	0.86	0.55	0.12	0.55	0.49	0.86
Delay/Veh:	75.2	51.6	31.4	59.6	35.8	35.8	61.7	24.5	19.9	33.6	20.1	35.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.2	51.6	31.4	59.6	35.8	35.8	61.7	24.5	19.9	33.6	20.1	35.7
DesignQueue:	3	14	6	14	11	3	10	12	2	8	12	18

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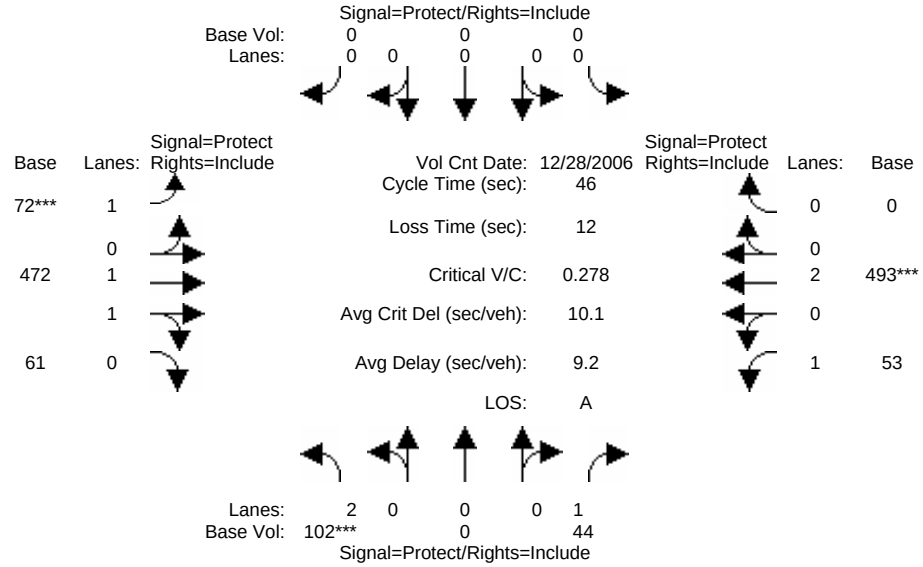
2000 HCM Operations (Base Volume Alternative)
Scenario A AM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	102	0	44	0	0	0	72	472	61	53	493	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	0	44	0	0	0	72	472	61	53	493	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	102	0	44	0	0	0	72	472	61	53	493	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	0	44	0	0	0	72	472	61	53	493	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	0	44	0	0	0	72	472	61	53	493	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.77	0.23	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1805	3143	406	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.04	0.15	0.15	0.03	0.14	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.14	0.53	0.53	0.10	0.49	0.00
Volume/Cap:	0.28	0.00	0.26	0.00	0.00	0.00	0.28	0.28	0.28	0.28	0.28	0.00
Delay/Veh:	19.4	0.0	19.8	0.0	0.0	0.0	18.2	6.0	6.0	19.9	7.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	0.0	19.8	0.0	0.0	0.0	18.2	6.0	6.0	19.9	7.0	0.0
DesignQueue:	2	0	1	0	0	0	2	6	1	1	7	0

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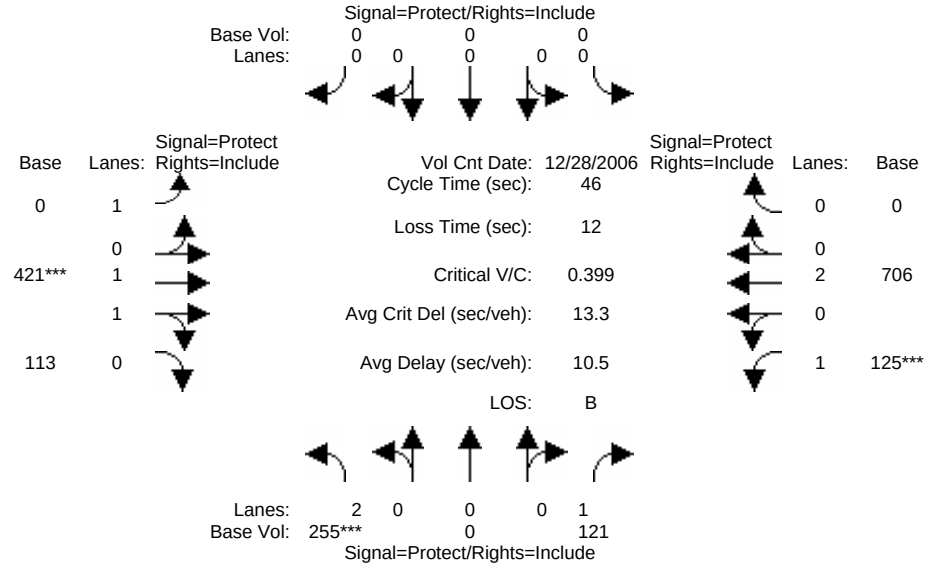
2000 HCM Operations (Base Volume Alternative)
Scenario A PM Peak

Intersection #4: Rio Road & Crossroad Driveway

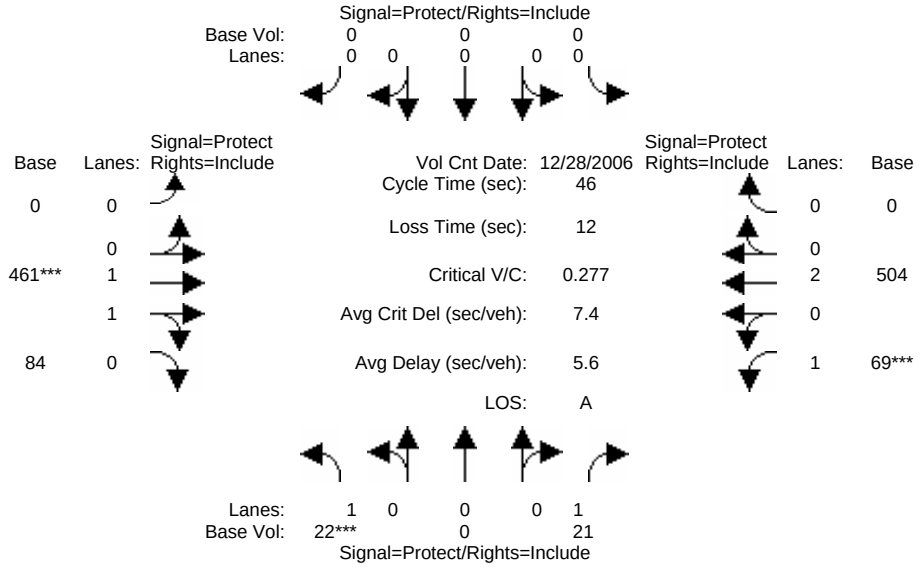


Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	255	0	121	0	0	0	0	421	113	125	706	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	255	0	121	0	0	0	0	421	113	125	706	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	255	0	121	0	0	0	0	421	113	125	706	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	0	121	0	0	0	0	421	113	125	706	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	255	0	121	0	0	0	0	421	113	125	706	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.58	0.42	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	2755	739	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.15	0.15	0.07	0.20	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.38	0.38	0.17	0.56	0.00
Volume/Cap:	0.40	0.00	0.41	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.35	0.00
Delay/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
DesignQueue:	5	0	3	0	0	0	0	7	2	3	8	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A AM Peak

Intersection #5: Rio Road & Carmel Center Place

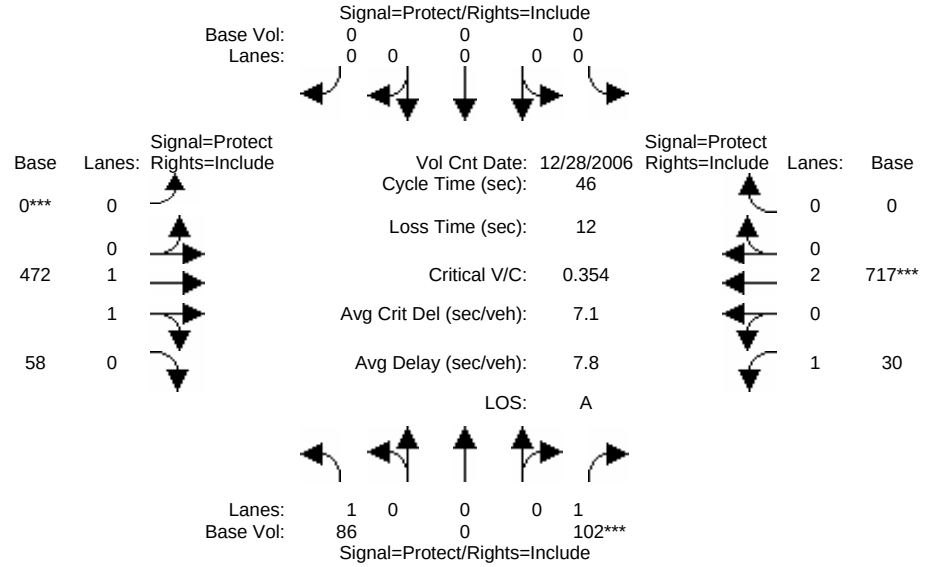


Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	22	0	21	0	0	0	0	461	84	69	504	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	0	21	0	0	0	0	461	84	69	504	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	0	21	0	0	0	0	461	84	69	504	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	0	21	0	0	0	0	461	84	69	504	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	22	0	21	0	0	0	0	461	84	69	504	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.69	0.31	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2983	544	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.04	0.14	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.56	0.56	0.14	0.70	0.00
Volume/Cap:	0.28	0.00	0.30	0.00	0.00	0.00	0.00	0.28	0.28	0.28	0.20	0.00
Delay/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
DesignQueue:	1	0	1	0	0	0	0	5	1	2	4	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario A PM Peak

Intersection #5: Rio Road & Carmel Center Place

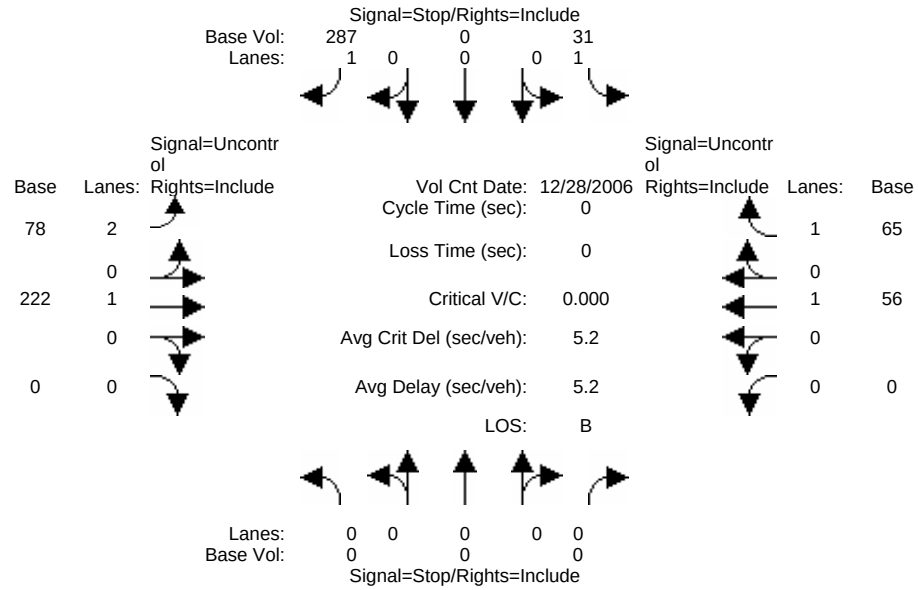


Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	86	0	102	0	0	0	0	472	58	30	717	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	102	0	0	0	0	472	58	30	717	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	0	102	0	0	0	0	472	58	30	717	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	0	102	0	0	0	0	472	58	30	717	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	0	102	0	0	0	0	472	58	30	717	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	3164	389	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.15	0.15	0.02	0.20	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.50	0.50	0.06	0.56	0.00
Volume/Cap:	0.27	0.00	0.35	0.00	0.00	0.00	0.00	0.30	0.30	0.30	0.35	0.00
Delay/Veh:	16.8	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.8	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
DesignQueue:	2	0	2	0	0	0	0	6	1	1	8	0

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario A AM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	0	0	0	31	0	287	78	222	0	0	56	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	287	78	222	0	0	56	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	31	0	287	78	222	0	0	56	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	31	0	287	78	222	0	0	56	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	434	xxxx	56	121	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	583	xxxx	1016	1479	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	559	xxxx	1016	1479	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	0.28	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.2	xxxx	1.2	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.8	xxxx	9.9	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
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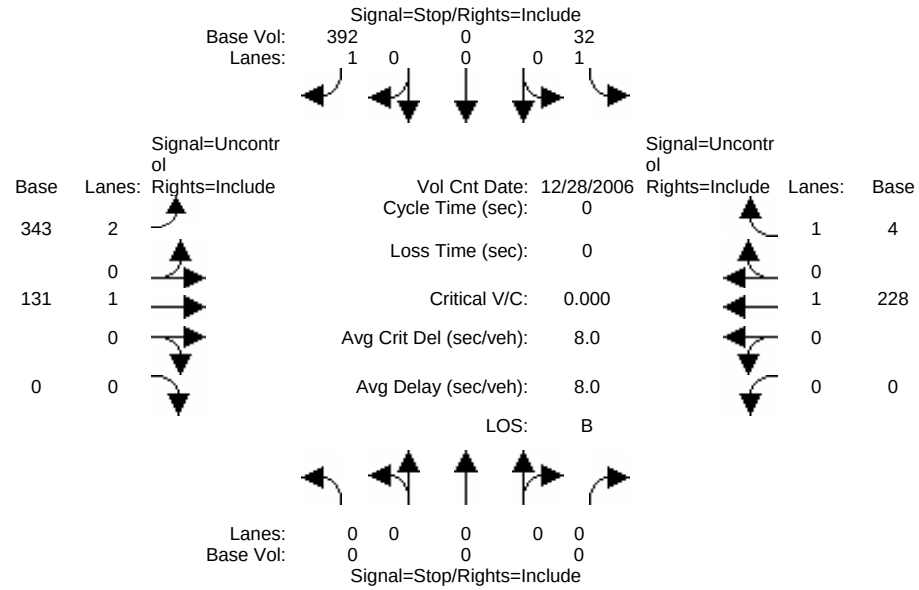
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario A PM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	0	0	0	32	0	392	343	131	0	0	228	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	32	0	392	343	131	0	0	228	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	32	0	392	343	131	0	0	228	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	32	0	392	343	131	0	0	228	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1045	xxxx	228	232	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	256	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	205	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	0.48	0.25	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.5	xxxx	2.6	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	25.7	xxxx	13.4	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	B	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			14.3			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
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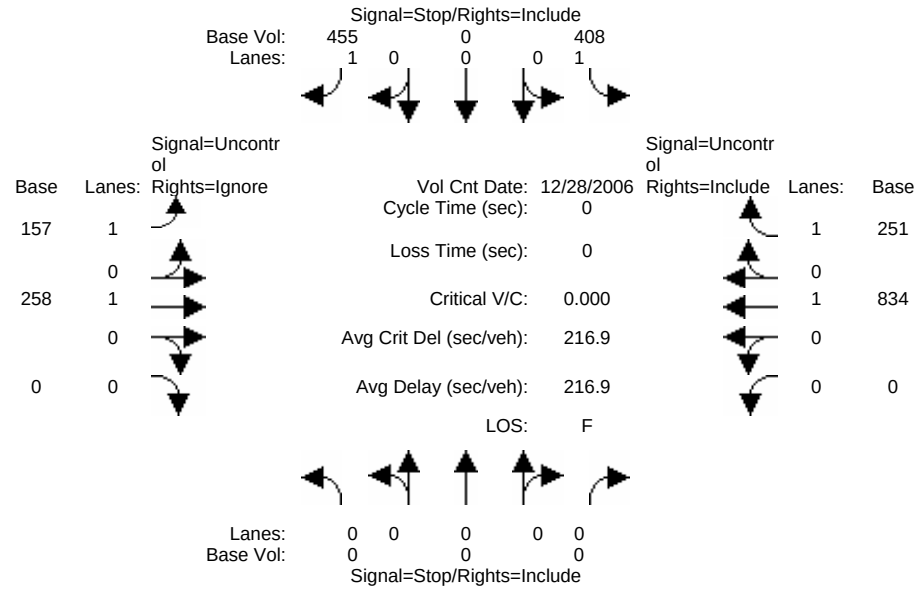
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario A AM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - am												
Base Vol:	0	0	0	408	0	455	157	258	0	0	834	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	408	0	455	157	258	0	0	834	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	408	0	455	157	258	0	0	834	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	408	0	455	157	258	0	0	834	251
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1406	xxxx	834	1085	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	155	xxxx	371	651	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	126	xxxx	371	651	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	3.23	xxxx	1.23	0.24	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	39.1	xxxx	19.3	0.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	1079	xxxx	154.7	12.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	F	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			591.7			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Carmel Valley Master Plan EIR
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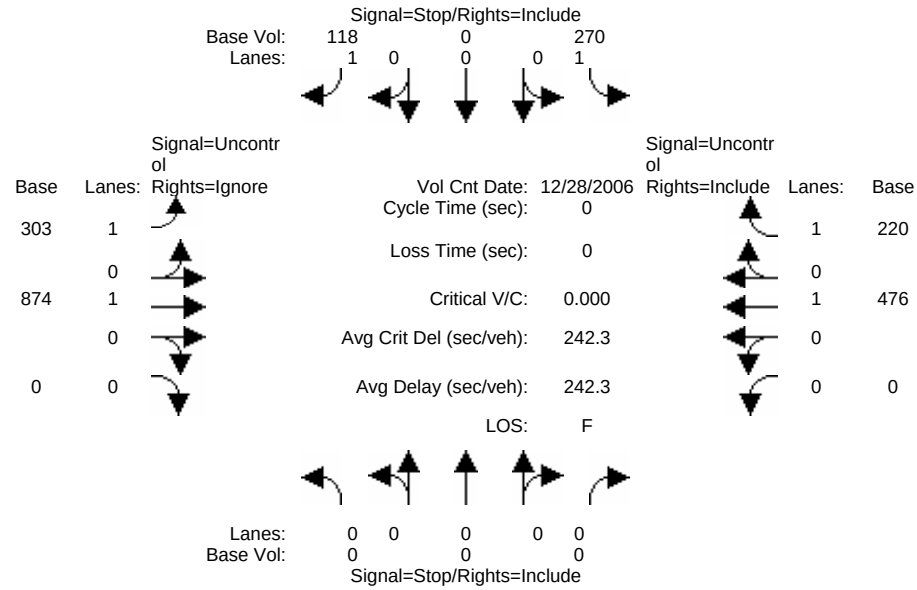
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario A PM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioA - pm												
Base Vol:	0	0	0	270	0	118	303	874	0	0	476	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	270	0	118	303	874	0	0	476	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	270	0	118	303	874	0	0	476	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	270	0	118	303	874	0	0	476	220
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1956	xxxx	476	696	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	71	xxxx	593	909	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	53	xxxx	593	909	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	5.13	xxxx	0.20	0.33	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	30.5	xxxx	0.7	1.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	2012	xxxx	12.6	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	B	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1403.7			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Carmel Valley Master Plan EIR
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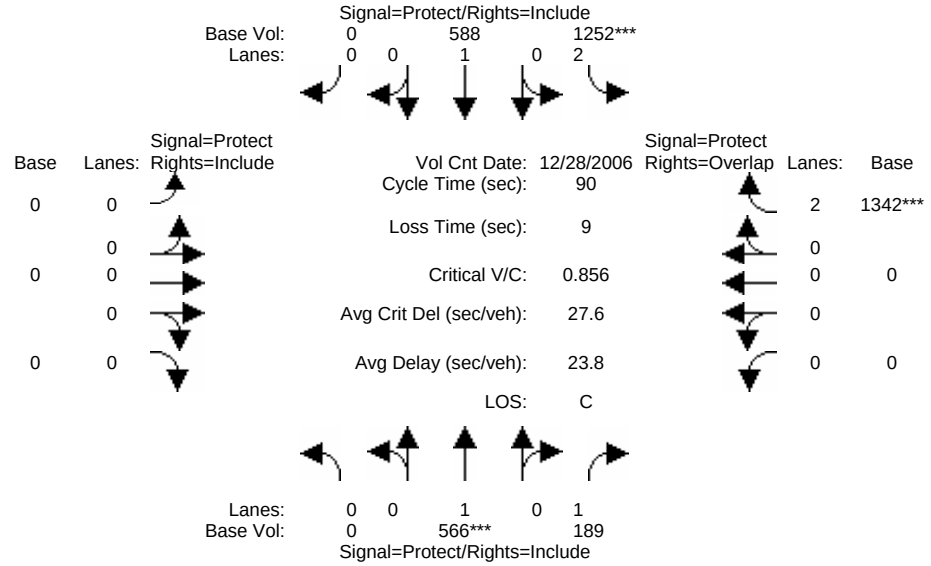
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B AM Peak

Intersection #1: Highway 1 & Carmel Valley Road



Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	0	566	189	1252	588	0	0	0	0	0	0	1342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	566	189	1252	588	0	0	0	0	0	0	1342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	566	189	1252	588	0	0	0	0	0	0	1342
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	566	189	1252	588	0	0	0	0	0	0	1342
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	566	189	1252	588	0	0	0	0	0	0	1342
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.12	0.36	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.35	0.35	0.42	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Volume/Cap:	0.00	0.86	0.34	0.86	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.86
Delay/Veh:	0.0	37.9	22.0	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	37.9	22.0	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	22.0
DesignQueue:	0	20	6	40	7	0	0	0	0	0	0	33

Carmel Valley Master Plan EIR
DKS Associates

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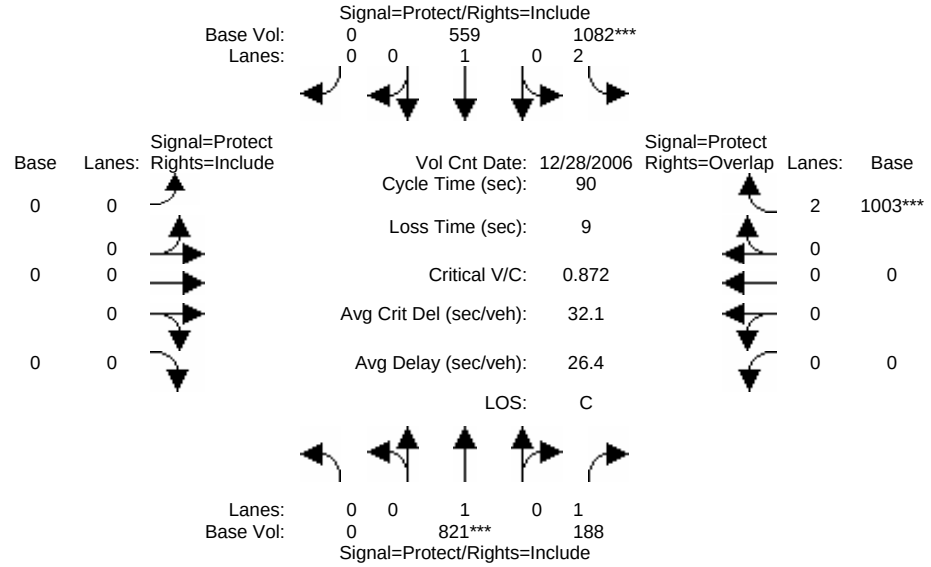
2000 HCM Operations (Base Volume Alternative)
Scenario B PM Peak

Intersection #1: Highway 1 & Carmel Valley Road



Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	0	821	188	1082	559	0	0	0	0	0	0	1003
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	821	188	1082	559	0	0	0	0	0	0	1003
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	821	188	1082	559	0	0	0	0	0	0	1003
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	821	188	1082	559	0	0	0	0	0	0	1003
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	821	188	1082	559	0	0	0	0	0	0	1003
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.12	0.31	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.50	0.50	0.35	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.40
Volume/Cap:	0.00	0.87	0.23	0.87	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Delay/Veh:	0.0	29.2	13.1	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.2
User DelAdj:	0.94	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.2	12.3	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.2
DesignQueue:	0	23	5	38	5	0	0	0	0	0	0	32

Carmel Valley Master Plan EIR
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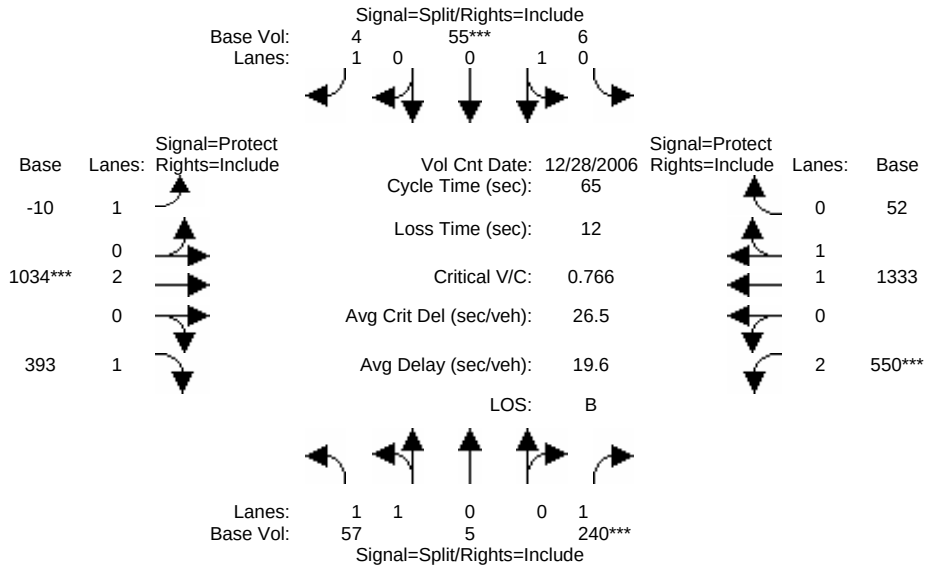
2000 HCM Operations (Base Volume Alternative)
Scenario B AM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

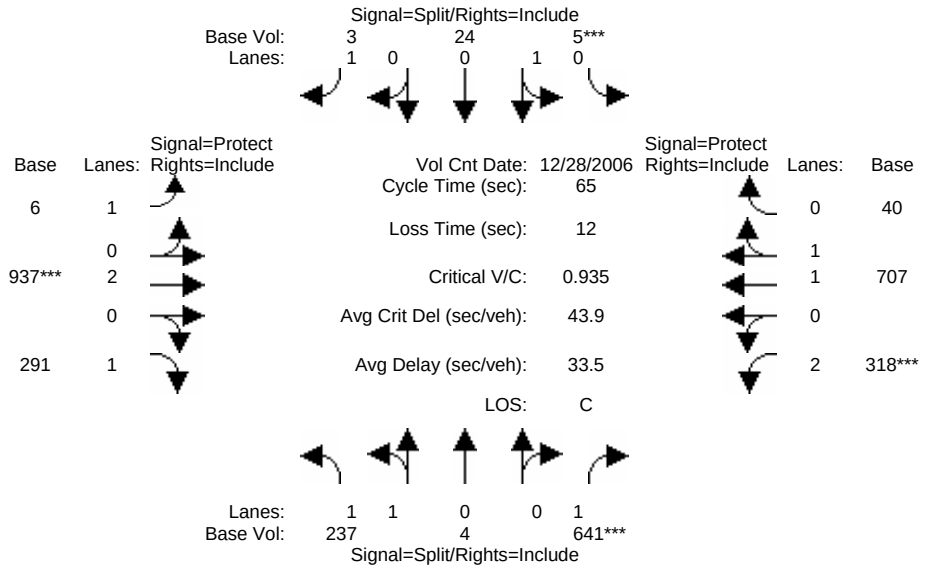


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	57	5	240	6	55	4	-10	1034	393	550	1333	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	5	240	6	55	4	0	1034	393	550	1333	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	5	240	6	55	4	0	1034	393	550	1333	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	5	240	6	55	4	0	1034	393	550	1333	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	57	5	240	6	55	4	0	1034	393	550	1333	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	1.00	1.00	0.85	1.00	0.95	0.85	0.92	0.94	0.94
Lanes:	1.84	0.16	1.00	0.10	0.90	1.00	1.00	2.00	1.00	2.00	1.92	0.08
Final Sat.:	3340	293	1615	186	1705	1615	1900	3610	1615	3502	3454	135
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.15	0.03	0.03	0.00	0.00	0.29	0.24	0.16	0.39	0.39
Crit Moves:			****		****			****		****		
Green/Cycle:	0.19	0.19	0.19	0.04	0.04	0.04	0.00	0.37	0.37	0.21	0.58	0.58
Volume/Cap:	0.09	0.09	0.77	0.77	0.77	0.06	0.00	0.77	0.65	0.77	0.67	0.67
Delay/Veh:	21.5	21.5	35.6	65.8	65.8	30.3	0.0	20.5	19.3	29.3	10.2	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	21.5	35.6	65.8	65.8	30.3	0.0	20.5	19.3	29.3	10.2	10.2
DesignQueue:	2	0	7	0	2	0	0	25	9	16	22	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B PM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

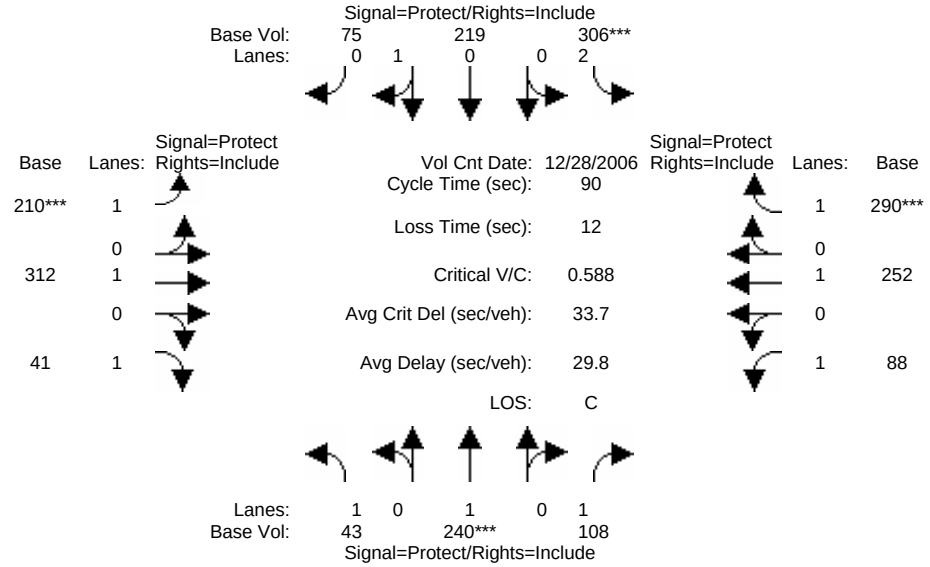


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	237	4	641	5	24	3	6	937	291	318	707	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	4	641	5	24	3	6	937	291	318	707	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	4	641	5	24	3	6	937	291	318	707	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	4	641	5	24	3	6	937	291	318	707	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	237	4	641	5	24	3	6	937	291	318	707	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.94	0.94
Lanes:	1.97	0.03	1.00	0.17	0.83	1.00	1.00	2.00	1.00	2.00	1.89	0.11
Final Sat.:	3561	60	1615	325	1558	1615	1805	3610	1615	3502	3389	192
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.40	0.02	0.02	0.00	0.00	0.26	0.18	0.09	0.21	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.42	0.42	0.42	0.02	0.02	0.02	0.01	0.28	0.28	0.10	0.37	0.37
Volume/Cap:	0.16	0.16	0.94	0.94	0.94	0.11	0.57	0.94	0.65	0.94	0.57	0.57
Delay/Veh:	11.6	11.6	38.0	166.1	166	33.4	88.1	38.2	24.0	61.6	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.6	11.6	38.0	166.1	166	33.4	88.1	38.2	24.0	61.6	16.9	16.9
DesignQueue:	5	0	15	0	1	0	0	26	8	11	17	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B AM Peak

Intersection #3: Highway 1 & Rio Road



Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	43	240	108	306	219	75	210	312	41	88	252	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	240	108	306	219	75	210	312	41	88	252	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	240	108	306	219	75	210	312	41	88	252	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	240	108	306	219	75	210	312	41	88	252	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	43	240	108	306	219	75	210	312	41	88	252	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1362	466	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.07	0.09	0.16	0.16	0.12	0.16	0.03	0.05	0.13	0.18
Crit Moves:		****		****			****					****
Green/Cycle:	0.05	0.21	0.21	0.15	0.32	0.32	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.51	0.59	0.31	0.59	0.51	0.51	0.59	0.42	0.07	0.42	0.43	0.59
Delay/Veh:	46.9	34.0	30.2	37.5	25.8	25.8	35.3	20.6	17.3	38.4	25.6	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	34.0	30.2	37.5	25.8	25.8	35.3	20.6	17.3	38.4	25.6	28.3
DesignQueue:	2	10	4	13	8	3	9	10	1	4	9	10

Carmel Valley Master Plan EIR
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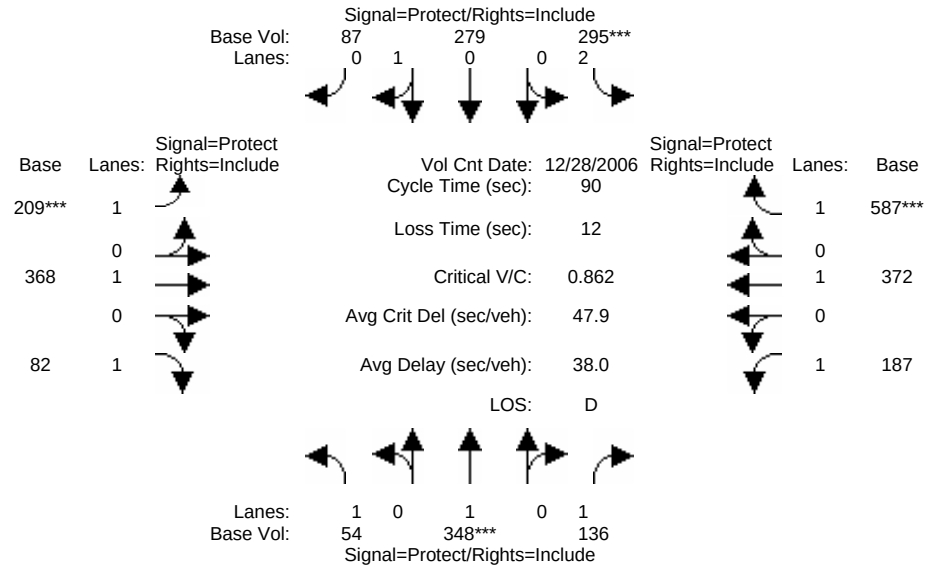
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B PM Peak

Intersection #3: Highway 1 & Rio Road



Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	54	348	136	295	279	87	209	368	82	187	372	587
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	348	136	295	279	87	209	368	82	187	372	587
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	348	136	295	279	87	209	368	82	187	372	587
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	348	136	295	279	87	209	368	82	187	372	587
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	348	136	295	279	87	209	368	82	187	372	587
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.76	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1396	435	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.08	0.08	0.20	0.20	0.12	0.19	0.05	0.10	0.20	0.36
Crit Moves:		****		****			****					****
Green/Cycle:	0.04	0.21	0.21	0.10	0.27	0.27	0.13	0.36	0.36	0.19	0.42	0.42
Volume/Cap:	0.74	0.86	0.40	0.86	0.74	0.74	0.86	0.53	0.14	0.53	0.46	0.86
Delay/Veh:	75.5	51.1	31.2	59.4	35.9	35.9	63.6	23.5	19.4	34.2	19.1	34.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.5	51.1	31.2	59.4	35.9	35.9	63.6	23.5	19.4	34.2	19.1	34.5
DesignQueue:	3	14	5	14	11	3	9	12	3	8	11	18

Carmel Valley Master Plan EIR
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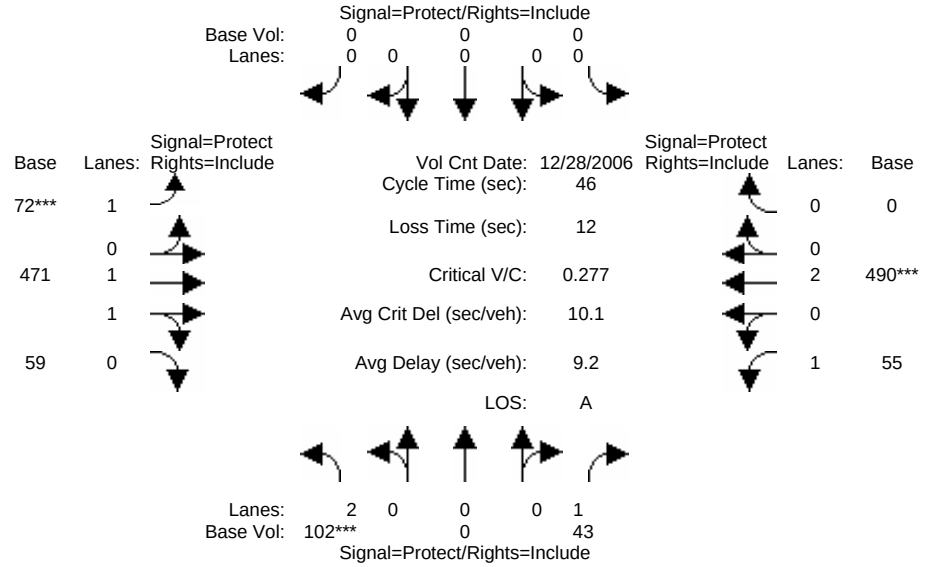
2000 HCM Operations (Base Volume Alternative)
Scenario B AM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	102	0	43	0	0	0	72	471	59	55	490	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	0	43	0	0	0	72	471	59	55	490	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	102	0	43	0	0	0	72	471	59	55	490	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	0	43	0	0	0	72	471	59	55	490	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	0	43	0	0	0	72	471	59	55	490	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1805	3154	395	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.04	0.15	0.15	0.03	0.14	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.11	0.00	0.11	0.00	0.00	0.00	0.14	0.53	0.53	0.11	0.49	0.00
Volume/Cap:	0.28	0.00	0.25	0.00	0.00	0.00	0.28	0.28	0.28	0.28	0.28	0.00
Delay/Veh:	19.4	0.0	19.7	0.0	0.0	0.0	18.1	6.1	6.1	19.7	7.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	0.0	19.7	0.0	0.0	0.0	18.1	6.1	6.1	19.7	7.0	0.0
DesignQueue:	2	0	1	0	0	0	2	6	1	1	7	0

Carmel Valley Master Plan EIR
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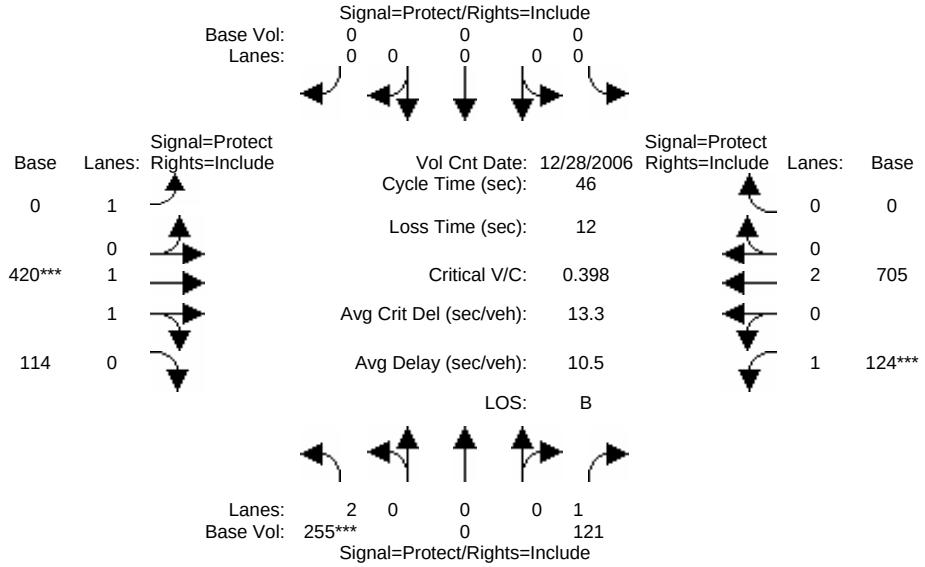
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B PM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	255	0	121	0	0	0	0	420	114	124	705	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	255	0	121	0	0	0	0	420	114	124	705	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	255	0	121	0	0	0	0	420	114	124	705	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	0	121	0	0	0	0	420	114	124	705	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	255	0	121	0	0	0	0	420	114	124	705	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.57	0.43	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	2748	746	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.15	0.15	0.07	0.20	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.38	0.38	0.17	0.56	0.00
Volume/Cap:	0.40	0.00	0.41	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.35	0.00
Delay/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
DesignQueue:	5	0	3	0	0	0	0	7	2	3	8	0

Carmel Valley Master Plan EIR
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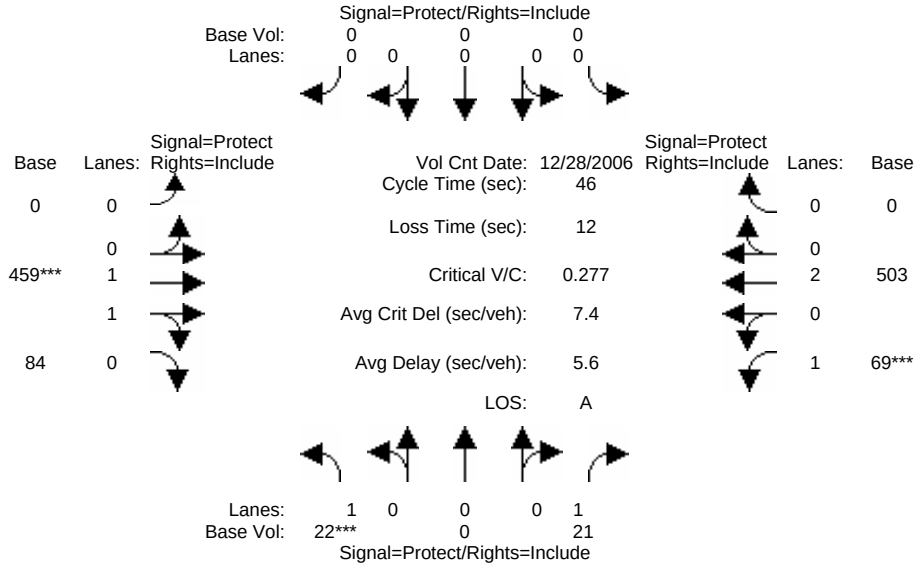
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B AM Peak

Intersection #5: Rio Road & Carmel Center Place



Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	22	0	21	0	0	0	0	459	84	69	503	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	0	21	0	0	0	0	459	84	69	503	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	0	21	0	0	0	0	459	84	69	503	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	0	21	0	0	0	0	459	84	69	503	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	22	0	21	0	0	0	0	459	84	69	503	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.69	0.31	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2981	546	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.04	0.14	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.56	0.56	0.14	0.70	0.00
Volume/Cap:	0.28	0.00	0.29	0.00	0.00	0.00	0.00	0.28	0.28	0.28	0.20	0.00
Delay/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
DesignQueue:	1	0	1	0	0	0	0	5	1	2	4	0

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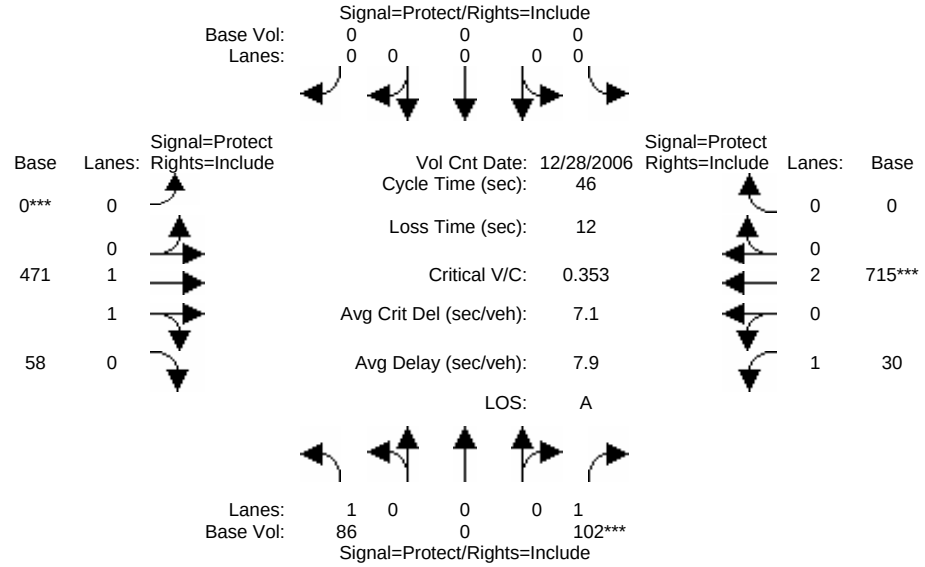
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario B PM Peak

Intersection #5: Rio Road & Carmel Center Place



Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	86	0	102	0	0	0	0	471	58	30	715	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	102	0	0	0	0	471	58	30	715	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	0	102	0	0	0	0	471	58	30	715	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	0	102	0	0	0	0	471	58	30	715	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	0	102	0	0	0	0	471	58	30	715	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	3163	389	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.15	0.15	0.02	0.20	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.50	0.50	0.06	0.56	0.00
Volume/Cap:	0.27	0.00	0.35	0.00	0.00	0.00	0.00	0.30	0.30	0.30	0.35	0.00
Delay/Veh:	16.7	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
DesignQueue:	2	0	2	0	0	0	0	6	1	1	8	0

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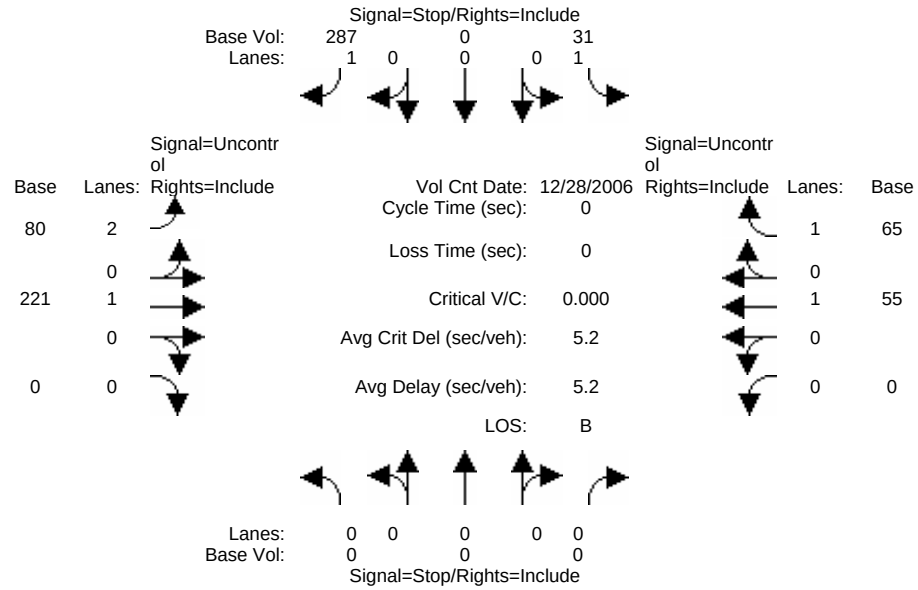
2000 HCM Unsignalized (Base Volume Alternative)
Scenario B AM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	0	0	0	31	0	287	80	221	0	0	55	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	287	80	221	0	0	55	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	31	0	287	80	221	0	0	55	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	31	0	287	80	221	0	0	55	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	436	xxxx	55	120	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	581	xxxx	1018	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	557	xxxx	1018	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	0.28	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.2	xxxx	1.2	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.8	xxxx	9.9	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

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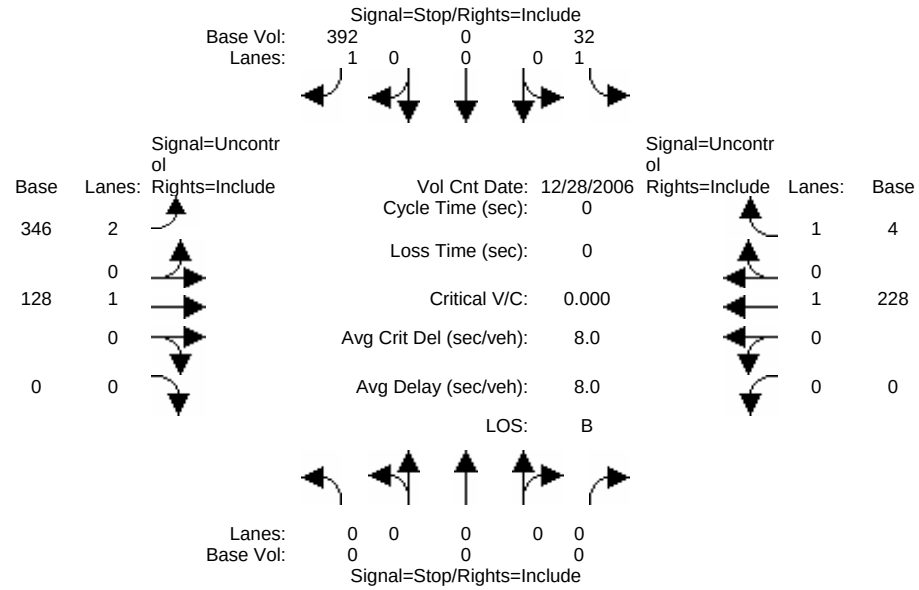
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario B PM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	0	0	0	32	0	392	346	128	0	0	228	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	32	0	392	346	128	0	0	228	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	32	0	392	346	128	0	0	228	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	32	0	392	346	128	0	0	228	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1048	xxxx	228	232	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	255	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	204	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	0.48	0.26	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.5	xxxx	2.6	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	25.9	xxxx	13.4	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	B	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			14.4			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

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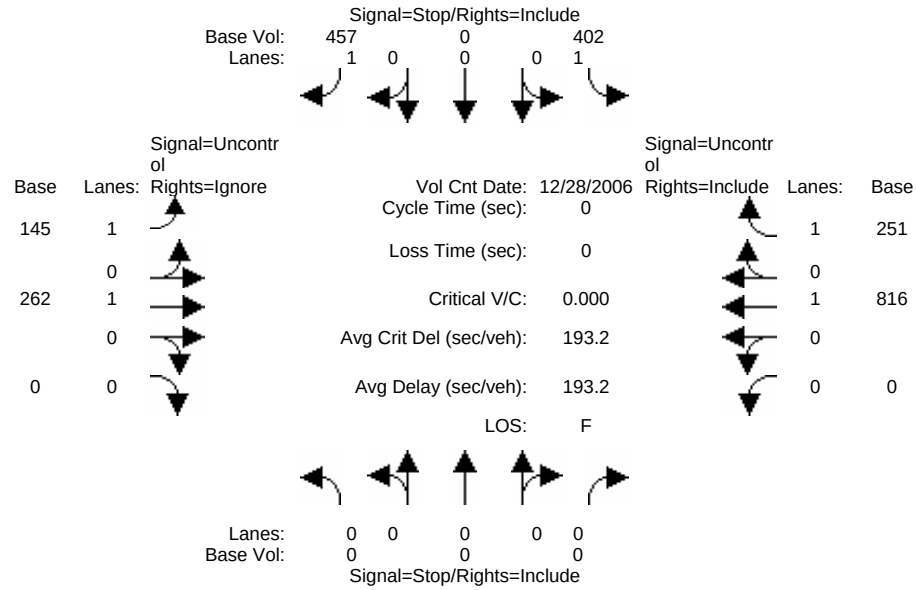
2000 HCM Unsignalized (Base Volume Alternative)
Scenario B AM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - am												
Base Vol:	0	0	0	402	0	457	145	262	0	0	816	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	402	0	457	145	262	0	0	816	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	0	457	145	262	0	0	816	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	402	0	457	145	262	0	0	816	251
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1368	xxxx	816	1067	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	163	xxxx	380	661	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	136	xxxx	380	661	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	2.96	xxxx	1.20	0.22	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	37.3	xxxx	18.8	0.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	952.0	xxxx	144.9	12.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	F	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			522.6			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

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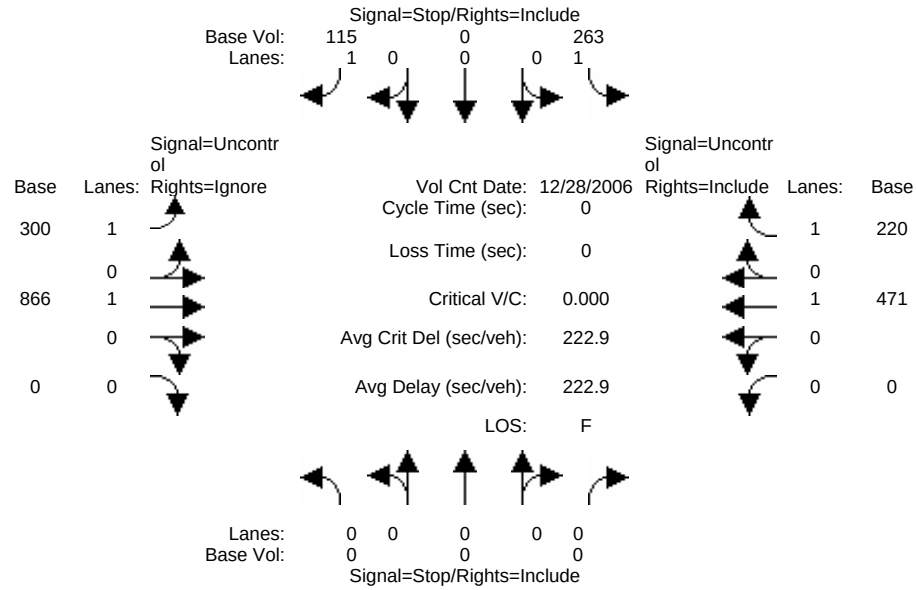
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario B PM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road

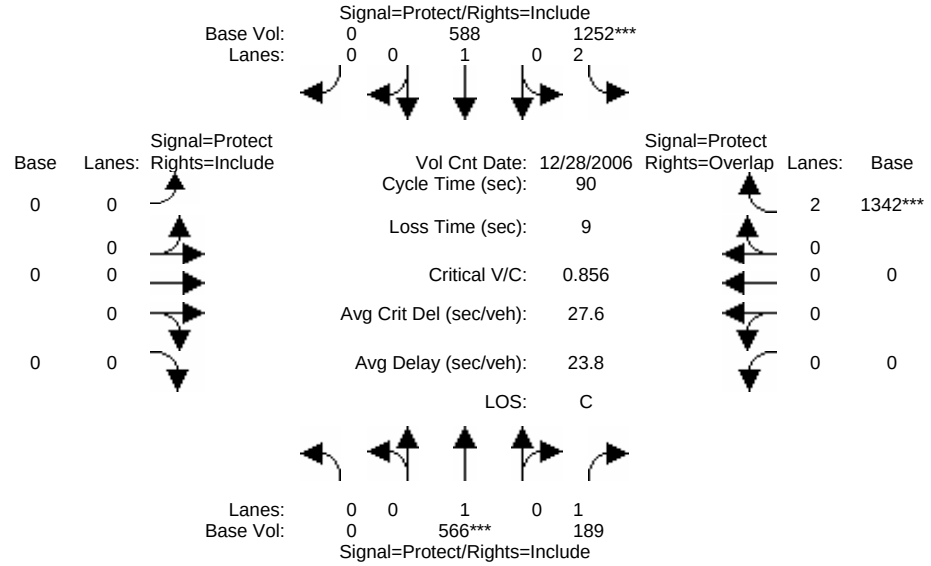


Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioB - pm												
Base Vol:	0	0	0	263	0	115	300	866	0	0	471	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	0	115	300	866	0	0	471	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	263	0	115	300	866	0	0	471	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	263	0	115	300	866	0	0	471	220
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1937	xxxx	471	691	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	73	xxxx	597	913	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	54	xxxx	597	913	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	4.83	xxxx	0.19	0.33	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	29.4	xxxx	0.7	1.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	1877	xxxx	12.5	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	B	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1309.5			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #1: Highway 1 & Carmel Valley Road

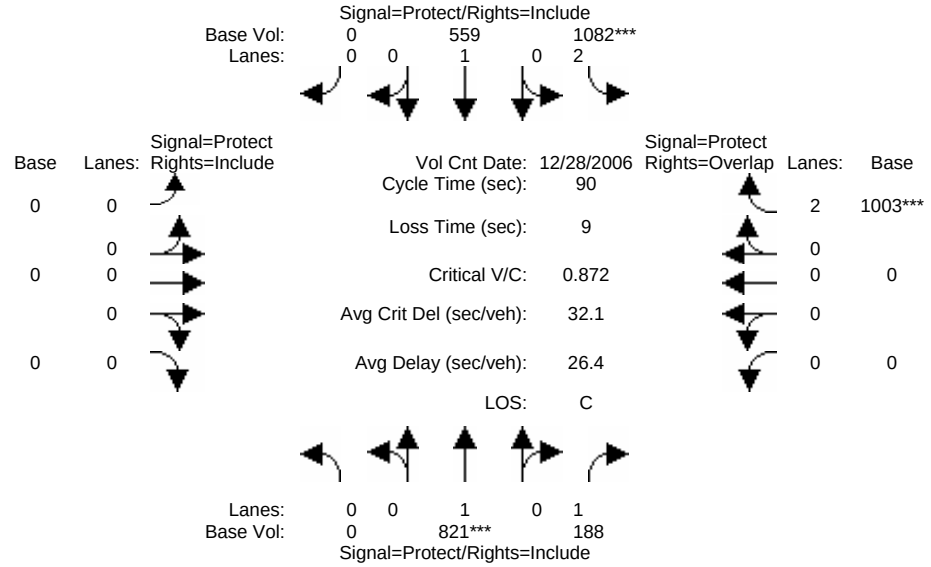


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	0	566	189	1252	588	0	0	0	0	0	0	1342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	566	189	1252	588	0	0	0	0	0	0	1342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	566	189	1252	588	0	0	0	0	0	0	1342
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	566	189	1252	588	0	0	0	0	0	0	1342
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	566	189	1252	588	0	0	0	0	0	0	1342
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.12	0.36	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.35	0.35	0.42	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Volume/Cap:	0.00	0.86	0.34	0.86	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.86
Delay/Veh:	0.0	37.9	22.0	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	37.9	22.0	28.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	22.0
DesignQueue:	0	20	6	40	7	0	0	0	0	0	0	33

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #1: Highway 1 & Carmel Valley Road

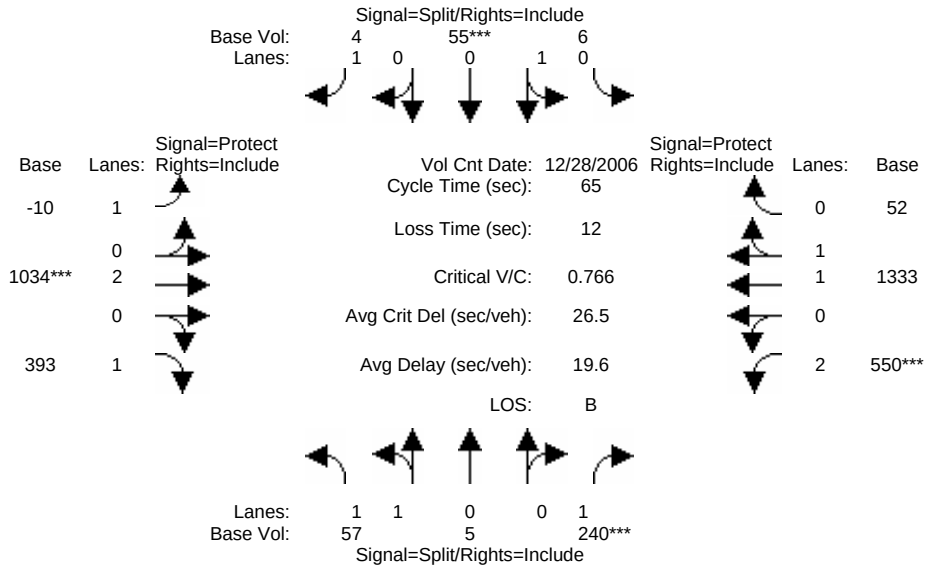


Street Name:	Highway 1						Carmel Valley Raod					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	0	821	188	1082	559	0	0	0	0	0	0	1003
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	821	188	1082	559	0	0	0	0	0	0	1003
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	821	188	1082	559	0	0	0	0	0	0	1003
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	821	188	1082	559	0	0	0	0	0	0	1003
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	821	188	1082	559	0	0	0	0	0	0	1003
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	1.00	1.00	2.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	1900	1615	3502	1900	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.12	0.31	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.50	0.50	0.35	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.40
Volume/Cap:	0.00	0.87	0.23	0.87	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Delay/Veh:	0.0	29.2	13.1	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.2
User DelAdj:	0.94	1.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	29.2	12.3	34.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	32.2
DesignQueue:	0	23	5	38	5	0	0	0	0	0	0	32

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

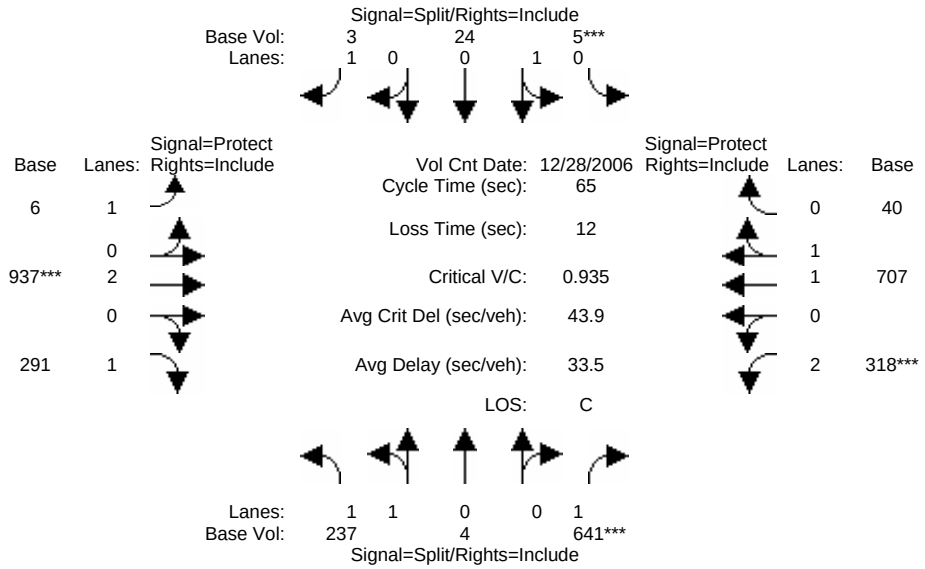


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	57	5	240	6	55	4	-10	1034	393	550	1333	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	5	240	6	55	4	0	1034	393	550	1333	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	5	240	6	55	4	0	1034	393	550	1333	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	5	240	6	55	4	0	1034	393	550	1333	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	57	5	240	6	55	4	0	1034	393	550	1333	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.96	0.96	0.85	1.00	1.00	0.85	1.00	0.95	0.85	0.92	0.94	0.94
Lanes:	1.84	0.16	1.00	0.10	0.90	1.00	1.00	2.00	1.00	2.00	1.92	0.08
Final Sat.:	3340	293	1615	186	1705	1615	1900	3610	1615	3502	3454	135
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.15	0.03	0.03	0.00	0.00	0.29	0.24	0.16	0.39	0.39
Crit Moves:			****		****			****		****		
Green/Cycle:	0.19	0.19	0.19	0.04	0.04	0.04	0.00	0.37	0.37	0.21	0.58	0.58
Volume/Cap:	0.09	0.09	0.77	0.77	0.77	0.06	0.00	0.77	0.65	0.77	0.67	0.67
Delay/Veh:	21.5	21.5	35.6	65.8	65.8	30.3	0.0	20.5	19.3	29.3	10.2	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	21.5	35.6	65.8	65.8	30.3	0.0	20.5	19.3	29.3	10.2	10.2
DesignQueue:	2	0	7	0	2	0	0	25	9	16	22	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #2: Carmel Valley Road & Carmel Rancho Boulevard

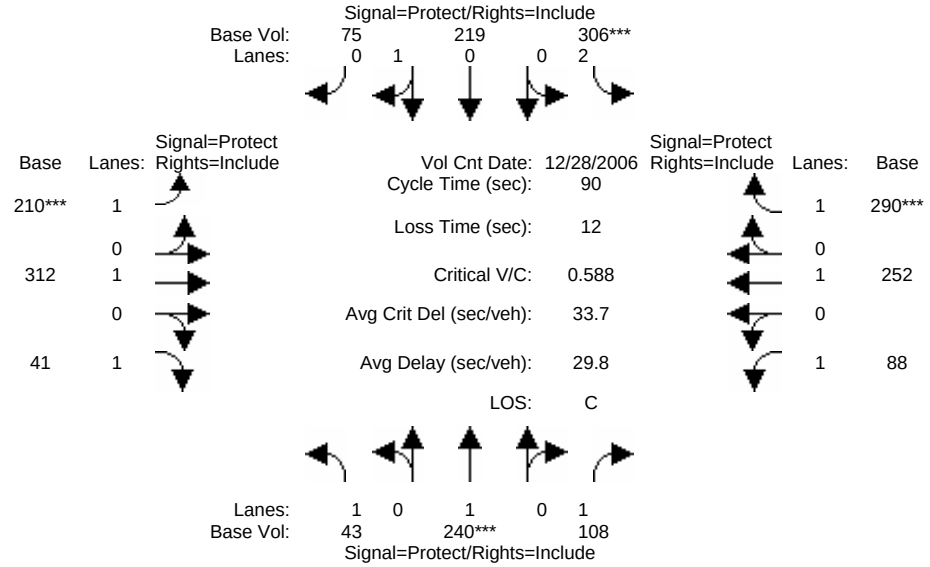


Street Name:	Carmel Rancho Boulevard						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC- pm												
Base Vol:	237	4	641	5	24	3	6	937	291	318	707	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	4	641	5	24	3	6	937	291	318	707	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	4	641	5	24	3	6	937	291	318	707	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	4	641	5	24	3	6	937	291	318	707	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	237	4	641	5	24	3	6	937	291	318	707	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.99	0.99	0.85	0.95	0.95	0.85	0.92	0.94	0.94
Lanes:	1.97	0.03	1.00	0.17	0.83	1.00	1.00	2.00	1.00	2.00	1.89	0.11
Final Sat.:	3561	60	1615	325	1558	1615	1805	3610	1615	3502	3389	192
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.40	0.02	0.02	0.00	0.00	0.26	0.18	0.09	0.21	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.42	0.42	0.42	0.02	0.02	0.02	0.01	0.28	0.28	0.10	0.37	0.37
Volume/Cap:	0.16	0.16	0.94	0.94	0.94	0.11	0.57	0.94	0.65	0.94	0.57	0.57
Delay/Veh:	11.6	11.6	38.0	166.1	166	33.4	88.1	38.2	24.0	61.6	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.6	11.6	38.0	166.1	166	33.4	88.1	38.2	24.0	61.6	16.9	16.9
DesignQueue:	5	0	15	0	1	0	0	26	8	11	17	1

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #3: Highway 1 & Rio Road

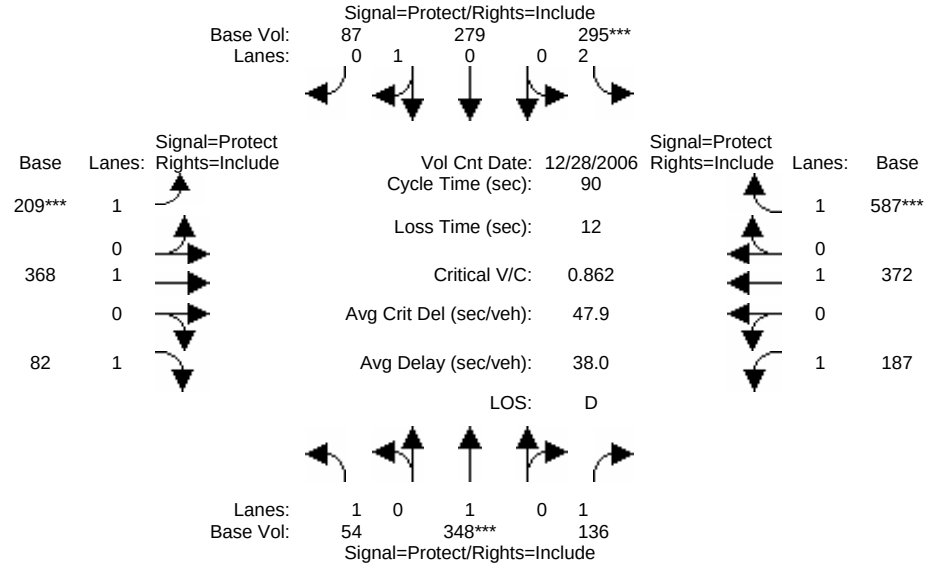


Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	43	240	108	306	219	75	210	312	41	88	252	290
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	240	108	306	219	75	210	312	41	88	252	290
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	240	108	306	219	75	210	312	41	88	252	290
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	240	108	306	219	75	210	312	41	88	252	290
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	43	240	108	306	219	75	210	312	41	88	252	290
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1362	466	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.07	0.09	0.16	0.16	0.12	0.16	0.03	0.05	0.13	0.18
Crit Moves:		****		****			****					****
Green/Cycle:	0.05	0.21	0.21	0.15	0.32	0.32	0.20	0.39	0.39	0.12	0.31	0.31
Volume/Cap:	0.51	0.59	0.31	0.59	0.51	0.51	0.59	0.42	0.07	0.42	0.43	0.59
Delay/Veh:	46.9	34.0	30.2	37.5	25.8	25.8	35.3	20.6	17.3	38.4	25.6	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	34.0	30.2	37.5	25.8	25.8	35.3	20.6	17.3	38.4	25.6	28.3
DesignQueue:	2	10	4	13	8	3	9	10	1	4	9	10

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #3: Highway 1 & Rio Road



Street Name:	Highway 1						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	54	348	136	295	279	87	209	368	82	187	372	587
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	348	136	295	279	87	209	368	82	187	372	587
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	348	136	295	279	87	209	368	82	187	372	587
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	348	136	295	279	87	209	368	82	187	372	587
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	348	136	295	279	87	209	368	82	187	372	587
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.96	0.96	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	2.00	0.76	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	1900	1615	3502	1396	435	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.08	0.08	0.20	0.20	0.12	0.19	0.05	0.10	0.20	0.36
Crit Moves:		****		****			****					****
Green/Cycle:	0.04	0.21	0.21	0.10	0.27	0.27	0.13	0.36	0.36	0.19	0.42	0.42
Volume/Cap:	0.74	0.86	0.40	0.86	0.74	0.74	0.86	0.53	0.14	0.53	0.46	0.86
Delay/Veh:	75.5	51.1	31.2	59.4	35.9	35.9	63.6	23.5	19.4	34.2	19.1	34.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.5	51.1	31.2	59.4	35.9	35.9	63.6	23.5	19.4	34.2	19.1	34.5
DesignQueue:	3	14	5	14	11	3	9	12	3	8	11	18

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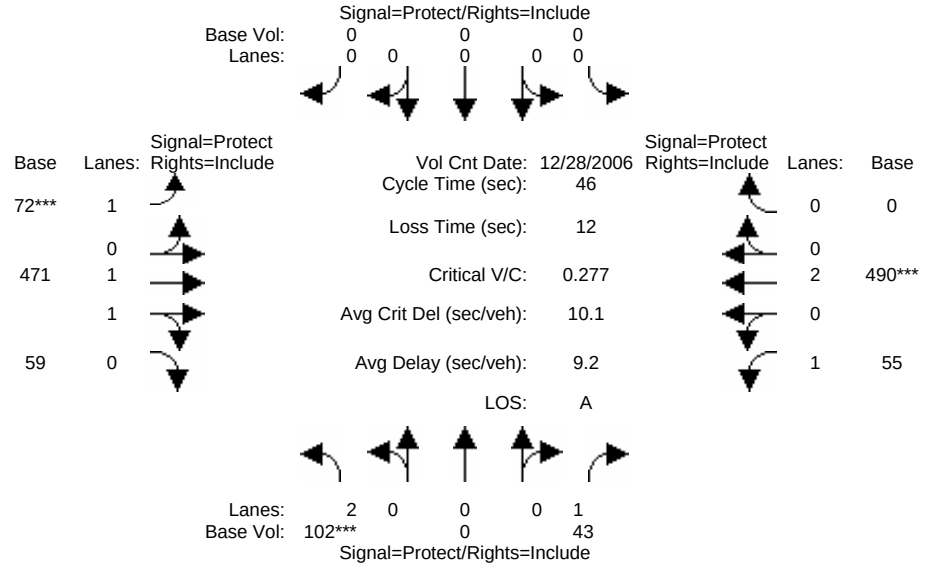
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	102	0	43	0	0	0	72	471	59	55	490	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	102	0	43	0	0	0	72	471	59	55	490	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	102	0	43	0	0	0	72	471	59	55	490	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	0	43	0	0	0	72	471	59	55	490	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	102	0	43	0	0	0	72	471	59	55	490	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	0.95	0.93	0.93	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1805	3154	395	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.04	0.15	0.15	0.03	0.14	0.00
Crit Moves:	****						****				****	
Green/Cycle:	0.11	0.00	0.11	0.00	0.00	0.00	0.14	0.53	0.53	0.11	0.49	0.00
Volume/Cap:	0.28	0.00	0.25	0.00	0.00	0.00	0.28	0.28	0.28	0.28	0.28	0.00
Delay/Veh:	19.4	0.0	19.7	0.0	0.0	0.0	18.1	6.1	6.1	19.7	7.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	0.0	19.7	0.0	0.0	0.0	18.1	6.1	6.1	19.7	7.0	0.0
DesignQueue:	2	0	1	0	0	0	2	6	1	1	7	0

Carmel Valley Master Plan EIR
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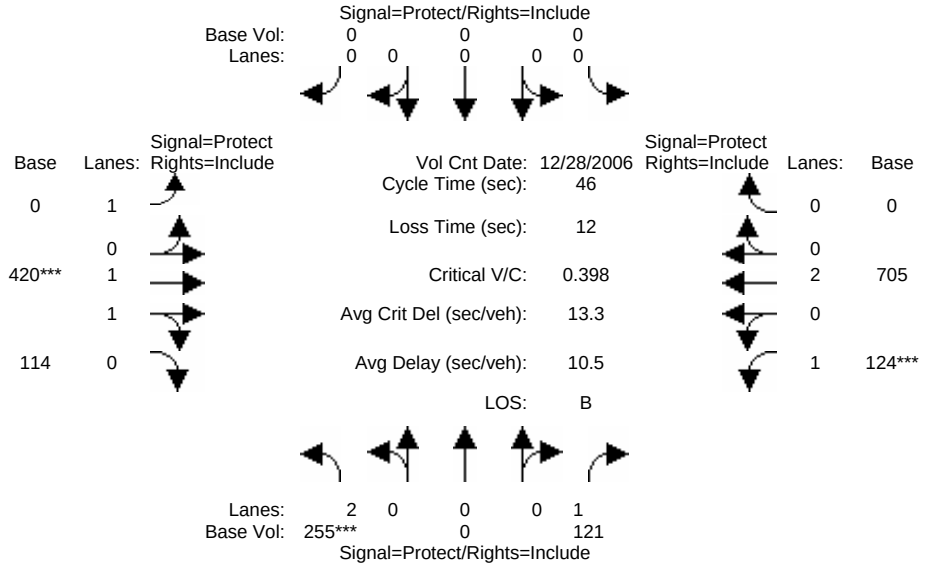
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #4: Rio Road & Crossroad Driveway



Street Name:	Crossroads Driveway						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	255	0	121	0	0	0	0	420	114	124	705	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	255	0	121	0	0	0	0	420	114	124	705	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	255	0	121	0	0	0	0	420	114	124	705	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	0	121	0	0	0	0	420	114	124	705	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	255	0	121	0	0	0	0	420	114	124	705	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.92	0.92	0.95	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	1.57	0.43	1.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	2748	746	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.15	0.15	0.07	0.20	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.38	0.38	0.17	0.56	0.00
Volume/Cap:	0.40	0.00	0.41	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.35	0.00
Delay/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	17.5	0.0	0.0	0.0	0.0	10.5	10.5	17.7	5.7	0.0
DesignQueue:	5	0	3	0	0	0	0	7	2	3	8	0

Carmel Valley Master Plan EIR
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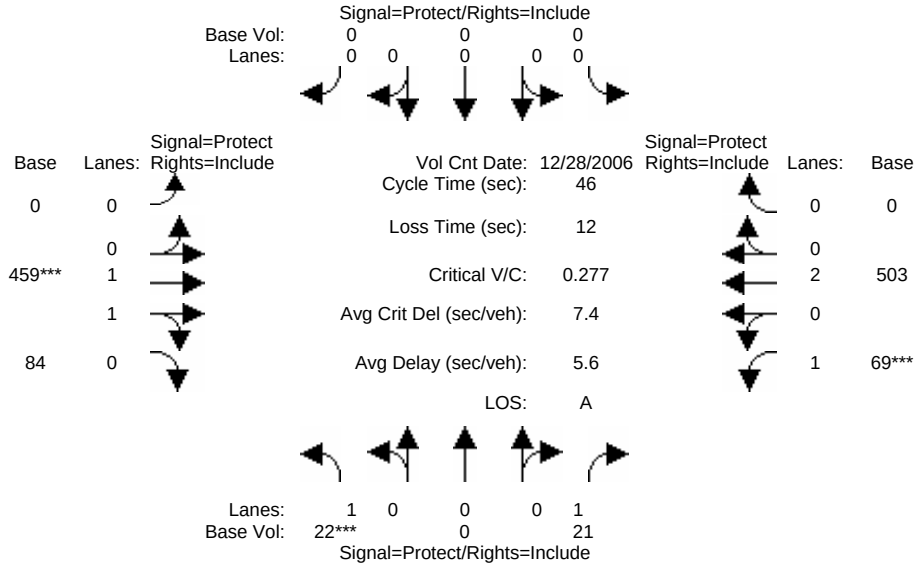
Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #5: Rio Road & Carmel Center Place



Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	22	0	21	0	0	0	0	459	84	69	503	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	0	21	0	0	0	0	459	84	69	503	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	0	21	0	0	0	0	459	84	69	503	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	0	21	0	0	0	0	459	84	69	503	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	22	0	21	0	0	0	0	459	84	69	503	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.69	0.31	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	2981	546	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.15	0.04	0.14	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.56	0.56	0.14	0.70	0.00
Volume/Cap:	0.28	0.00	0.29	0.00	0.00	0.00	0.00	0.28	0.28	0.28	0.20	0.00
Delay/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	0.0	23.6	0.0	0.0	0.0	0.0	5.4	5.4	18.4	2.5	0.0
DesignQueue:	1	0	1	0	0	0	0	5	1	2	4	0

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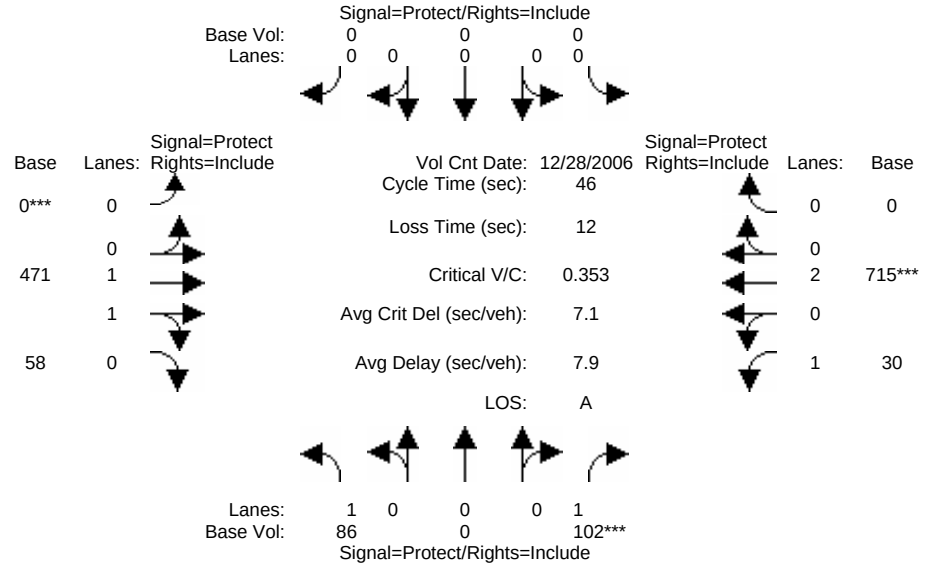
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #5: Rio Road & Carmel Center Place



Street Name:	Carmel Center Place						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	86	0	102	0	0	0	0	471	58	30	715	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	102	0	0	0	0	471	58	30	715	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	0	102	0	0	0	0	471	58	30	715	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	0	102	0	0	0	0	471	58	30	715	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	0	102	0	0	0	0	471	58	30	715	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.93	0.95	0.95	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.78	0.22	1.00	2.00	0.00
Final Sat.:	1805	0	1615	0	0	0	0	3163	389	1805	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.00	0.00	0.00	0.00	0.15	0.15	0.02	0.20	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.50	0.50	0.06	0.56	0.00
Volume/Cap:	0.27	0.00	0.35	0.00	0.00	0.00	0.00	0.30	0.30	0.30	0.35	0.00
Delay/Veh:	16.7	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	0.0	17.3	0.0	0.0	0.0	0.0	6.7	6.7	22.5	5.6	0.0
DesignQueue:	2	0	2	0	0	0	0	6	1	1	8	0

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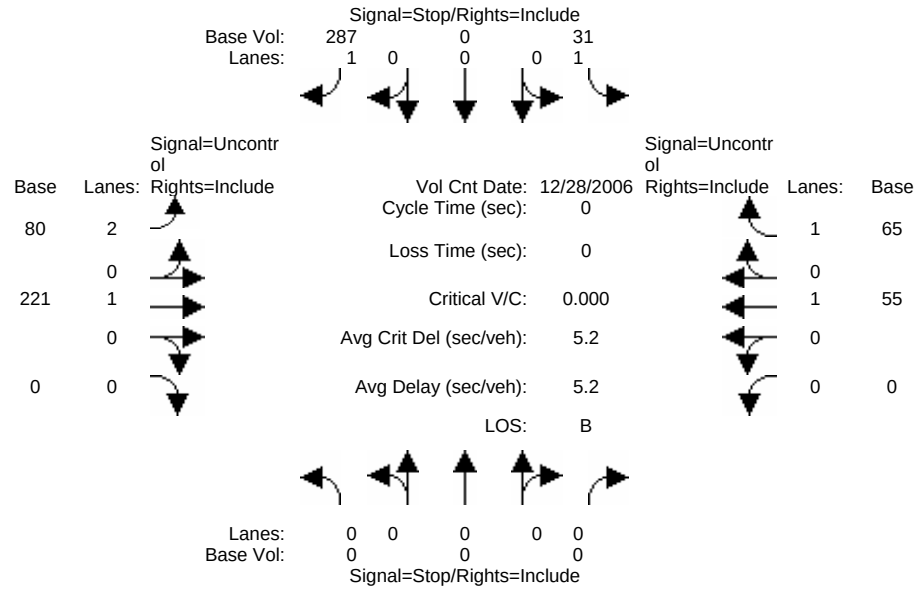
2000 HCM Unsignalized (Base Volume Alternative)
Scenario C AM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	0	0	0	31	0	287	80	221	0	0	55	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	31	0	287	80	221	0	0	55	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	31	0	287	80	221	0	0	55	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	31	0	287	80	221	0	0	55	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	436	xxxx	55	120	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	581	xxxx	1018	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	557	xxxx	1018	1480	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	0.28	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.2	xxxx	1.2	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.8	xxxx	9.9	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.1			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

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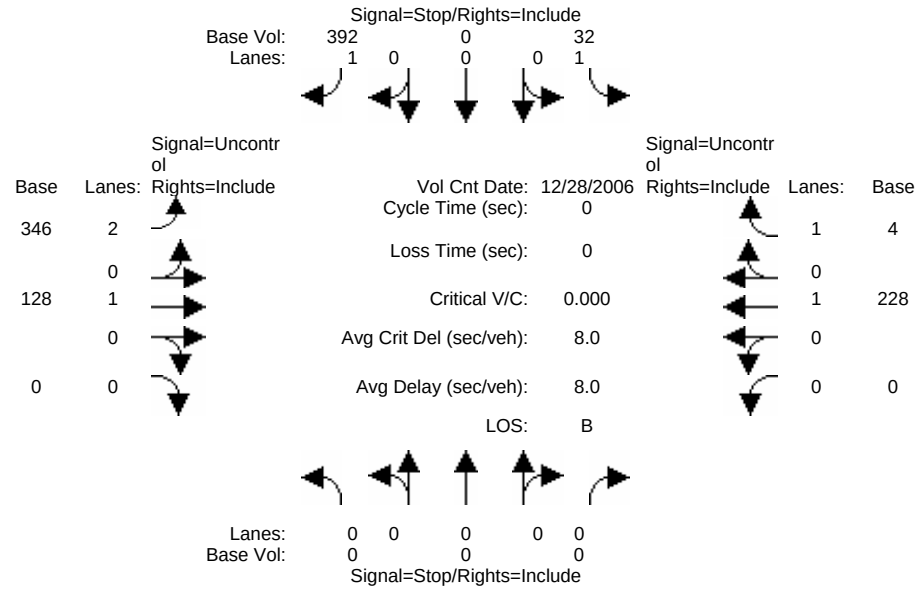
Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
Scenario C PM Peak

Intersection #6: Carmel Rancho Boulevard & Rio Road



Street Name:	Carmel Rancho Boulevard						Rio Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	0	0	0	32	0	392	346	128	0	0	228	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	32	0	392	346	128	0	0	228	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	32	0	392	346	128	0	0	228	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	32	0	392	346	128	0	0	228	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1048	xxxx	228	232	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	255	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	204	xxxx	816	1348	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.16	xxxx	0.48	0.26	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.5	xxxx	2.6	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	25.9	xxxx	13.4	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	B	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			14.4			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7a Laureles Grade Road & Carmel Valley Road (north portion)

Cycle (sec):	1	Critical Vol./Cap.(X):	0.737
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.6
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Ignore			Include		
Lanes:	0 0 1	0 0		0 0 0	1 0		0 0 0	0 0		0 0 0	0 1	
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C GRADE SEP - am												
Base Vol:	0	145	0	0	402	457	0	0	0	0	0	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	145	0	0	402	457	0	0	0	0	0	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	145	0	0	402	457	0	0	0	0	0	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	145	0	0	402	457	0	0	0	0	0	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	145	0	0	402	457	0	0	0	0	0	251
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	0.00	0.47	0.53	0.00	0.00	0.00	0.00	0.00	1.00
Final Sat.:	0	1101	0	0	545	620	0	0	0	0	0	537
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.00	0.00	0.74	0.74	0.00	0.00	0.00	0.00	0.00	0.47
Crit Moves:		****				****		****				****
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.13	0.00	0.00	0.74	0.74	0.00	0.00	0.00	0.00	0.00	0.47
Delay/Veh:	0.0	1.6	0.0	0.0	16.5	16.5	0.0	0.0	0.0	0.0	0.0	5.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.6	0.0	0.0	16.5	16.5	0.0	0.0	0.0	0.0	0.0	5.9
DesignQueue:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7a Laureles Grade Road & Carmel Valley Road (north portion)

Cycle (sec):	1	Critical Vol./Cap.(X):	0.444
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	3.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Ignore			Include		
Lanes:	0 0 1	0	0	0 0 0	1	0	0 0 0	0	0	0 0 0	0	1
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C GRADE SEP - pm												
Base Vol:	0	300	0	0	263	115	0	0	0	0	0	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	300	0	0	263	115	0	0	0	0	0	220
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	300	0	0	263	115	0	0	0	0	0	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	300	0	0	263	115	0	0	0	0	0	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	300	0	0	263	115	0	0	0	0	0	220
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	0.00	0.70	0.30	0.00	0.00	0.00	0.00	0.00	1.00
Final Sat.:	0	1090	0	0	734	321	0	0	0	0	0	496
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.36	0.36	0.00	0.00	0.00	0.00	0.00	0.44
Crit Moves:		****			****			****				****
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.28	0.00	0.00	0.36	0.36	0.00	0.00	0.00	0.00	0.00	0.44
Delay/Veh:	0.0	2.8	0.0	0.0	3.9	3.9	0.0	0.0	0.0	0.0	0.0	5.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.8	0.0	0.0	3.9	3.9	0.0	0.0	0.0	0.0	0.0	5.4
DesignQueue:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized Method (SCENARIO C GRADE SEPARTION)

Intersection #7b Laureles Grade Road & Carmel Valley Road (south portion)

Cycle (sec):	1	Critical Vol./Cap.(X):	0.879
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	15.6
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Ignore			Include		
Lanes:	0 0 0 0 0			1 0 0 0 0			1 0 0 0 0			0 0 0 0 0		
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C - am												
Base Vol:	0	0	0	402	0	0	145	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	402	0	0	145	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	0	0	145	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	0	0	145	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	402	0	0	145	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	0	0	635	0	0	165	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.63	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					****
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.00	0.00	0.63	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	11.1	0.0	0.0	28.2	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	11.1	0.0	0.0	28.2	0.0	0.0	0.0	0.0	0.0
DesignQueue:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7b Laureles Grade Road & Carmel Valley Road (south portion)

Cycle (sec):	1	Critical Vol./Cap.(X):	0.926
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	10.1
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Ignore			Include		
Lanes:	0 0 0 0 0			0 1 0 0 1			1 0 0 0 0			0 0 0 0 0		
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C GRADE SEP - pm												
Base Vol:	0	0	0	263	0	0	300	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	0	0	300	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	263	0	0	300	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	263	0	0	300	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	263	0	0	300	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	0	0	0	0	0	0	0	0	0	0	0	0
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	0	0	284	0	284	433	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.93	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					****
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume/Cap:	0.00	0.00	0.00	0.93	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	0.0	0.0	33.8	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	33.8	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0
DesignQueue:	0	0	0	0	0	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 Laureles Grade Road & Carmel Valley Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.892
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	34.3
Optimal Cycle:	0	Level Of Service:	D

Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			0 0 2 0 1		
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C ALLWAY STOP - am												
Base Vol:	0	0	0	402	0	457	145	262	0	0	816	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	402	0	457	145	262	0	0	816	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	402	0	457	145	262	0	0	816	251
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	402	0	0	145	262	0	0	816	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	0	0	145	262	0	0	816	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	402	0	0	145	262	0	0	816	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	451	0	514	408	864	0	0	968	517
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.89	xxxx	0.00	0.36	0.30	xxxx	xxxx	0.84	0.00
Crit Moves:				****			****				****	
Delay/Veh:	0.0	0.0	0.0	46.7	0.0	0.0	15.7	14.1	0.0	0.0	38.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	46.7	0.0	0.0	15.7	14.1	0.0	0.0	38.0	0.0
LOS by Move:	*	*	*	E	*	*	C	B	*	*	E	*
ApproachDel:	xxxxxx			46.7			14.7			38.0		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			46.7			14.7			38.0		
LOS by Appr:	*			E			B			E		
AllWayAvgQ:	0.0	0.0	0.0	4.5	0.0	0.0	0.5	0.4	0.0	0.0	3.7	0.0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #7 Laureles Grade Road & Carmel Valley Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.851
Loss Time (sec):	0 (Y+R=0.0 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	0	Level Of Service:	D

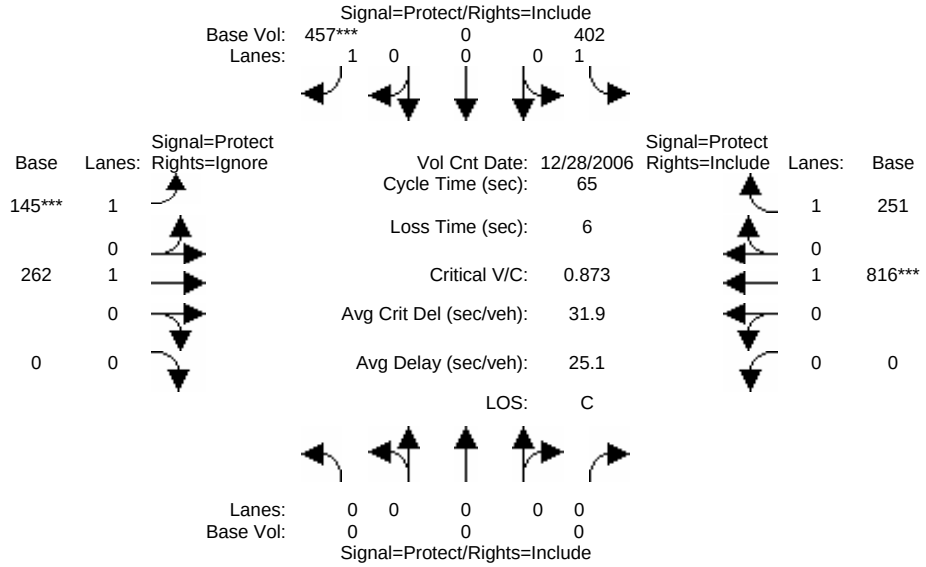
Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			1 0 0 0 1			1 0 2 0 0			0 0 2 0 1		
Volume Module: >> Count Date: 28 Dec 2006 << 2030 SCENARIO C ALLWAY STOP - pm												
Base Vol:	0	0	0	263	0	115	300	866	0	0	471	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	0	115	300	866	0	0	471	220
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	263	0	115	300	866	0	0	471	220
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	263	0	0	300	866	0	0	471	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	263	0	0	300	866	0	0	471	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	263	0	0	300	866	0	0	471	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	414	0	465	472	1018	0	0	868	465
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.63	xxxx	0.00	0.64	0.85	xxxx	xxxx	0.54	0.00
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	23.7	0.0	0.0	22.1	37.5	0.0	0.0	19.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.7	0.0	0.0	22.1	37.5	0.0	0.0	19.6	0.0
LOS by Move:	*	*	*	C	*	*	C	E	*	*	C	*
ApproachDel:	xxxxxx			23.7			33.5			19.6		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			23.7			33.5			19.6		
LOS by Appr:	*			C			D			C		
AllWayAvgQ:	0.0	0.0	0.0	1.4	0.0	0.0	1.6	3.9	0.0	0.0	1.1	0.0

Note: Queue reported is the number of cars per lane.

Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C AM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road

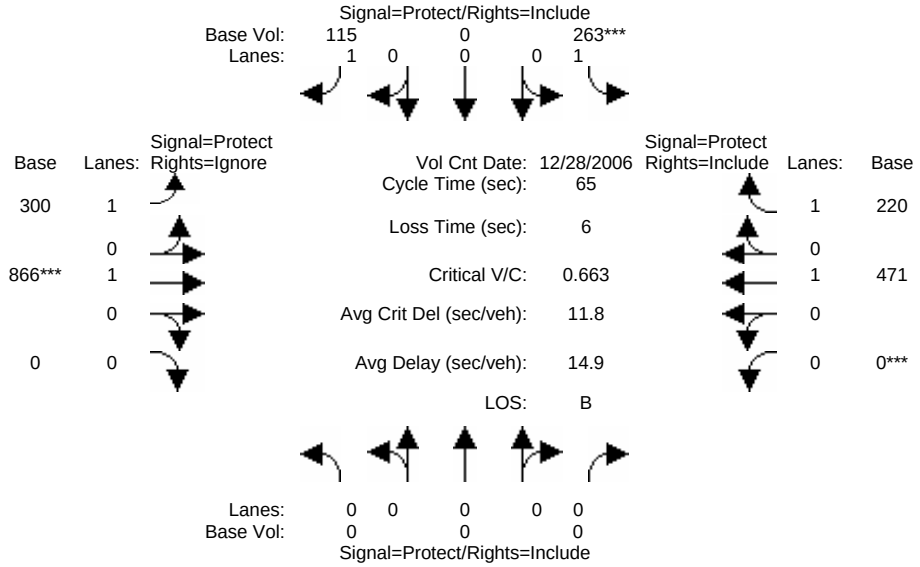


Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - am												
Base Vol:	0	0	0	402	0	457	145	262	0	0	816	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	402	0	457	145	262	0	0	816	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	402	0	457	145	262	0	0	816	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	402	0	457	145	262	0	0	816	251
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	0	0	0	402	0	457	145	262	0	0	816	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1805	0	1615	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.28	0.08	0.14	0.00	0.00	0.43	0.16
Crit Moves:						****	****				****	
Green/Cycle:	0.00	0.00	0.00	0.32	0.00	0.32	0.09	0.58	0.00	0.00	0.49	0.49
Volume/Cap:	0.00	0.00	0.00	0.69	0.00	0.87	0.87	0.24	0.00	0.00	0.87	0.32
Delay/Veh:	0.0	0.0	0.0	22.5	0.0	35.7	65.5	6.6	0.0	0.0	23.9	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.5	0.0	35.7	65.5	6.6	0.0	0.0	23.9	10.2
DesignQueue:	0	0	0	10	0	12	5	4	0	0	17	5

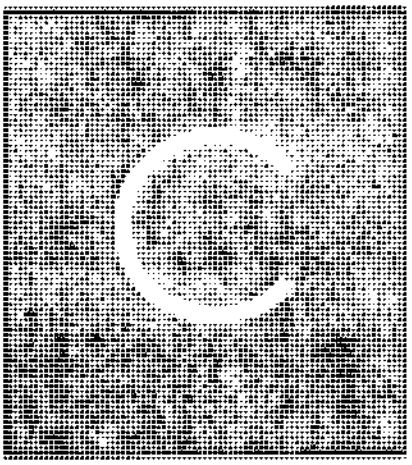
Carmel Valley Master Plan EIR
DKS Associates

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
Scenario C PM Peak

Intersection #7: Laureles Grade Road & Carmel Valley Road



Street Name:	Laureles Grade Road						Carmel Valley Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Dec 2006 << 2030 ScenarioC - pm												
Base Vol:	0	0	0	263	0	115	300	866	0	0	471	220
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	263	0	115	300	866	0	0	471	220
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	263	0	115	300	866	0	0	471	220
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	263	0	115	300	866	0	0	471	220
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	0	0	0	263	0	115	300	866	0	0	471	220
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.95	1.00	0.85	0.95	1.00	1.00	1.00	1.00	0.85
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1805	0	1615	1805	1900	0	0	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.07	0.17	0.46	0.00	0.00	0.25	0.14
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.22	0.00	0.22	0.28	0.69	0.00	0.00	0.41	0.41
Volume/Cap:	0.00	0.00	0.00	0.66	0.00	0.32	0.60	0.66	0.00	0.00	0.60	0.33
Delay/Veh:	0.0	0.0	0.0	27.3	0.0	21.8	22.5	7.1	0.0	0.0	16.3	13.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.3	0.0	21.8	22.5	7.1	0.0	0.0	16.3	13.3
DesignQueue:	0	0	0	8	0	3	8	11	0	0	11	5



Roadway Segment Level of Service Sheets

Two Way (Segments 1-7)
Multi Lane (Segments 8-10)

- No Project Scenario
- Scenario A
- Scenario B
- Scenario C
- Scenario D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: Holman/East of No. 1

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 683
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 86%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.60 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv}: $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following: $100(1 - e^{-0.000879v_p})$ = 51.08

Percent-Time-Spent-Following: BPTSF + $f_{d/np}$ = 65.68

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 683
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 80%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv}: $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following: $100(1 - e^{-0.000879v_p})$ = 53.69

Percent-Time-Spent-Following: BPTSF + $f_{d/np}$ = 68.09

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: Esquilne Rd/Holmand Rd **No. 2**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.00087 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 703
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 89%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.80 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.00087 v_p})$ = 50.71

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 65.31

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.00087 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 725
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 83%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.00087 v_p})$ = 54.23

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 68.63

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: Ford Rd/Esquilne Rd — No. 3

AM Peak-Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1143
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 84%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.2 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 %
- P_R = 0 %
- $f_{d/np}$ = 6.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.994
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 70.17
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 78.27

LOS = D

PM Peak-Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1031
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.2 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 %
- P_R = 0 %
- $f_{d/np}$ = 6.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.994
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 64.40
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 72.50

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: Laureles Grade/Ford Rd No. 4

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1590
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 86%
f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dmp} = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
f_{dmp} = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 80.34
Percent-Time-Spent-Following	BPTSF + f_{dmp}	= 84.64

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1490
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 69%
f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dmp} = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.2 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
f_{dmp} = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.994
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 77.10
Percent-Time-Spent-Following	BPTSF + f_{dmp}	= 81.40

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: 1 Robinson Cyn Rd/Laureles Grade No. 5

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1559
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 79%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 82.58

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 90.88

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1581
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 79.59

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 87.89

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment: Schulte Rd/Robinson Cyn Rd No. 6

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2012
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 66.62

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 90.82

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1893
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 91%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 83.98

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 88.28

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

No Project Scenario

Roadway Segment = Rancho San Carlos Rd/Schulte Rd No. 7

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2207
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 81%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 1.000

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 90.86

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 95.06

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2029
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 94%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

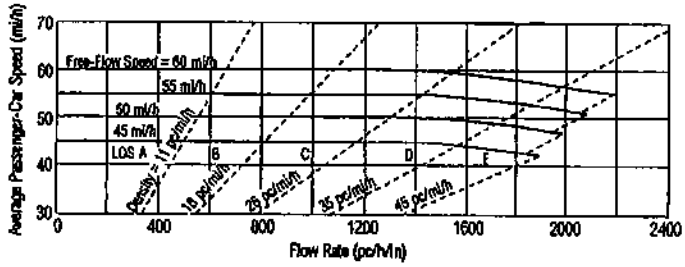
Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 1.000

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 84.99

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 89.29

LOS = E

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	RS B — Rio Rd / Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1014 veh/h	Peak-hour factor, PHF	94.24
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	546 pc/h/ln
S	55 mi/h
$D = v_p / S$	9.93 pc/mi/ln
LOS	A

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

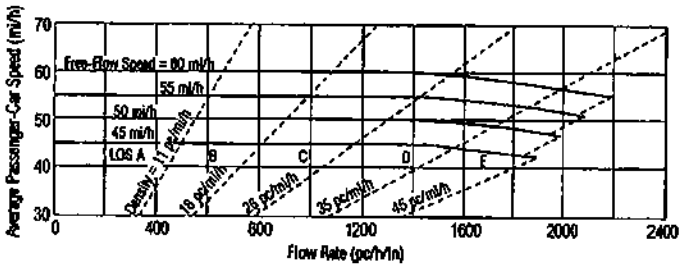
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: RS8
Jurisdiction: Monterey
Analysis Year: 200

Rio / Rancho San Carlos

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1463 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 91.96
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: ____ ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 914 pc/h/ln
S: 55 mi/h
D = v_p/S: 16.65 pc/mi/ln
LOS: (B)

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

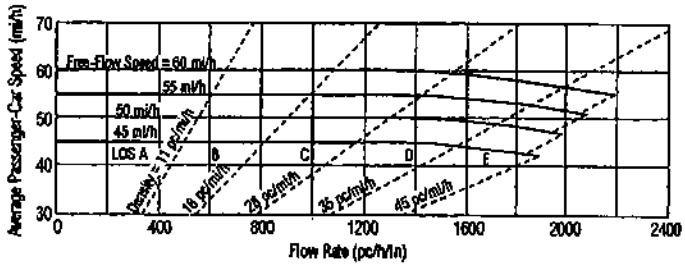
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	Rio/Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1411 veh/h	Peak-hour factor, PHF	95.39
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.00
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M	☐ Undivided ☐ Divided	f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS) / Design (v_p) / Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	~~750~~ 751 pc/h/ln
S	55 mi/h
$D = v_p/S$	13.65 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p/S$	____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p/S$	____ pc/mi/ln

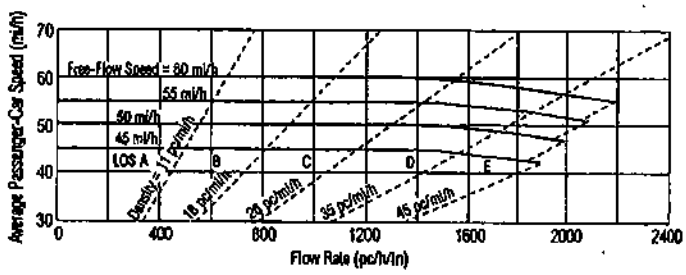
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: 218 / Rio/Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☑ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1208 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☑ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 93.38
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational/Planning (LOS) or Design/Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 657 pc/h/ln
S: 55 mi/h
D = v_p/S: 11.95 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design/Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

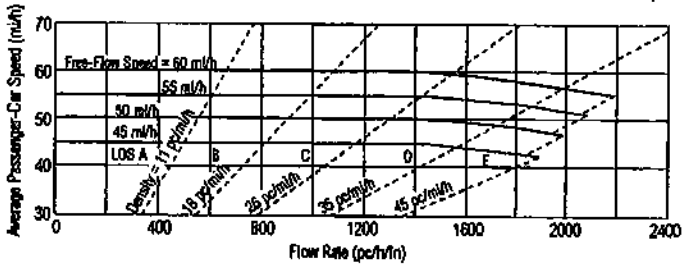
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	RS9 Carmel Rancho / Rio
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1293 veh/h	Peak-hour factor, PHF	0.18
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS) / Design (Planning) (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	728 pc/h/ln
S	45 mi/h
D = v_p/S	16.18 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

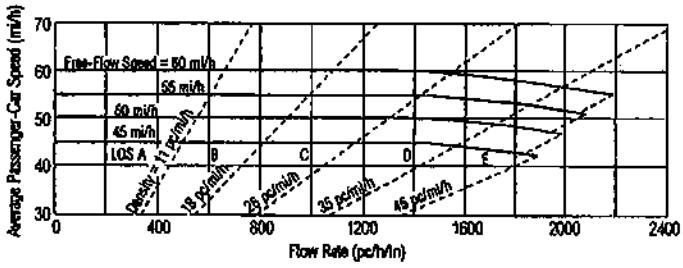
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	RS 9 Carmel Rancho / 1210
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1817 veh/h	Peak-hour factor, PHF	85.32
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustment and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational (LOS) / Design (Planning) (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	1081 pc/h/ln
S	45 mi/h
$D = v_p / S$	24.02 pc/mi/ln
LOS	C

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (Planning) (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

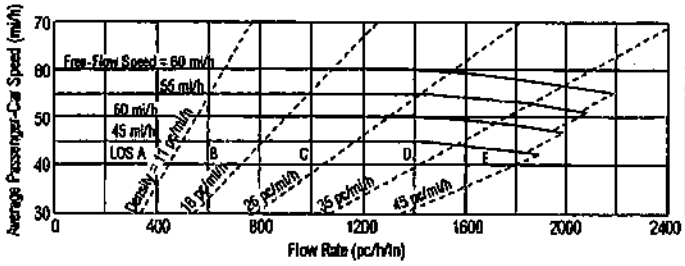
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS9 Carmel Rancho/Rio
Jurisdiction: Monterey
Analysis Year: 200

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1646 veh/h
Annual avg. daily traffic, AADT: _____ veh/day
Peak-hour proportion of AADT, K: _____
Peak-hour direction proportion, D: _____
DDHV = AADT * K * D: _____ veh/h
Driver type
☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 97.03
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain
☒ Level ☐ Rolling ☐ Mountainous
Grade: Length _____ mi Up/Down _____ %
Number of lanes: 4

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.965

Speed Inputs

Lane width, LW: _____ ft
Total lateral clearance, TLC: _____ ft
Access points, A: _____ A/mi
Median type, M ☐ Undivided ☐ Divided
FFS (measured): _____ mi/h
Base free-flow speed, BFFS: _____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: _____ mi/h
f_{LC}: _____ mi/h
f_A: _____ mi/h
f_M: _____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: _____ mi/h

Operational (LOS) or Design (v_p) or Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 861 pc/h/ln
S: 45 mi/h
D = v_p/S: 19.14 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: _____
v_p: _____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: _____ veh/h
S: _____ mi/h
D = v_p/S: _____ pc/mi/ln

Design (N) or Planning (N)

Design (N) or Planning (N) 1st Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____

Design (N) or Planning (N) 2nd Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____
S: _____ mi/h
D = v_p/S: _____ pc/mi/ln

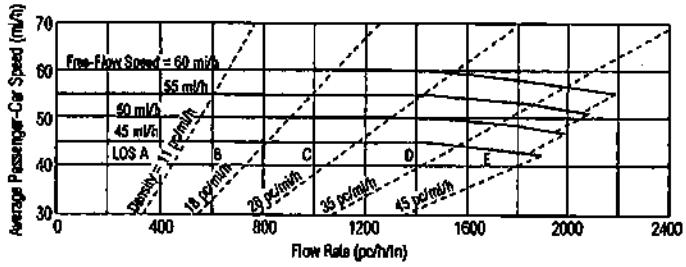
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	259 Carmel Rancho/R10
Jurisdiction	Monterey
Analysis Year	700

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1363 veh/h	Peak-hour factor, PHF	86.32
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1+P_T(E_T-1)+P_R(E_R-1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS) or Design (N) Iteration

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	802 pc/h/ln
S	45 mi/h
$D = v_p / S$	17.82 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

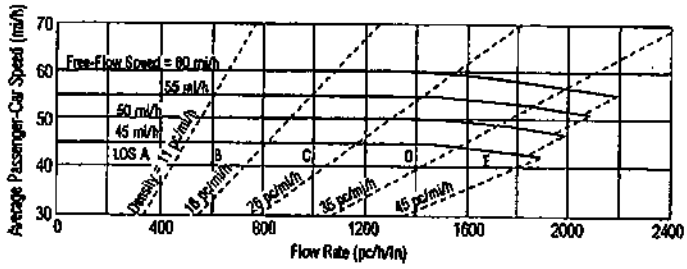
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	KS / D
	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1383 veh/h	Peak-hour factor, PHF	90.36
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS) / Design (v_p) / Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	777 pc/h/ln
S	45 mi/h
$D = v_p / S$	17.27 pc/mi/ln
LOS	D

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

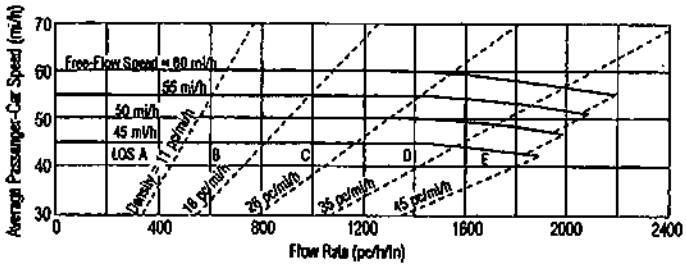
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1207 veh/h	Peak-hour factor, PHF	76.35
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M	☐ Undivided ☐ Divided	f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	802 pc/h/ln
S	45 mi/h
D = v_p/S	17.83 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N) or Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

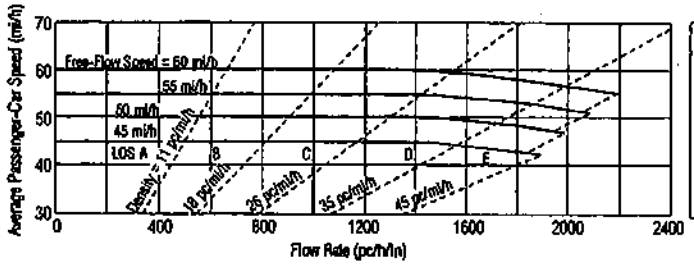
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS10 Hwy 1 / Carmel Rancho
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1311 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type
☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 0.94
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain
☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.955

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustment and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational Planning (LOS) Design Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 731 pc/h/ln
S: 15 mi/h
D = v_p/S: 16.25 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

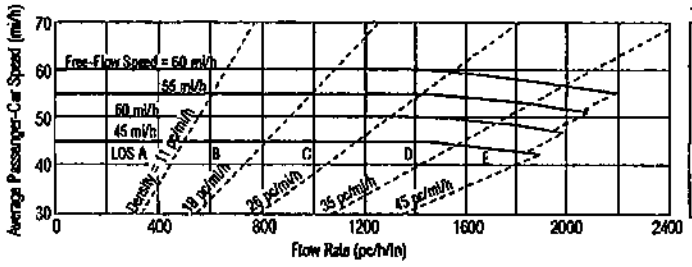
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

No Project Scenario

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1-2-2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1125 veh/h	Peak-hour factor, PHF	83.51
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M	☐ Undivided ☐ Divided	f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational Planning (LOS) Design Planning (v_p) Design Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	683.684 pc/h/ln
S	45 mi/h
$D = v_p / S$	15.20 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Holman/East of No. 1

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 680
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 86%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
$f_{d/np}$ = 14.60 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 50.30

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 64.90

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 680
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 80%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 52.90

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 67.30

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Esquilne Rd/Holmand Rd **No. 2**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.00057 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 700
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 89%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dnp} = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
f_{dnp} = 14.60 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.00057 v_p})$ = 49.94

Percent-Time-Spent-Following BPTSF + f_{dnp} = 64.54

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.00057 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 723
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 83%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dnp} = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
f_{dnp} = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.00057 v_p})$ = 53.49

Percent-Time-Spent-Following BPTSF + f_{dnp} = 67.89

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Ford Rd/Esquilne Rd — No. 3

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1144
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 84%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 70.09
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 78.19

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1031
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 64.29
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 72.39

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Laureles Grade/Ford Rd **No. 4**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1596
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 86%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 80.50

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 84.80

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1496
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 89%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 77.18

Percent-Time-Spent-Following $BPTSF + f_{d/np}$ = 81.48

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Robinson Cyn Rd/Laureles Grade No. 5

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1596
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 79%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879 v_p})$ = 83.29

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 87.49

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1613
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879 v_p})$ = 80.24

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 84.44

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Schulte Rd/Robinson Cyn Rd No. 6

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2048
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879v_p})$ = 87.10

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 91.30

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1924
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 91%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879v_p})$ = 84.45

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 88.75

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario A

Roadway Segment: Rancho San Carlos Rd/Schulte Rd No. 7

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 2241
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 81%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	=	0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	=	91.25
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	=	95.45

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 2059
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 94%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

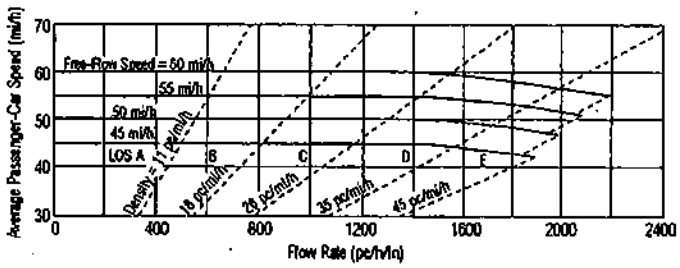
E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	=	0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	=	85.49
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	=	89.79

LOS = E

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	RS 2
	Rio Rd / Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1022 veh/h	Peak-hour factor, PHF	94.24
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	550.49	pc/h/ln
S	55	mi/h
$D = v_p / S$	10.01	pc/mi/ln
LOS	(A)	

Design (v_p) or Planning (v_p)

LOS	____	
v_p	____	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____	veh/h
S	____	mi/h
$D = v_p / S$	____	pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st iteration

N	____	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____	pc/h/ln
LOS	____	

Design (N) or Planning (N) 2nd iteration

N	____	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____	pc/h/ln
LOS	____	
S	____	mi/h
$D = v_p / S$	____	pc/mi/ln

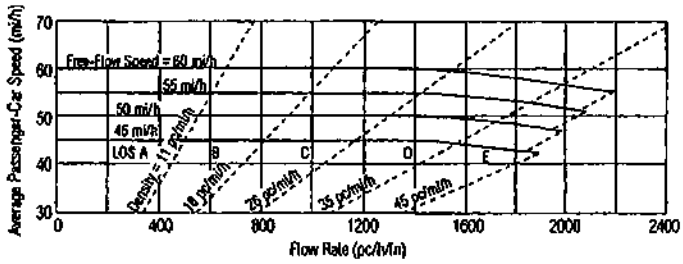
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CR WB
From/To	RS8
Jurisdiction	Monterey
Analysis Year	200

Rio / Rancho San Carlos

☑ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1501 veh/h	Peak-hour factor, PHF	81.06
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational (LOS) or Design (N) or Design (v_p) or Planning (LOS) or Planning (N) or Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	93940 pc/h/ln
S	55 mi/h
D = v_p /S	17.09 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

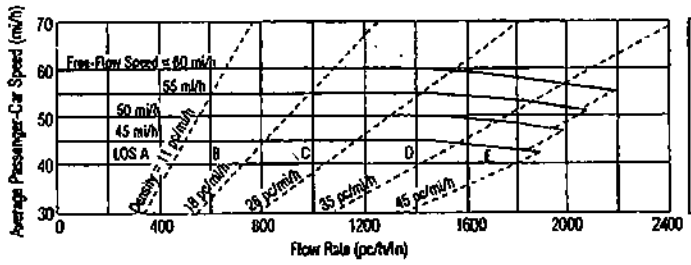
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CNR EB
From/To	Rio Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1439 veh/h	Peak-hour factor, PHF	95.39
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0 %
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length mi	Up/Down %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.00
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	ft
Access points, A	A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	mi/h
Base free-flow speed, BFFS	mi/h

Calculate Speed Adjustments and FFS

f_{LW}	mi/h
f_{LC}	mi/h
f_A	mi/h
f_M	mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	766 pc/h/ln
S	55 mi/h
$D = v_p / S$	13.92 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	veh/h
S	mi/h
$D = v_p / S$	pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
$D = v_p / S$	pc/mi/ln

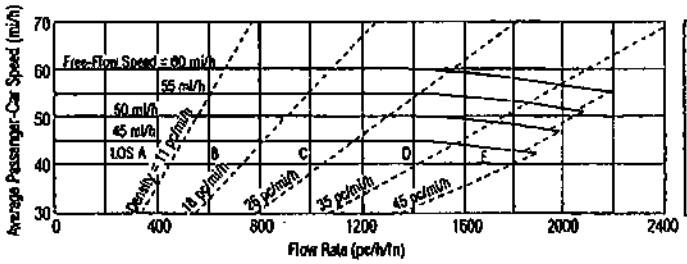
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	2SP Rio/Ramona San Carlos
Jurisdiction	Monterey
Analysis Year	200

☑ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1220 veh/h	Peak-hour factor, PHF	93.38
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0%
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☑ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	mi/h
Total lateral clearance, TLC	ft	f_{LC}	mi/h
Access points, A	/mi	f_A	mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	mi/h
FFS (measured)	mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h
Base free-flow speed, BFFS	mi/h		

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	663 pc/h/ln
S	55 mi/h
D = v_p/S	12.06 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	veh/h
S	mi/h
D = v_p/S	pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
D = v_p/S	pc/mi/ln

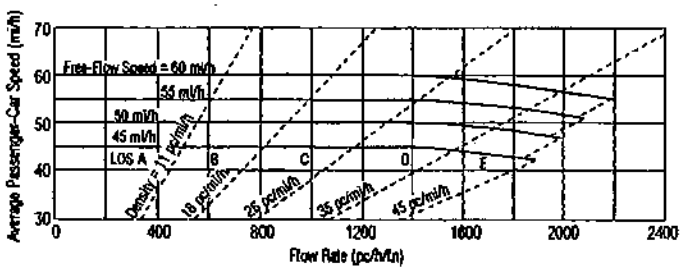
Glossary

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_T - Exhibit 21-8, 21-9, 21-11		f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10		f_{LC} - Exhibit 21-5
f_p - Page 21-11		f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3		f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	RS9 Carmel Rancho / Rio
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1300 veh/h	Peak-hour factor, PHF	0.18
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M ☐ Undivided ☐ Divided	
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	732 pc/h/ln
S	55 mi/h
$D = v_p / S$	13.30 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____ veh/h
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
$D = v_p / S$	____ pc/mi/ln

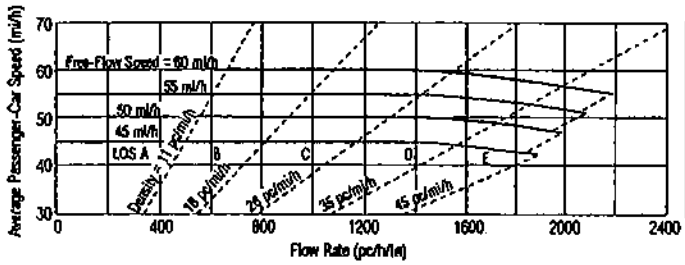
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: RS 9 — Carmel Valley / IR16
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 18.53 veh/h
Annual avg. daily traffic, AADT: _____ veh/day
Peak-hour proportion of AADT, K: _____
Peak-hour direction proportion, D: _____
DDHV = AADT * K * D: _____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 85.32
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length _____ mi Up/Down _____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: _____ ft
Access points, A: _____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): _____ mi/h
Base free-flow speed, BFFS: _____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: _____ mi/h
f_{LC}: _____ mi/h
f_A: _____ mi/h
f_M: _____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: _____ mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 1102 pc/h/ln
S: 45 mi/h
D = v_p/S: 24.50 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: _____
v_p: _____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: _____ veh/h
S: _____ mi/h
D = v_p/S: _____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____

Design (N) or Planning (N) 2nd Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____
S: _____ mi/h
D = v_p/S: _____ pc/mi/ln

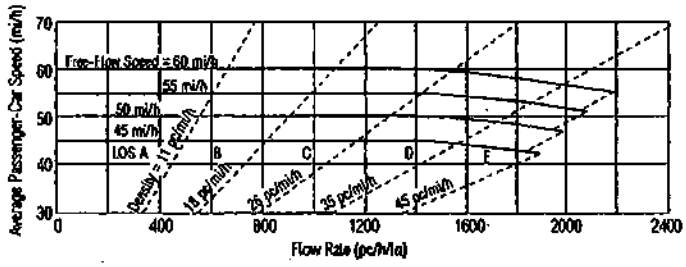
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS 9 Carmel Rancho/Rio
Jurisdiction: Monterey
Analysis Year: 200

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1672 veh/h
Annual avg. daily traffic, AADT: _____ veh/day
Peak-hour proportion of AADT, K: _____
Peak-hour direction proportion, D: _____
DDHV = AADT * K * D: _____ veh/h
Driver type
☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 7.03
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain
☒ Level ☐ Rolling ☐ Mountainous
Grade: Length _____ mi Up/Down _____ %
Number of lanes: 4

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: _____ ft
Access points, A: _____ A/mi
Median type, M ☐ Undivided ☐ Divided
FFS (measured): _____ mi/h
Base free-flow speed, BFFS: _____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: _____ mi/h
f_{LC}: _____ mi/h
f_A: _____ mi/h
f_M: _____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: _____ mi/h

Operational (LOS) / Design (N) / Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 875 pc/h/ln
S: 45 mi/h
$D = v_p / S$: 19.44 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: _____
v_p: _____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$: _____ veh/h
S: _____ mi/h
$D = v_p / S$: _____ pc/mi/ln

Design / Planning (N)

Design (N) or Planning (N) 1st Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____

Design (N) or Planning (N) 2nd Iteration

N: _____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: _____ pc/h/ln
LOS: _____
S: _____ mi/h
$D = v_p / S$: _____ pc/mi/ln

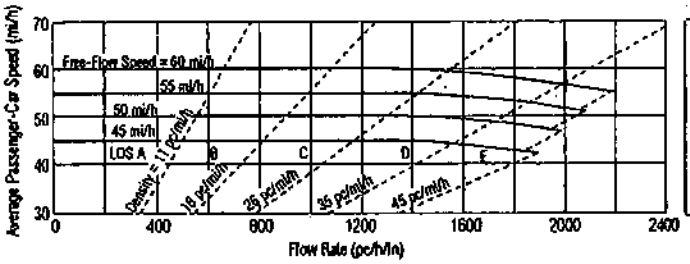
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	OVR WB
From/To	68 Carmel Rancho/ 1
Jurisdiction	Monterey
Analysis Year	200

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1375 veh/h	Peak-hour factor, PHF	86.32
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0%
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☑ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length mi	Up/Down %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	ft
Access points, A	A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	mi/h
Base free-flow speed, BFFS	mi/h

Calculate Speed Adjustments and FFS

f_{LW}	mi/h
f_{LC}	mi/h
f_A	mi/h
f_M	mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	809 pc/h/ln
S	45 mi/h
D = v_p/S	17.97 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	veh/h
S	mi/h
D = v_p/S	pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
D = v_p/S	pc/mi/ln

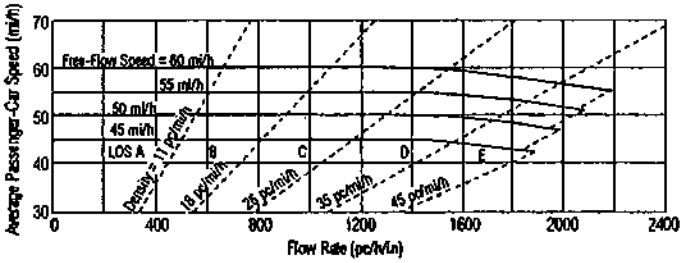
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	OVR EB
From/To	RS / D
Jurisdiction	Hwy 1 / Carmel Rancho Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1386 veh/h	Peak-hour factor, PHF	90.36
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	779 pc/h/ln
S	45 mi/h
D = v_p /S	17.30 pc/mi/ln
LOS	(B)

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

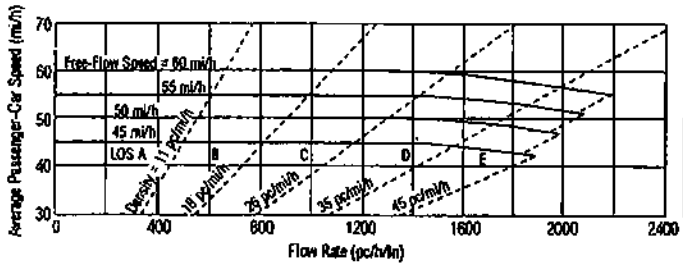
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	Rt 1 0
Jurisdiction	Hwy 1 / Carmel Rancho Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1240 veh/h	Peak-hour factor, PHF	76.35
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational (LOS) / Design (N) / Planning (LOS) / Design (v_p) / Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	824 pc/h/ln
S	45 mi/h
D = v_p/S	18.32 pc/mi/ln
LOS	C

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

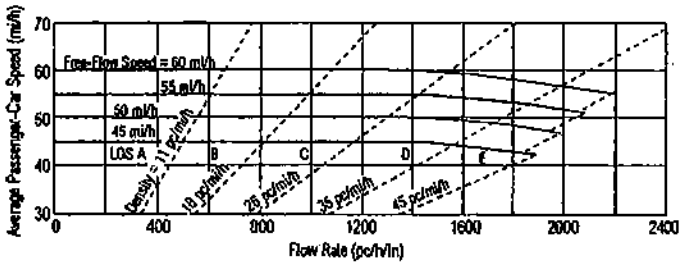
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CUR EB
From/To	RS10 Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	~~744~~ 1334 veh/h	Peak-hour factor, PHF	0.99
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0%
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS) / Design (N) / Design (v_p) / Planning (LOS) / Planning (N) / Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	744	pc/h/ln
S	45	mi/h
D = v_p/S	16.54	pc/mi/ln
LOS	(B)	

Design (v_p) or Planning (v_p)

LOS		
v_p		pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p		veh/h
S		mi/h
D = v_p/S		pc/mi/ln

Design (N) or Planning (N)

Design (N) or Planning (N) 1st Iteration

N		assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$		pc/h/ln
LOS		

Design (N) or Planning (N) 2nd Iteration

N		assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$		pc/h/ln
LOS		
S		mi/h
D = v_p/S		pc/mi/ln

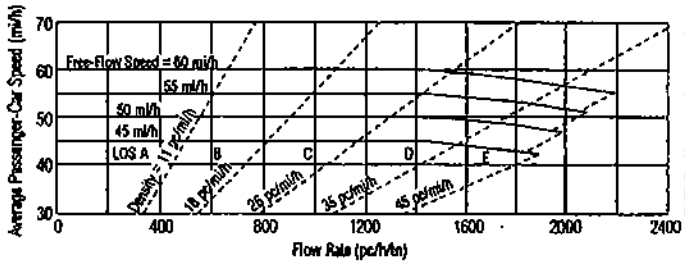
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario A

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CUR WB
From/To	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1150 veh/h	Peak-hour factor, PHF	83.51
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K		% RVs, P_R	0 %
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length mi	Up/Down %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	mi/h
Total lateral clearance, TLC	ft	f_{LC}	mi/h
Access points, A	A/mi	f_A	mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	mi/h
FFS (measured)	mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h
Base free-flow speed, BFFS	mi/h		

Calculate Speed Adjustments and FFS

Operational Planning (LOS) Design Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	699 pc/h/ln
S	45 mi/h
D = v_p/S	15.53 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	veh/h
S	mi/h
D = v_p/S	pc/mi/ln

Design Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
D = v_p/S	pc/mi/ln

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Holman/East of — No. 1

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 660
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 86%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.60 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 50.92

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 65.52

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 679
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 80%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 53.48

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 67.88

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Esquilne Rd/Holmand Rd — No. 2

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 701
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 89%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 50.61

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 65.01

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 721
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 83%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 54.03

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 68.43

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Ford Rd/Esquilne Rd **No. 3**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $\frac{100(1 - e^{-0.000879v_p})}{V}$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1137
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 84%
f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.2 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879v_p})$ = 68.98

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 78.08

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $\frac{100(1 - e^{-0.000879v_p})}{V}$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1023
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.2 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879v_p})$ = 64.11

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 72.21

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Laureles Grade/Ford Rd — No. 4

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1578
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}: $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following: $100(1 - e^{-0.000879 v_p})$ = 80.09

Percent-Time-Spent-Following: BPTSF + $f_{d/np}$ = 84.39

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1478
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 89%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.2 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}: $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following: $100(1 - e^{-0.000879 v_p})$ = 76.82

Percent-Time-Spent-Following: BPTSF + $f_{d/np}$ = 81.12

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Robinson Cyn Rd/Laureles Grade — No. 5

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1563
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 79%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
$f_{d/np}$ = 8.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879v_p})$	= 82.66
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 90.68

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1578
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 %
P_R = 0 %
$f_{d/np}$ = 8.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 0.997
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879v_p})$	= 79.53
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 87.73

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Schulte Rd/Robinson Cyn Rd No. 6

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2007
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 86.58

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 90.76

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1893
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 91%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 83.98

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 92.28

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario B

Roadway Segment: Rancho San Carlos Rd/Schulte Rd **No:** 7

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2200
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 81%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 1.000
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 90.79
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 94.99

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2027
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 94%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

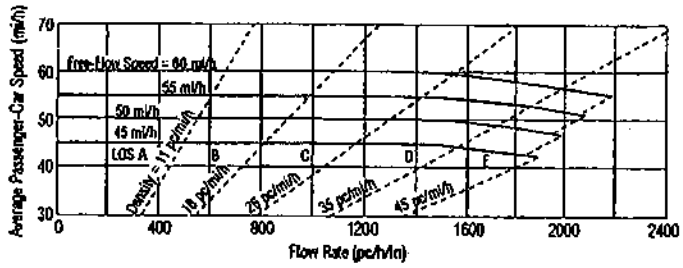
E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV}	$\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$	= 1.000
Base Percent-Time-Spent-Following	$100(1 - e^{-0.000879 v_p})$	= 84.97
Percent-Time-Spent-Following	BPTSF + $f_{d/np}$	= 89.27

LOS = E

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS 2 — Rio Rd / Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 102.3 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 94.24
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) or Design (N) or Planning (LOS) or Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 551 pc/h/ln
S: 10.0+55 mi/h
D = v_p/S: 10.01 pc/mi/ln
LOS: A

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

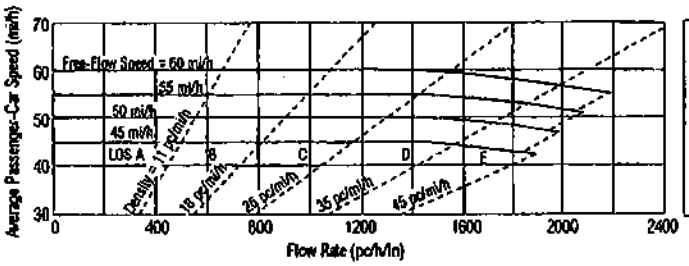
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CR WB
From/To: RS8 — Rio / Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1459 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 81.06
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5
E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 914 pc/h/ln
S: 55 mi/h
D = v_p/S: 16.61 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

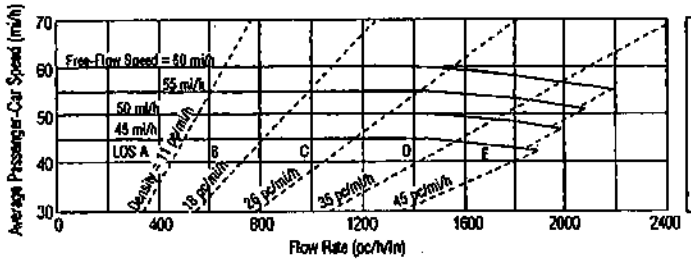
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CNR EB
From/To	Rio/Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1410 veh/h	Peak-hour factor, PHF	95.39
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.00
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M	☐ Undivided ☐ Divided	f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS) / Design (Planning) (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	750	pc/h/ln
S	55	mi/h
$D = v_p / S$	13.64	pc/mi/ln
LOS	B	

Design (v_p) or Planning (v_p)

LOS	____	
v_p	____	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	____	veh/h
S	____	mi/h
$D = v_p / S$	____	pc/mi/ln

Design (Planning) (N)

Design (N) or Planning (N) 1st Iteration

N	____	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____	pc/h/ln
LOS	____	

Design (N) or Planning (N) 2nd Iteration

N	____	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____	pc/h/ln
LOS	____	
S	____	mi/h
$D = v_p / S$	____	pc/mi/ln

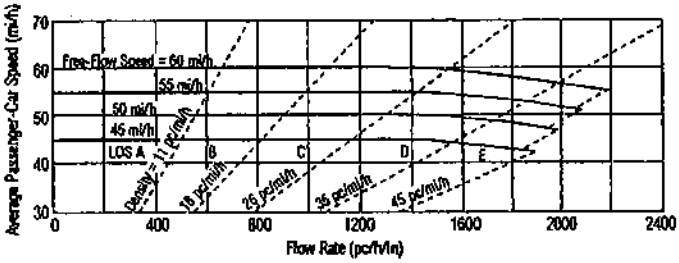
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-8
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: RSB / Rio/Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☑ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1215 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☑ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 93.38
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ /mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) / Design (N) / Planning (LOS)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 660 pc/h/ln
S: 55 mi/h
D = v_p/S: 12.00 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

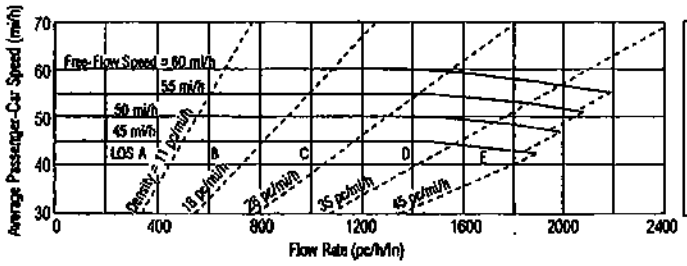
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	R59 Carmel Rancho / Rio
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1307 veh/h	Peak-hour factor, PHF	0.18
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K		% RVs, P_R	0 %
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ml	Up/Down %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	mi/h
Total lateral clearance, TLC	ft	f_{LC}	mi/h
Access points, A	A/mi	f_A	mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	mi/h
FFS (measured)	mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h
Base free-flow speed, BFFS	mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	736 pc/h/ln
S	45 mi/h
$D = v_p/S$	16.35 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	veh/h
S	mi/h
$D = v_p/S$	pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
$D = v_p/S$	pc/mi/ln

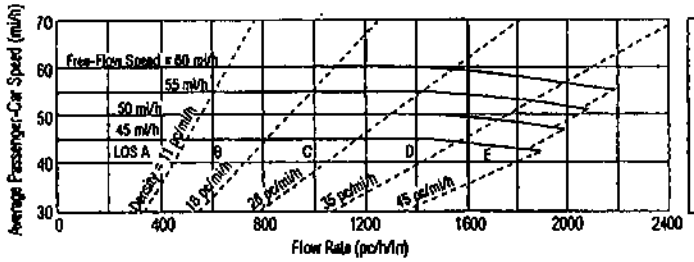
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	RS 9 Carmel Rancho / Rio
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	186 veh/h	Peak-hour factor, PHF	85.32
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	____ ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	1107 pc/h/ln
S	45 mi/h
D = v_p/S	24.60 pc/mi/ln
LOS	C

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

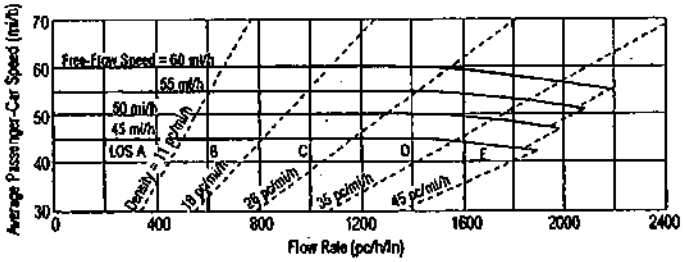
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: SR EB
From/To: RS9 Carmel Rancho/Rio
Jurisdiction: Monterey
Analysis Year: 200

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 168 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 77.03
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 4

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS), Design (Planning (v_p))

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 879 pc/h/ln
S: 45 mi/h
D = v_p/S: 19.54 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

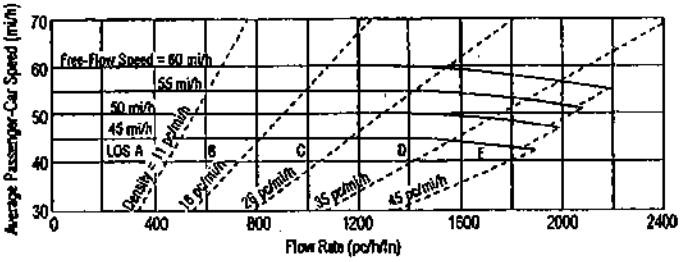
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Assoc.
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: 259 Carmel Rancho/Rio
Jurisdiction: Monterey
Analysis Year: 2007

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1381 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 86.32
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 3

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5
E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational, Planning (LOS); Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 812 pc/h/ln
S: 45 mi/h
D = v_p/S: 18.04 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

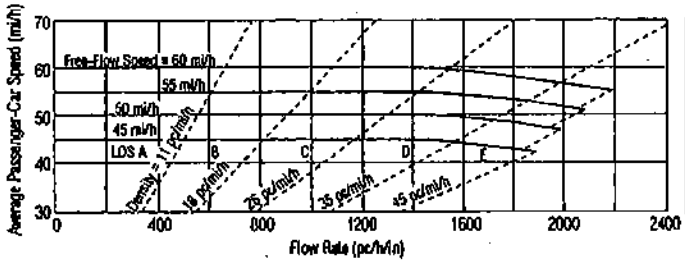
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: ES / D Hwy 1 / Carmel Rancho
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1388 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 90.86
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational Planning (LOS); Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 780 pc/h/ln
S: 45 mi/h
D = v_p/S: 17.33 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

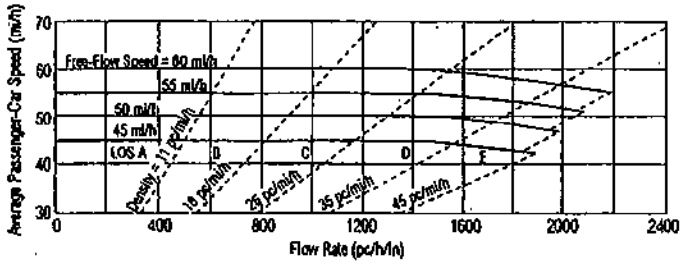
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: Rt 10
Jurisdiction: Hwy 1 / Carmel Rancho
Analysis Year: Monterey
2030

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1241 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 76.35
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5
E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 825 pc/h/ln
S: 45 mi/h
D = v_p / S: 18.35 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p / S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p / S: ____ pc/mi/ln

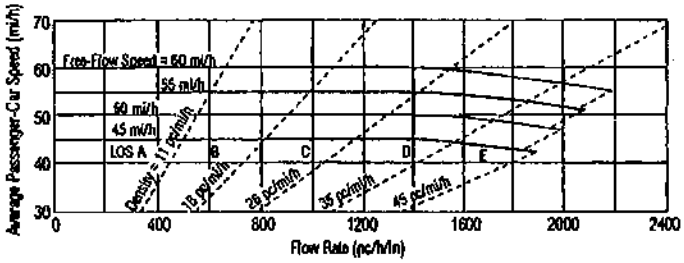
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CUR EB
From/To	RS10 Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1333 veh/h	Peak-hour factor, PHF	90.99
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational/Planning (LOS)/Design/Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	744 pc/h/ln
S	45 mi/h
D = v_p/S	16.53 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design/Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

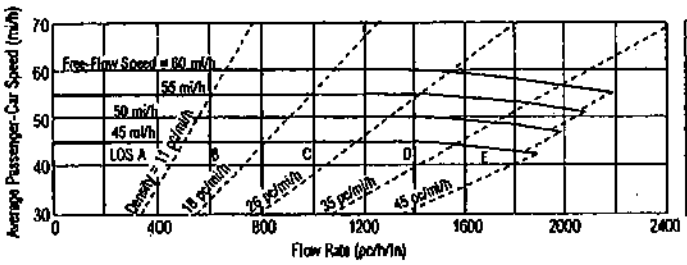
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario B

General Information

Analyst	CLE
Agency or Company	DLS Associates
Date Performed	1-2-2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CUR WB
From/To	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1149 veh/h	Peak-hour factor, PHF	83.51
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ A/mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational (LOS), Design (N), Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	698 pc/h/ln
S	45 mi/h
D = v_p/S	15.52 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Holman/East of No. 1

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 680
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 86%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.60 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 50.92

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 65.52

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 679
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 80%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.7 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 53.48

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 67.88

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Esquine Rd/Holmand Rd **No. 2**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 701
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
  = 89%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dnp} = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.7 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- f_{dnp} = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 50.61

Percent-Time-Spent-Following $BPTSF + f_{dnp}$ = 65.01

LOS = C

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 721
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
  = 83%
- f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
f_{dnp} = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.7 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- f_{dnp} = 14.40 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{hv} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.979

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 54.03

Percent-Time-Spent-Following $BPTSF + f_{dnp}$ = 68.43

LOS = C

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Ford Rd/Esquilne Rd — **No. 3**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1137
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 84%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.2 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879 v_p})$ = 69.96

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 78.06

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
- V = 1023
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 88%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
- E_T = 1.2 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 8.10 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879 v_p})$ = 64.11

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 72.21

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Laureles Grade/Ford Rd **No. 4**

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $\frac{100(1 - e^{-0.000879v_p})}{V}$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given
- V = 1578
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 89%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions
- E_T = 1.1 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879v_p})$ = 80.09

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 84.39

LOS = D

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $\frac{100(1 - e^{-0.000879v_p})}{V}$ Eq. 1

Two-way flow rate, v_p (pc/h) = $\frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given
- V = 1478
- PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)* = 89%
- f_G = 1 (Exhibit 20-8)

f_{HV} = $\frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions
- E_T = 1.2 (Exhibit 20-10)
- E_R = 1 (Exhibit 20-10)
- P_T = 3 1
- P_R = 0 1
- $f_{d/np}$ = 4.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} = $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.994

Base Percent-Time-Spent-Following = $100(1 - e^{-0.000879v_p})$ = 76.82

Percent-Time-Spent-Following = BPTSF + $f_{d/np}$ = 81.12

LOS = D

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road
Passing Lane LOS Sheet Calculations
Scenario C

		Segment 5 AM	Segment 5 PM
Total length of analysis segment		3.32	3.32
Lu	length upstream	1	1
Lpl	length of passing lane changeable all other	*0.25*	*0.25*
ATSd	from original LOS Sheet	28.3	28.4
PTSFd	from original LOS Sheet	90.86	87.73
LOSd	from original LOS Sheet	E	E
Average Travel Speed calculatoins			
Lde	effective length downstream of passing lane	1.7	1.7
Ld	length of two lane segment downstream of pl	0.37	0.37
fpl		1.11	1.11
L'de		2.07	2.07
if Ld is negative a different formula is used, please check the HCM for details			
ATSpl		29.3	29.5
PTSF calculations			
Lde		3.6	3.6
Ld	length of two lane segment downstream of pl	-1.53	-1.53
fpl		0.62	0.62
if Ld is negative a different formula is used, please check the HCM for details			
PTSFpl		72.92	70.41
		D	D

Source: HCM 2000, Passing Lane LOS Calculations. DKS Associates, 2007

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Schulte Rd/Robinson Cyn Rd No. 6

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2007
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 88%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 86.56

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 90.76

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 1893
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 91%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1.1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 8.30 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 0.997

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 83.98

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 92.28

LOS = E

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road

Scenario C

Roadway Segment: Rancho San Carlos Rd/Schulte Rd No: 7

AM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2200
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 61%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.20 (Exhibit 20-12)

Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 1.000

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 90.79

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 94.99

LOS = E

PM Peak Hour

Base Percent-Time-Spent-Following - BPTSF = $100(1 - e^{-0.000879 v_p})$ Eq. 1

Two-way flow rate, v_p (pc/h) $= \frac{V}{PHF * f_G * f_{HV}}$ Eq. 2

v_p = passenger-car equivalent flow rate for peak 15-min period (pc/h)
V = demand volume for the full peak hour in the direction analyzed (veh/h)
PHF = peak-hour factor,
f_G = grade adjustment factor, and
f_{HV} = heavy-vehicle adjustment factor

Given:
V = 2027
PHF = *(peak hour volume / 4) / (MAX(15-min interval within peak hour)*
= 94%
f_G = 1 (Exhibit 20-8)

$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$ Eq. 3

E_T = Pax-car equivalents for trucks,
E_R = Pax-car equivalents for RVs,
P_T = % Trucks and buses,
P_R = % Recreational Vehicles,
$f_{d/np}$ = Adjustment Percent for No-Passing Zone

Assumptions:
E_T = 1 (Exhibit 20-10)
E_R = 1 (Exhibit 20-10)
P_T = 3 1
P_R = 0 1
$f_{d/np}$ = 4.30 (Exhibit 20-12)

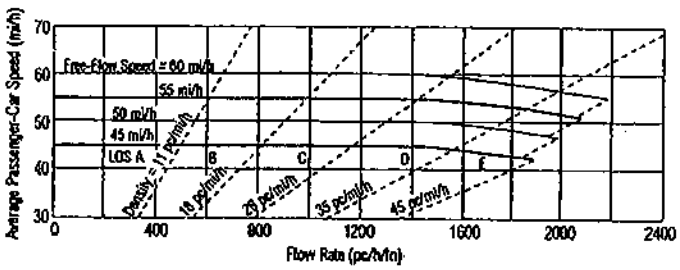
Heavy-vehicle adjustment factor, f_{HV} $\frac{1}{1 + 0.03(1.1 - 1) + 0(1 - 1)}$ = 1.000

Base Percent-Time-Spent-Following $100(1 - e^{-0.000879 v_p})$ = 84.97

Percent-Time-Spent-Following BPTSF + $f_{d/np}$ = 89.27

LOS = E

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS 8 — Rio Rd / Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 102.3 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 94.24
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5
E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) or Design (N) or Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 551 pc/h/ln
S: 10.0+55 mi/h
$D = v_p/S$: 10.01 pc/mi/ln
LOS: A

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$: ____ veh/h
S: ____ mi/h
$D = v_p/S$: ____ pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
$D = v_p/S$: ____ pc/mi/ln

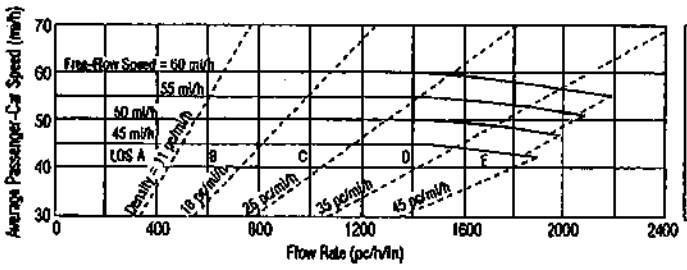
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CR WB
From/To: 68 / Rio / Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☑ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1459 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type
☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 81.06
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain
☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) / Design (N) / Design (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 914 pc/h/ln
S: 55 mi/h
D = v_p/S: 16.61 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N) / Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

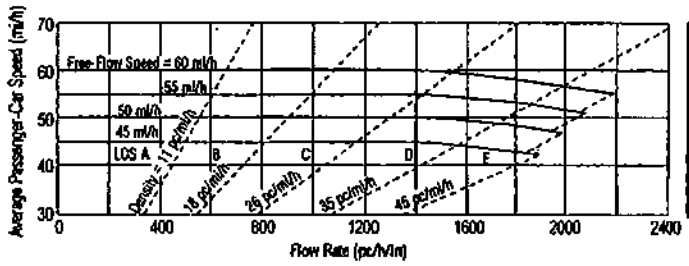
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CNR EB
From/To: Rio/Rancho San Carlos
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1410 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type
☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 95.39
% Trucks and buses, P_T: 3%
% RVs, P_R: 0 %
General terrain
☐ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5
E_R: 1.00
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) / Design (N) / Planning (LOS) / Design (N) / Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 750 pc/h/ln
S: 55 mi/h
D = v_p/S: 13.64 pc/mi/ln
LOS: B

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

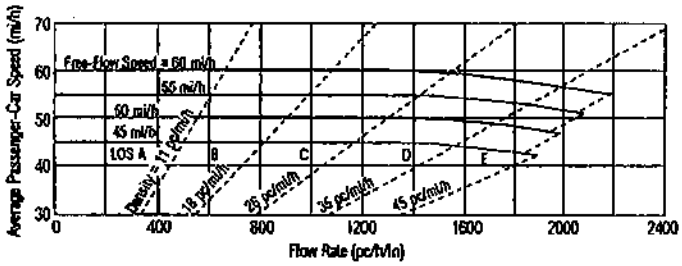
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	RSB Rio/Rancho San Carlos
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1215 veh/h	Peak-hour factor, PHF	93.38
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0%
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☐ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length mi	Up/Down %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	mi/h
Total lateral clearance, TLC	ft	f_{LC}	mi/h
Access points, A	A/mi	f_A	mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	mi/h
FFS (measured)	mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h
Base free-flow speed, BFFS	mi/h		

Calculate Speed Adjustments and FFS

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	660 pc/h/ln
S	55 mi/h
$D = v_p/S$	12.00 pc/mi/ln
LOS	B

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	veh/h
S	mi/h
$D = v_p/S$	pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
$D = v_p/S$	pc/mi/ln

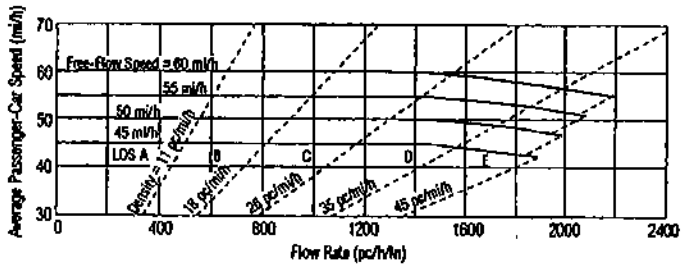
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Assoc.
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR EB
From/To: RS9 Carmel Rancho / Rio
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1307 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 0.18
% Trucks and buses, P_T: 3 %
% RVs, P_R: 0 %
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS) or Design (N) or Planning (N) 1st Iteration

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 736 pc/h/ln
S: 45 mi/h
D = v_p/S: 16.35 pc/mi/ln
LOS: B

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

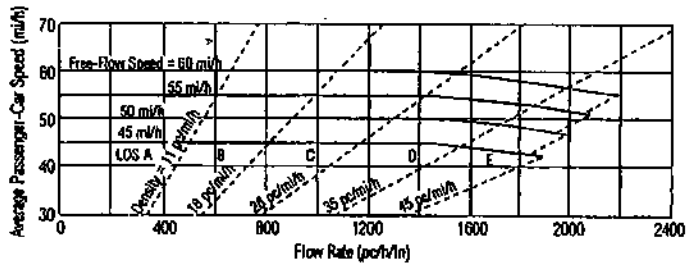
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	AM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	RS 9 — Carmel Rancho / Rio
Jurisdiction	Monterey
Analysis Year	200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1861 veh/h	Peak-hour factor, PHF	85.32
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	____ ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	1107 pc/h/ln
S	45 mi/h
D = v_p/S	24.60 pc/mi/ln
LOS	C

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

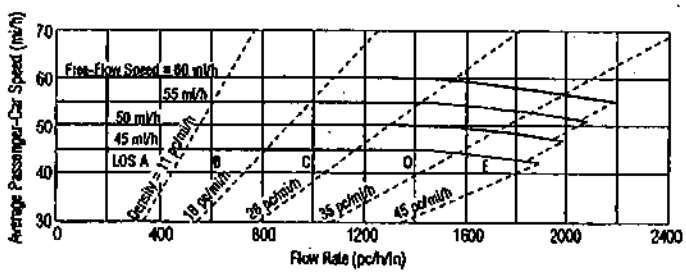
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR EB
From/To	RS9 Carmel Rancho/Rio
Jurisdiction	Monterey
Analysis Year	200

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1681 veh/h	Peak-hour factor, PHF	7.03
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K	____	% RVs, P_R	0%
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☒ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	8

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	____ ft
Access points, A	____ /mi
Median type, M	☐ Undivided ☐ Divided
FFS (measured)	____ mi/h
Base free-flow speed, BFFS	____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}	____ mi/h
f_{LC}	____ mi/h
f_A	____ mi/h
f_M	____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h

Operational Planning (LOS) Design Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	879 pc/h/ln
S	45 mi/h
D = v_p/S	19.54 pc/mi/ln
LOS	C

Design (v_p) or Planning (v_p)

LOS	____
v_p	____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p	____ veh/h
S	____ mi/h
D = v_p/S	____ pc/mi/ln

Design Planning (N)

Design (N) or Planning (N) 1st Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____

Design (N) or Planning (N) 2nd Iteration

N	____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	____ pc/h/ln
LOS	____
S	____ mi/h
D = v_p/S	____ pc/mi/ln

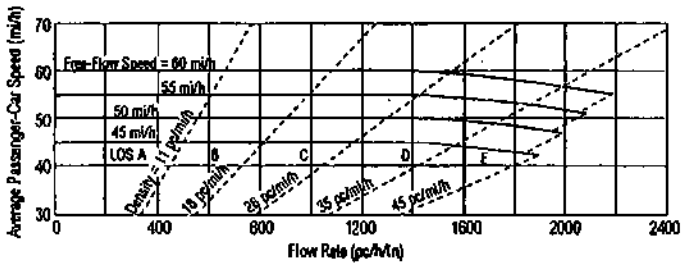
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst	CLE
Agency or Company	DKS Assoc.
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CVR WB
From/To	ESQ Carmel Rancho/1210
Jurisdiction	Monterey
Analysis Year	2010

☐ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1381 veh/h	Peak-hour factor, PHF	86.32
Annual avg. daily traffic, AADT	veh/day	% Trucks and buses, P_T	3%
Peak-hour proportion of AADT, K		% RVs, P_R	0%
Peak-hour direction proportion, D		General terrain	
DDHV = AADT * K * D	veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length mi	Up/Down %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	3

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft
Total lateral clearance, TLC	ft
Access points, A	/mi
Median type, M ☐ Undivided ☐ Divided	
FFS (measured)	mi/h
Base free-flow speed, BFFS	mi/h

Calculate Speed Adjustments and FFS

f_{LW}	mi/h
f_{LC}	mi/h
f_A	mi/h
f_M	mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	mi/h

Operational/Planning (LOS) or Design/Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	812 pc/h/ln
S	45 mi/h
$D = v_p/S$	18.04 pc/mi/ln
LOS	(C)

Design (v_p) or Planning (v_p)

LOS	
v_p	pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$	veh/h
S	mi/h
$D = v_p/S$	pc/mi/ln

Design/Planning (N)

Design (N) or Planning (N) 1st Iteration

N	assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	

Design (N) or Planning (N) 2nd Iteration

N	assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$	pc/h/ln
LOS	
S	mi/h
$D = v_p/S$	pc/mi/ln

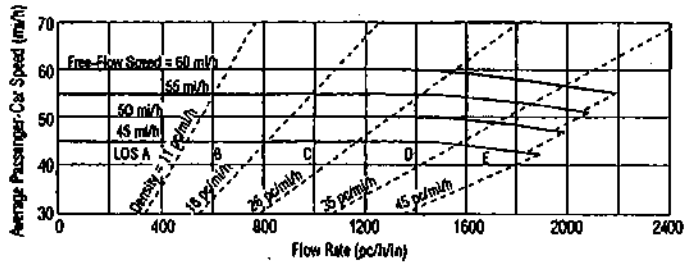
Glossary

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: OR EB
From/To: PGS / D — Hwy 1 / Carmel Rancho
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1388 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 90.36
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 780 pc/h/ln
S: 45 mi/h
D = v_p/S: 17.33 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

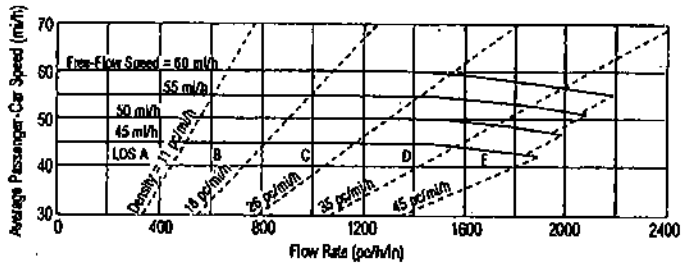
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: AM Peak

Site Information

Highway/Direction of Travel: CVR WB
From/To: Rt 10
Jurisdiction: Hwy 1 / Carmel Rancho
Analysis Year: Monterey
2030

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1241 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type
☐ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 76.35
% Trucks and buses, P_T: 3 %
% RVs, P_R: 0 %
General terrain
☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational, Planning (LOS), Design, Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: 825 pc/h/ln
S: 45 mi/h
D = v_p/S: 18.33 pc/mi/ln
LOS: C

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design, Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or DDHV}}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

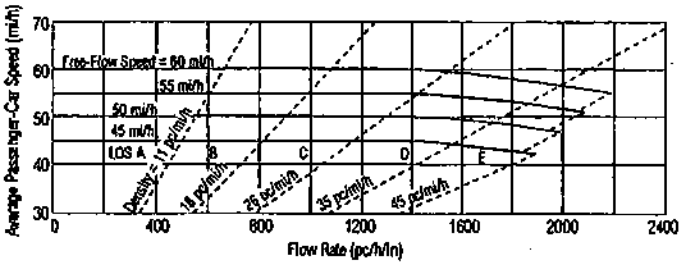
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst: CLE
Agency or Company: DKS Associates
Date Performed: 1.2.2007
Analysis Time Period: PM Peak

Site Information

Highway/Direction of Travel: CUR EB
From/To: RS10 Hwy 1 / Carmel Rancho
Jurisdiction: Monterey
Analysis Year: 200

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V: 1333 veh/h
Annual avg. daily traffic, AADT: ____ veh/day
Peak-hour proportion of AADT, K: ____
Peak-hour direction proportion, D: ____
DDHV = AADT * K * D: ____ veh/h
Driver type: ☒ Commuter/Weekday ☐ Recreational/Weekend

Peak-hour factor, PHF: 0.99
% Trucks and buses, P_T: 3%
% RVs, P_R: 0%
General terrain: ☒ Level ☐ Rolling ☐ Mountainous
Grade: Length ____ mi Up/Down ____ %
Number of lanes: 2

Calculate Flow Adjustments

f_p: 1.00
E_T: 1.5

E_R: 1.2
$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$: 0.985

Speed Inputs

Lane width, LW: 12 ft
Total lateral clearance, TLC: ____ ft
Access points, A: ____ A/mi
Median type, M: ☐ Undivided ☐ Divided
FFS (measured): ____ mi/h
Base free-flow speed, BFFS: ____ mi/h

Calculate Speed Adjustments and FFS

f_{LW}: ____ mi/h
f_{LC}: ____ mi/h
f_A: ____ mi/h
f_M: ____ mi/h
FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M: ____ mi/h

Operational (LOS), Design (v_p), Planning (v_p)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: 744 pc/h/ln
S: 45 mi/h
D = v_p/S: 16.53 pc/mi/ln
LOS: B

Design (v_p) or Planning (v_p)

LOS: ____
v_p: ____ pc/h/ln
V = v_p * PHF * N * f_{HV} * f_p: ____ veh/h
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

Design (N), Planning (N)

Design (N) or Planning (N) 1st Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____

Design (N) or Planning (N) 2nd Iteration

N: ____ assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$: ____ pc/h/ln
LOS: ____
S: ____ mi/h
D = v_p/S: ____ pc/mi/ln

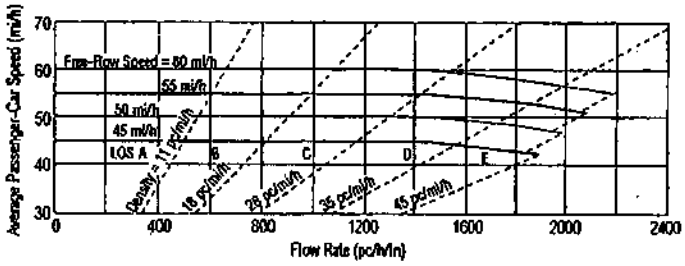
Glossary

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_T - Exhibit 21-8, 21-9, 21-11
E_R - Exhibit 21-8, 21-10
f_p - Page 21-11
LOS, S, FFS, v_p - Exhibit 21-2, 21-3
f_{LW} - Exhibit 21-4
f_{LC} - Exhibit 21-5
f_M - Exhibit 21-6
f_A - Exhibit 21-7

MULTILANE HIGHWAYS 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

Scenario C

General Information

Analyst	CLE
Agency or Company	DKS Associates
Date Performed	1.2.2007
Analysis Time Period	PM Peak

Site Information

Highway/Direction of Travel	CUR WB
From/To	Hwy 1 / Carmel Rancho
Jurisdiction	Monterey
Analysis Year	2007

☒ Operational (LOS) ☐ Design (N) ☐ Design (v_p) ☐ Planning (LOS) ☐ Planning (N) ☐ Planning (v_p)

Flow Inputs

Volume, V	1149 veh/h	Peak-hour factor, PHF	83.51
Annual avg. daily traffic, AADT	____ veh/day	% Trucks and buses, P_T	3 %
Peak-hour proportion of AADT, K	____	% RVs, P_R	0 %
Peak-hour direction proportion, D	____	General terrain	
DDHV = AADT * K * D	____ veh/h	☒ Level ☐ Rolling ☐ Mountainous	
Driver type		Grade: Length ____ mi	Up/Down ____ %
☐ Commuter/Weekday ☐ Recreational/Weekend		Number of lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = \frac{1}{1 + P_T(E_T - 1) + P_R(E_R - 1)}$	0.985

Speed Inputs

Lane width, LW	12 ft	f_{LW}	____ mi/h
Total lateral clearance, TLC	____ ft	f_{LC}	____ mi/h
Access points, A	____ A/mi	f_A	____ mi/h
Median type, M ☐ Undivided ☐ Divided		f_M	____ mi/h
FFS (measured)	____ mi/h	FFS = BFFS − f_{LW} − f_{LC} − f_A − f_M	____ mi/h
Base free-flow speed, BFFS	____ mi/h		

Calculate Speed Adjustments and FFS

Operational (LOS) / Design (N) / Planning (N)

Operational (LOS) or Planning (LOS)

$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$	698	pc/h/ln
S	45	mi/h
$D = v_p / S$	15.52	pc/mi/ln
LOS	(B)	

Design (v_p) or Planning (v_p)

LOS		
v_p		pc/h/ln
$V = v_p * PHF * N * f_{HV} * f_p$		veh/h
S		mi/h
$D = v_p / S$		pc/mi/ln

Design (N) or Planning (N) 1st Iteration

N		assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$		pc/h/ln
LOS		

Design (N) or Planning (N) 2nd Iteration

N		assumed
$v_p = \frac{V \text{ or } DDHV}{PHF * N * f_{HV} * f_p}$		pc/h/ln
LOS		
S		mi/h
$D = v_p / S$		pc/mi/ln

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_T - Exhibit 21-8, 21-9, 21-11	f_{LW} - Exhibit 21-4
E_R - Exhibit 21-8, 21-10	f_{LC} - Exhibit 21-5
f_p - Page 21-11	f_M - Exhibit 21-6
LOS, S, FFS, v_p - Exhibit 21-2, 21-3	f_A - Exhibit 21-7

Future Level of Service Calculations for Two Lane Segments of Carmel Valley Road
Passing Lane LOS Sheet Calculations
Scenario D

		Segment 3		Segment 6		Segment 7	
		AM	PM	AM	PM	AM	PM
Total length of analysis segment		0.75	0.75	1.62	1.62	2.41	2.41
Lu	length upstream	0	0	1	1	1	1
Lpl	length of passing lane changeable all other	*0.25*	*0.25*	*0.25*	*0.25*	*0.25*	*0.25*
ATSd	from original LOS Sheet	11.7	12.9	30.0	32.9	28.1	33.3
PTSFd	from original LOS Sheet	78.08	72.21	90.76	92.28	94.99	89.27
LOSd	from original LOS Sheet	D	D	E	E	E	E
Average Travel Speed calculatoins							
Lde	effective length downstream of passing lane	1.7	1.7	1.7	1.7	1.7	1.7
Ld	length of two lane segment downstream of pl	-1.2	-1.2	-1.33	-1.33	-0.54	-0.54
fpl		1.11	1.11	1.11	1.11	1.11	1.11
L'de		0.5	0.5	0.37	0.37	1.16	1.16
if Ld is negative a different formula is used, please check the HCM for details							
ATSpl		12.8	14.2	31.1	34.1	29.4	34.8
PTSF calculations							
Lde		3.6	3.6	3.6	3.6	3.6	3.6
Ld	length of two lane segment downstream of pl	-3.1	-3.1	-3.23	-3.23	-2.44	-2.44
fpl		0.62	0.62	0.62	0.62	0.62	0.62
if Ld is negative a different formula is used, please check the HCM for details							
PTSFpl		49.78	46.04	77.96	79.27	76.67	72.05
		B	B	D	D	D	D

Source: HCM 2000, Passing Lane LOS Calculations. DKS Associates, 2007

D

Appendix

Land Use Forecasting Methodology (Jones & Stokes)

Jones & Stokes

M E M O R A N D U M

Carmel Valley Master Plan
Carmel Valley Traffic Improvement Plan
Land Use Forecasting Methodology
(July 2007)

This memorandum and attachments describe the methodology and data uses for develop land use forecasts for three difference scenarios for use in the CVMP Traffic Study.

1. BASELINE CONDITIONS, 2005

- **Baseline Traffic Levels for 2005**. Baseline traffic levels were determined based on traffic counts collected in November 2005 as documented in the existing conditions report.

2. BUILDOUT ASSUMPTIONS, 2030

The AMBAG model base year is 2000 based on existing development at that time. This is the methodology used to forecast buildout in 2030.

- **Approved Subdivisions 1987 to 1998**. Subdivisions approved before 1998 were examined to identify if approved units had not been built as of 2000. Where units had not yet been built or were assumed to not have been built prior to 2000 (total units = 428, of which 140 were inside the CVMP), they were added to the 2030 forecast. Although much of the Rancho San Carlos/Santa Lucia Preserve is outside the CVMP, the unbuilt units (=321 units) are included in the forecast because new units directly place traffic into the CVMP; however the Preserve units outside of the CVMP (=288 units) do not count against the CVMP residential cap.

- **Approved Subdivisions, 1998 to 2006**. All units in approved subdivisions (total = 152 units) from 1998 to 2005 and the September Ranch approval in 2006 are included in the 2030 forecast.

- **Approved SFDs and Adjunct Units, 1987 to 1998.** All SFDs and adjunct units with building permits issued up to 1998 were assumed to be built by 2000 and thus are presumed to be included in the AMBAG 2000 baseline.

- **Approved SFDs and Adjunct Units, 1999 to 2005.** A total of 75.5 SFDs and adjunct units received building permits on existing lots from 1999 to 2005; these units were presumed not built by 2000 and were included in the 2030 forecast. Building permits were also issued for a total of 34 SFDs and adjunct on lots subdivided after 1987; these units were assumed to be included in the approved subdivision totals noted above. No geographic data was provided by the County concerning the approved SFDs. Thus, they were spread proportionally across the Traffic Analysis Zones (TAZs) based on the vacant parcel potential buildout splits.

- **Approved visitor-serving units, 1987 to 2006**. Approved visitor-serving projects were examined to identify if approved units had not been built as of 2000. Where units had not yet been built or were approved after 1998 (total units = 108), they were added to the 2030 forecast.

- **Future Residential Units**. CVMP policy allow up to 1,310 total units to be built after 1986. Per County data of building permits issued between 1986 and 2005 (Chart 1, attached), building permits were issued for a total of 334.5 single family dwelling units and 120.5 adjunct units on

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lots in existence prior to 1/1/87 for a total of 455 units. From 1986 to 2006, the County approved an estimated 322 units in subdivisions in the CVMP. Thus, from 1986 to 2006, the County has approved 777 units, which leaves a remaining residential unit quota of 533 units. All future residential units were presumed to be on residentially-designated vacant lots, unless specifically assumed otherwise.

- **Future Visitor-Serving Units.** Per County data (Chart 3, attached), it is assumed that the CVMP will allow 285 visitor-serving units after 1/1/2006. All future visitor-serving units will be on commercially-designated vacant lots, unless specifically assumed otherwise. The pending Carmel Valley Ranch application to convert 144 existing hotel units into 144 individually-owned hotel units was not assumed to result in additional traffic.

- **Future Commercial.** The AMBAG model assumptions for commercial growth in the CVMP area were used. The AMBAG model forecasts 3,457 additional employees in the CVMP area by 2030. The AMBAG model did not include any increase in employees related to visitor-serving units, which are covered by the assumptions noted above related to the 285 visitor-serving units.

- **Buildout Horizon.** The buildout year is assumed to be 2030 (to match the AMBAG model).

- **Growth Outside the CVMP**. The growth included in the AMBAG model for year 2030 is used for areas outside the CVMP.

4. VACANT PARCEL ASSUMPTIONS

- **Vacant Residential Parcels**. Vacant Residential Parcels were based on the Assessors Parcel Data Categories 1A, 1B, 2A, 3A, 3B, 3C, 3D and residentially zoned parcels in Category 5A. Based on these categories there are 390 vacant residential parcels. When you remove parcels designated for incompatible uses (like commercial), parcels with known locations of approved but not yet built subdivisions (like September Ranch), and parcels with substantive development (> $100,000/acre in improvements), there are 302 remaining vacant parcels. These were used in the forecast for Options 1 and 2 below.

- **Developable Visitor-Serving Parcels**. Visitor-Serving developable parcels were based on the visitor-serving zoned parcels greater than 1 acre in size, with less than $100,000/acre improvements and total improvement value of less than $5 million. Parcels identified as Category 8A (private roads, etc.), 8B (SBE roll), and 99 (no other code/not buildable) were excluded.

- **Vacant Commercial Parcels**. The AMBAG model assumptions for commercial growth in the CVMP area were used.

- **Vacant Transitional Categories**. Vacant transitional categories identified in the Assessor's Parcel Data were excluded.

- **Miscellaneous Parcels.** Parcels with no APNs were excluded.

- **Improvements**. If the parcel data indicates improvements in a "Vacant" category, this data is not assumed to change its assumption as vacant (conservative assumption for buildout) except as noted above for visitor-serving parcels.

7. FORECASTING ASSUMPTIONS, NO PROJECT SCENARIO

- **Current Projects (Pipeline)**. There would no assumption that pipeline projects are approved

because they all require subdivision but previously approved projects are assumed to be built by 2030.

- **Residential (Remaining).** No subdivision is assumed. Based on County data (Table 1), it is assumed that there are 258.5 remaining vacant lots of record. It is assumed that one unit per lot would be built in this scenario. No data on the location of these lots has been provided. The location of the 390 residential vacant parcels from the assessor's parcel data were used to project location of residential new units. However, parcels with known approved but not yet built subdivisions, with > $100,000 in improvements, or that are designated for uses that do not allow residential units were removed from the parcel set. This resulted in 297 vacant parcels. Thus, the 258.5 units were proportionally spread by TAZ based on the location of the 297 residential vacant parcels identified from the assessor's parcel data.

- **Visitor-Serving Units.** All 285 allowed units are assumed built by the horizon year and not to be constrained by the subdivision moratorium

- **Commercial Units.** Any commercial assumptions in the AMBAG model were used and are not assumed to be constrained by the subdivision moratorium.

- **Outside of CVMP.** Assumptions in the AMBAG model were used.

6. FORECASTING ASSUMPTIONS, SCENARIO A

- **Current Projects (Pipeline)**. There would no assumption that pipeline projects are approved but previously approved projects are assumed to be built by 2030.

- **Proportional (Remaining).** The 533 remaining units were split over the 302 vacant residential parcels proportionally. The buildout potential of the 302 vacant residential parcels was estimated by calculating the allowed density per site zoning as 1,592 units. Then the portion of buildout represented by the remaining units (per plan) was calculated. Since this exceeds the allowable limit of 533 units, the amount of buildout was scaled by a factor of 33% (= 533 / 1,592). Then the scalar (33%) was applied to the potential buildout for each TAZ. Thus, if TAZ1 has a buildout potential of 100 units, the forecast would assign 33 units to TAZ1.

- **Visitor-Serving Units.** All 285 allowed units are assumed built by the horizon year.

- **Commercial Units.** Any commercial assumptions in the AMBAG model were used.

- **Outside of CVMP.** Assumptions in the AMBAG model were used.

7. FORECASTING ASSUMPTIONS, SCENARIO B (Also used for Scenarios C and D)

- **Current Residential Projects (Pipeline)**. The projects in project review indicated by the County (see attached table and graphic) are assumed to be approved as proposed. Based on data from the County, buildout of the pipeline projects would result in 281 new residential units. Projects are assumed to be built by 2030.

- **Other Future Residential Units (Remainder)**. The 252 remaining potential residential units (remaining in the 533 unit quota after the 281 pipeline units) were split over the remaining vacant residential parcels proportionally. The buildout potential of the remaining vacant residential parcels was estimated by calculating the allowed density per site zoning by parcel which resulted

in an estimate of 1,592 potential units. Since this exceeds the allowable limit of 252 units, the amount of buildout was scaled by a factor of 16% (= 252 / 1,592). Then the scalar (16%) was applied to the potential buildout for each TAZ. Thus if TAZ1 has a buildout potential of 100 units, the forecast would assign 16 units to TAZ1.

- **Visitor-Serving Units.** All 285 allowed units are assumed built by the horizon year.

- **Commercial Units.** Any commercial assumptions in the AMBAG model were used.

- **Outside of CVMP.** Assumptions in the AMBAG model were used.

ATTACHMENTS

Forecast Tables 1 through 7
Chart I – Annual Summary of Carmel Valley Master Plan Residential Development Activity
Chart II – Annual Summary of Carmel Valley Master Plan Subdivision/Lot Development
Chart III – Annual Summary of Carmel Valley Master Plan Visitor Accommodation Units
Subdivisions Approved Since 01/01/86 through 01/05/06 List in CVMP area
Active Subdivisions as of June 19, 2006 by Planning Area
Active Projects in the Carmel Valley Master Plan Area

Carmel Valley Master Plan Traffic Study
Table 1
Summary of Residential and Visitor-Serving Unit Forecasts by Traffic Analysis Zone
(Jones & Stokes, December 2006)

	All Residential Units Forecast Built After 2000			Visitor-Serving Units Forecast Built after 2000		
Buildout Period	**2000 - 2030**	**2000 - 2030**	**2000 - 2030**	**2000 - 2030**	**2000 - 2030**	**2000 - 2030**
Scenario	**Scenario B**	**Scenario A**	**No Project**	**Secnario B**	**Scenario A**	**No Project**
Total	**1188**	**1188**	**914**	**393**	**393**	**393**
Pipeline	**281**	**0**	**0**	**0**	**0**	**0**
TAZ/ Avail Units	**252**	**533**	**259**	**285**	**285**	**285**
Approved	**655**	**655**	**655**	**108**	**108**	**108**
1256	5	9	9	0	0	0
1257	0	0	0	0	0	0
1258	0	0	0	0	0	0
1260	0	0	0	0	0	0
1261	1	2	3	0	0	0
1263	4	7	12	32	12	12
1265	1	2	3	13	5	5
1266	4	8	11	0	0	0
1267	2	3	4	0	0	0
1268	165	177	165	170	93	93
1271	13	25	15	44	32	32
1272	9	18	16	0	0	0
1273	0	1	0	0	0	0
1274	1	2	4	0	0	0
1278	32	43	34	0	0	0
1399	0	1	3	0	0	0
1402	27	27	29	40	40	40
1403	1	2	3	0	0	0
1404	197	234	176	0	0	0
1405	75	127	42	0	0	0
1406	16	29	7	0	0	0
1407	247	277	244	0	0	0
1408	5	9	13	0	0	0
1409	3	5	7	0	0	0
1410	7	13	17	94	36	36
1815	284	5	4	0	175	175
1819	0	1	3	0	0	0
1820	3	6	11	0	0	0
1822	33	58	37	0	0	0
1828	28	52	17	0	0	0
1846	1	2	3	0	0	0
1848	0	0	0	0	0	0
1849	23	42	21	0	0	0

Carmel Valley Master Plan Traffic Study
Table 2
Summary of Residential and Visitor-Serving Unit Forecasts by Traffic Analysis Zone
(Jones & Stokes, December 2006)

	All Residential Units Built After 2000			New Residential Units			Buildout of Approved	Approved Subdivisions Not yet built	Approved Units 1999 - 2005	Visitor-Serving Units	Visitor-Serving Units
Buildout Period	**2000 - 2030**	**2000 - 2030**	**2000 - 2030**	**2006 - 2030**	**2006 - 2030**	**2006 - 2030**	**2000-2030**	**2000-2030**	**2000-2030**	**2000 - 2030**	**2000 - 2030**
Scenario	**Scenario B Res**	**Scenario A Res**	**No Project Res**	**Scenario B Res**	**Scenario A Res**	**No Project Res**	**Res-All Scenarios**	**Res-All Scenarios**	**Res-All Scenarios**	**Scenario B - VS**	**No Project/ Scenario A - VS**
Total	**1188**	**1188**	**914**	533	533	259	655	580	75	393	393
Pipeline	**281**	**0**	**0**	281	0	0	0	0	0	0	0
TAZ/ Avail Units	**252**	**533**	**259**	252	533	259	0	0	0	285	285
Approved	**655**	**655**	**655**				655	580	75	108	108
Percent Buildout				**16%**	**33%**	**87%**					
1256	5	9	9	4	8	8	1		1	0	0
1257	0	0	0	0	0	0	0		0	0	0
1258	0	0	0	0	0	0	0		0	0	0
1260	0	0	0	0	0	0	0		0	0	0
1261	1	2	3	1	2	3	0		0	0	0
1263	4	7	12	3	6	11	1		1	32	12
1265	1	2	3	1	2	3	0		0	13	5
1266	4	8	11	3	7	10	1		1	0	0
1267	2	3	4	2	3	4	0		0	0	0
1268	165	177	165	10	22	10	155	151	4	170	93
1271	13	25	15	10	22	12	3		3	44	32
1272	9	18	16	7	16	14	2		2	0	0
1273	0	1	0	0	1	0	0		0	0	0
1274	1	2	4	1	2	4	0		0	0	0
1278	32	43	34	11	22	13	21	17	4	0	0
1399	0	1	3	0	1	3	0		0	0	0
1402	27	27	29	1	1	3	26	26	0	40	40
1403	1	2	3	1	2	3	0		0	0	0
1404	197	234	176	33	70	12	164	154	10	0	0
1405	75	127	42	47	99	14	28	14	14	0	0
1406	16	29	7	12	25	3	4		4	0	0
1407	247	277	244	26	56	23	221	213	8	0	0
1408	5	9	13	4	8	12	1		1	0	0
1409	3	5	7	1	3	5	2	2	0	0	0
1410	7	13	17	5	11	15	2		2	94	36
1815	284	5	4	283	4	3	1		1	0	175
1819	0	1	3	0	1	3	0		0	0	0
1820	3	6	11	2	5	10	1		1	0	0
1822	33	58	37	23	48	27	10	3	7	0	0
1828	28	52	17	22	46	11	6		6	0	0
1846	1	2	3	1	2	3	0		0	0	0
1848	0	0	0	0	0	0	0		0	0	0
1849	23	42	21	18	37	16	5		5	0	0

Carmel Valley Master Plan Traffic Study
Table 3
Summary of Pipeline Projects
(Jones & Stokes, December 2006)

Pipeline Subdivisions	Description	Number	Units	TAZ	Location	Status	In Forecast	CVMP Horizon	Notes
Rancho Canada Village (PLN040061)	Residential	281	Units	1815	Lower Carmel Valley	Application	Yes	2030	
Krasznekewicz	Residential	0	Units	1404	Mid-Valley	Proposed	Yes	2030	No new building sites
Wang	Residential		Units			Incomplete	No		
Carmel Valley Ranch	Visitor		Units			Proposed	No		No new units
Agha	Residential		Units			Incomplete	No		
Total	Residential	281	Units						
Residential Quota > 2006		533	Units						
Remaining residential Quota>2006		252	Units						

Carmel Valley Master Plan Traffic Study
Table 4
Summary of Residential and Subdivision Approvals
(Jones & Stokes, December 2006)

Legacy Approvals	Description	Status	In Forecast	Res	Visitor	CVMP Horizon	Notes
Residential SFDS/adjunct	Residential - existing lots	Approved, 1987- 1998	No	379.5		2000	
Residential SFDS/adjunct	Residential - existing lots	Approved, 1999 - 2005	Yes	75.5		2030	
Approved Subdivisions	Residential - new lots	Approved, 1987 - 2006	No	30		2000	
Approved Subdivisions	Residential - new lots	Approved, 1987 - 2006	Yes	292		2030	
Approved Visitor- Serving	Visitor-Serving	Approved, 1987 - 2006	No		32	2000	
Approved Visitor- Serving	Visitor-Serving	Approved, 1987 - 2006	Yes		108	2030	
	ALL	Approved, 1987 - 2006		777	140		
	In Forecast	Approved, 1987 - 2006		367.5	108		
New Residential	Quota as of 1987	1987 - 2006		1310			
New Residential	Remainder	2006 - 2030	Yes	533			
New Visitor-Serving	Quota as of 1987	1987 - 2006			425		
New Residential	Remainder	2006 - 2030	Yes		285		

Carmel Valley Master Plan Traffic Study
Table 5
Summary of Previously Approved and Pending Developments
(Jones & Stokes, December 2006)

Legacy Approvals	Location	Status	TAZ	In Forecast	Approved	Forecast	Not Approved	CVMP Horizon	Notes
Fiskdale Subdivision (Quintana) (SB00814)	Mid-Valley	Approved	1405	Yes	14	14		2030	Assume not built as of 2000
Berta Ranch Subdivision (SB00786)	Upper Valley	Approved	1278	Yes	8	8		2030	Assume not built as of 2000
Quail Meadows Expansion (SB000843)	Mid Valley	Approved 1991	1402	Yes	52	26		2030	Assume 50% built (Potrero EIR)
Tehama Subdivision (Canada Woods) (SB00886)	Mid-Valley	Approved 1993	1404	Yes	59	59		2030	Assume not built as of 2000 (Potrero EIR)
Mills College (MS95005)	Mid Valley	Approved 1995	NA	No	4	0		2000	Assume built as of 2000.
Rancho San Carlos (Santa Lucia Preserve)	Mid-Valley	Approved 1996	1407/1268	Yes	321	321		2030	Assume mostly not built as of 2000 (Potrero EIR) 288 units outside CVMP; 33 units inside CVMP
Carmel Valley Investors, LLC (PLN 990386)	Upper Valley	Approved 2000	1278	Yes	3	3		2030	
Monterey Residential Group (PLN980664)	Upper Valley	Approved 2000	1278	Yes	4	4		2030	
Page & Lamont (PLN980343)	Upper Valley	Approved 2000	1822	Yes	3	3		2030	
Robinson (PLN 980146)	Upper Valley	Approved 2000	1278	Yes	2	2		2030	
Kaminske (MS96006)	Mid Valley	Approved 2003	1409	Yes	2	2		2030	
Carmel Valley Ranch Subdivision (PLN020280)	Mid-Valley	Approved 2004	1268	Yes	12	12		2030	
Liggett Subdivision (PLN030040)	Mid Valley	Approved 2005	1268	Yes	2	2		2030	
Rancho San Carlos (Portrero Subdvision)	Mid Valley	Approved 2005	1407	Yes	29	29		2030	
September Ranch (PC95062/PLN050001)	Mid-Valley	Approved 2006	1404	Yes	95	95		2030	
Total				ALL	610	580			
				In CVMP	322	292			
				Not in CVMP	288	288			
Other Residential Subdivision Projects	**Location**	**Status**	**TAZ**	**In Forecast**		**Forecast**	**Not Approved**	**CVMP Horizon**	**Notes**
Dow Mitchell Apartments (PLN030259)	Lower Carmel Valley	Proposed/ Incomplete: Water Issues		No			89	NA	
Agha Subdivision (PLN990274)`	Mid-Valley	Proposed/ Incomplete: Water & Traffic Issues		No			20	NA	
Kenny-McFarland: Note: No Project Found	Mid-Valley	No Application on File		No			0	NA	
Wang Subdivision (PLN010299)	Mid-Valley	Proposed/Incomplete		No			4	NA	
Airport Subdivision; Note: No Project Found	Upper Valley	No Application on File		No			0	NA	
Condon Subdivision: No Project Found	Upper Valley	No Application on File		No			0	NA	
Gardiner Tennis Ranch Subdivision: No Project Fo	Upper Valley	No Application on File		No			0	NA	
Stemple: (PLN040341)	Upper Valley	Proposed: Lot Line Adjustment		No			TBD	NA	
Carmel Valley Ranch (SB00858)	Mid-Valley	Withdrawn 1989		No			89	NA	

Carmel Valley Master Plan Traffic Study
Table 6
Summary of Residential and Visitor-Serving Unit Forecasts by Traffic Analysis Zone
(Jones & Stokes, December 2006)

Legacy Approvals	Description	Number	Units	Location	Status	TAZ	In Forecast	Visitor	CVMP Horizon	Notes
Quail Meadows (PC 7012)	Visitor-Serving	40	units	Mid-Valley	Approved 1991	1402	Yes	40	2030	Assumed not built as of 2000 (Potrero EIR)
Carmel Valley Ranch (PC 94-146)	Visitor-Serving	44	units	Mid Valley	Approved 1995	1268	Yes	44	2030	Assumed not built as of 2000 (Potrero EIR)
Carmel Valley Ranch (PC 96-058)	Visitor-Serving	16.5	units	Mid Valley	Approved 1996	1268	No	16.5	2000	Building permits issued in 1996
Robles Del Rio Hotel Expansion (PLN970369)	Visitor-Serving	24	units	Upper Valley	Approved 1998	1271	Yes	24	2030	Assumed not built as of 2000
Carmel Valley Ranch	Visitor-Serving	13	units	Mid Valley	Approved 1997	1268	No	13	2000	Building permits issues in 1997
Carmel Valley Ranch	Visitor-Serving	2.5	units	Mid Valley	Approved 1998	1268	No	2.5	2000	Building permits issued in 1998
Carmel Valley Ranch *Wind Hotel) (PLN060056)	Visitor-Serving	0	N/A	Mid Valley	Approved 2006	1268	No		2030	No additional units
Total							Total	140		
							Forecast	108		

Other Projects	Description	Number	Units	Location	Status	TAZ	In Forecast	Visitor	CVMP Horizon	Notes
B & B/Events (unknown location)	Visitor-Serving	0	units	Upper Valley	No Application on File		No			

Carmel Valley Master Plan Traffic Study
Table 7
Summary of Commercial Developments
(Jones & Stokes, December 2006)

Commercial Projects	Number	Units	Location	Status	TAZ	In Forecast	CVMP Horizon	Notes
Gamboa/Sunrise Assisted Care (64 units)(PLN000357)	78	beds	Lower Carmel Valley	Approved		Yes	2030	Included in AMBAG Commercial past or future
Carmel Valley Partners (Safeway Crossroads Expansion) (PLN020032)	22,000	SF	Lower Carmel Valley (A.P.N. 187-481-001-000)	Approved 2004		Yes	2030	Included in AMBAG Commercial past or future
Mirabito Self Storage Compound	64,000	SF	Mid-Valley	Approved		Yes	2030	Included in AMBAG Commercial past or future
Holman Winery (PLN020308)	TBD	SF	Upper Valley	Proposed:Tabled		No	NA	No Action, if later approved, covered by AMBAG

CHART I - ANNUAL SUMMARY OF CARMEL VALLEY MASTER PLAN RESIDENTIAL DEVELOPMENT ACTIVITY

SINGLE FAMILY DWELLING UNIT TALLY	*ADJUNCT UNIT TALLY*	*BUILDOUT SUMMATION*
(1) # of single family dwelling building permits issued on vacant lots of record existing on 12/16/86	*(6) Caretaker Units on 12/16/86 lots*	*(13) Yearly total of all dwelling units (1st units and adjunct units)*
(2) Balance of 572 vacant lots existing after lots issued building permits have been subtracted	*(7) Caretaker units on lots after 1/1/87*	*(14) Running total (year + all prior of CVMP buildout)*
(3) # of single family dwelling building permits on lots created since 1/1/87	*(8) Senior Units (x 0.5) on 12/16/86 lots*	*(15) Balance of units (1310 - all units built through year of report)*
(4) Balance of lots created since 1/1/87 minus those issued single family dwelling permits	*(9) Senior units (x 0.5) on lots after 1/1/87*	
(5) Balance of all lots (new and old) remaining vacant, available for development (sum of 2 and 4)	*(10) Employee/Apt. units on 12/16/86 lots*	
	(11) Employee/Apt. units on lots after 1/187	
	(12) Total of all adjunct units on all lots	

Year	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
1986	4	568	0	0	568	0	0	0	0	0	0	0	4	4	1306
1987	31	537	0	0	537	0	0	0	0	0	0	0	31	35	1275
1988	30	507	0	0	507	0	0	0	0	0	0	0	30	65	1245
1989	35	472	0	0	472	0	0	.5	0	0	0	.5	35.5	100.5	1290.5
1990	19	453	0	0	453	2	0	100	0	0	0	102	121	221.5	1088.5
1991	23	430	0	57	487	3	0	0	0	0	0	3	26	247.5	1062.5
1992	10	420	0	57	477	1	0	0	0	0	0	1	11	258.5	1051.5
1993	6	414	4	53	467	0	0	0	0	0	0	0	10	268.5	1051.5
1994	14	400	5	48	448	0	0	0	0	0	8	8	27	295.5	1014.5
1995	17	383	3	48	431	1	0	0	0	0	0	1	21	316.5	993.5

	SINGLE FAMILY DWELLING UNIT TALLY	*ADJUNCT UNIT TALLY*	*BUILDOUT SUMMATION*
	(1) # of single family dwelling building permits issued on vacant lots of record existing on 12/16/86 *(2) Balance of 572 vacant lots existing after lots issued building permits have been subtracted* *(3) # of single family dwelling building permits on lots created since 1/1/87* *(4) Balance of lots created or deleted since 1/1/87 minus those issued single family dwelling permits (see Chart II, Column "F")* *(5) Balance of all lots (new and old) remaining vacant, available for development (sum of 2 and 4)*	*(6) Caretaker Units on 12/16/86 lots* *(7) Caretaker units on lots after 1/1/87* *(8) Senior Units (x 0.5) on 12/16/86 lots* *(9) Senior units (x 0.5) on lots after 1/1/87* *(10) Employee/Apt. units on 12/16/86 lots* *(11) Employee/Apt. units on lots after 1/187* *(12) Total of all adjunct units on all lots*	*(13) Yearly total of all dwelling units (1st units and adjunct units)* *(14) Running total (year + all prior of CVMP buildout)* *(15) Balance of units (1310 - all units built through year of report)*

Year	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*	*(15)*
1996	37.5	320.5[(1)]	5	43	363.5	0	1	0	0	0	0	1	43.5	360.0	950
1997	37[(2)]	283.5	3	40	323.5	1	1	0	0	0	0	2	42	402.0	908
1998	5	278.5	3	37	315.5	2	0	0.5 (1)	0	0	0	2.5	10.5	412.5	897.5
1999	5	273.5	2	35	308.5	0	0	0.5 (1.5)	0	0	0	.5	7.5	420	890
2000	10	263.5	8	36	299.5	0	3	0	0	0	0	3	21	441	869
2001	7	256.5	3	33	289.5	3	0	0	0	0	0	3	13	454	856
2002	10	246.5	4	29	275.5	2	2	0.5 (2)	0	0	0	4.5	18.5	472.5	837.5
2003	16	230.5	1	29	259.5	1	1	0.5 (2.5)	0	0	0	2.5	19.5	492	818
2004	11	219.5	1	28	247.5	1	0	0	0	0	0	1	13	505	805
2005	7	212.5	8	46	258.5	1	1	0	0	0	0	2	17	522	788
TOTALS	334.5	212.5	50	46	258.5	18	9	102.5	0	0	8	137.5	522	522	788

(1) **25 lots were deducted due to a merger of 25 lots at Carmel Valley Ranch, 'Area F'.**

(2) **1997 (through 6/30/97) – 8 in Carmel Valley Ranch count as visitor accommodations but are subtracted from available legal lots of record since the VO units are constructed 1 each on legal lots in Carmel Valley Ranch (See also Chart III)**

Chart I Annual Summary of CVMP Residential Lots - Revised 01/25/06

CHART II - ANNUAL SUMMARY OF CARMEL VALLEY MASTER PLAN SUBDIVISION/LOT DEVELOPMENT

LOT TALLY

A = Remaining Vacant Lots of Record from 572 existing on 12/16/86 when CVMP was adopted.

B = Lots created (+) or merged (-) since 1/1/87.

C = Vacant Lots (new and old) available for SFDs

LOT ALLOCATION

D = Lots Allocated by the Board of Supervisors from review of Preliminary Project Review Maps

E = Accumulated lots @ 37/year (add 37 each year subtract allocation)

F = Final Map Recorded Lots (new lots)

G = Balance of Lots remaining in the quota 738 - (All Adjunct Units and New Lots Created since 1/1/87/Subtract merged lots from F; Add merged lots back into G)

H = Average lot creation over remainder of plan years

Year	A	B	C	D	E	F	G	H
1986	568	0	568	0	37		738	36.9/yr.
1987	537	0	537	0	74		738	38.8
1988	507	0	507	0	111		738	41.0
1989	472	0	472	58 (57 Quail Meadows, 1 Taylor MS)	148 - 58 = 90		737.5	43.4
1990	453	0	453	0	127		635.5	39.7
1991	430	+57	487	0	164	+57 (Quail Meadows Subdivision)	575.5	38.4
1992	420	0	477	86 (Carmel Greens)	201 - 86 = 115		574.5	41.0
1993	414	0	467	73 (44 Canada Woods, 29 Veeder Ranch)	152 - 73 = 79		574.5	44.2
1994	400	0	448	0	116		566.5	47.2
1995	383	+3	431	13 (3 Mills College MS, 10 Canada Woods)	153 - 13 = 140	+3 (Mills College Minor Subdivision)	562.5	51.1

	LOT TALLY			LOT ALLOCATION				
	A = Remaining Vacant Lots of Record from 572 existing on 12/16/86 when CVMP was adopted. B = Lots created (+) or merged (-) since 1/1/87. C = Vacant Lots (new and old) available for SFDs (No. 5 from Chart I.)			D = Lots Allocated by the Board of Supervisors from review of Preliminary Project Review Maps E = Accumulated lots @ 37/year (add 37 each year subtract allocation) F = Final Map Recorded Lots (new lots) G = Balance of Lots remaining in the quota 738 - (All Adjunct Units and New Lots Created since 1/1/87/Subtract merged lots from F; Add merged lots back into G) H = Average lot creation over remainder of plan years				
Year	A	B	C	D	E	F	G	H
1996	320.5	-24	363.5	0	177	- 25 Lots (CV Ranch Area F Merger)	651	65.1
1997	283.5	0	323.5	0	214	0	589	65.4
1998	278.5.5	0	315.5	117 September Ranch	251-117=134	0	586.5	73.3
1999	273.5	0	308.5		171	0	586	
2000	263.5	9	299.5			9 (1 Robinson,2 Page & Lamont, 4 Monterey Residential Group & 2 Carmel Valley Investors LLC)	574	
2001	256.5	0	289.5			0	571	
2002	246.5	0	275.5			0	566.5	
2003	230.5	1	259.5			1 (Kaminske)	563	
2004	219.5	0	247.5	Carmel Valley Ranch		-(Litigation [Carmel Valley Ranch])	562	
2005	212.5	26	258.5	24 (Potrero Subdivision - [Rancho San Carlos])		26	534	
TOTALS				*347 TOTAL ALLOCATED*	*134*	*35*		

CHART III - ANNUAL SUMMARY OF CARMEL VALLEY MASTER PLAN VISITOR ACCOMMODATION UNITS

	WEST OF VIA MALLORCA (POLICY 28.1.26[CV])		*EAST OF VIA MALLORCA (POLICY 28.1.27)*		*DEVELOPMENT*	
Year	*Units Approved*	*Units Remaining*	*Units Approved*	*Units Remaining*	*File Number*	*Project Name*
1986	0	175	0	250		
1987	0	175	0	250		
1988	0	175	0	250		
1989	0	175	0	250		
1990	0	175	0	250		
1991	0	175	40	210	PC 7012	Quail Meadows
1992	0	175	0	210		
1993	0	175	0	210		
1994	0	175	0	210		
1995	0	175	44	166	PC 94-146	Carmel Valley Ranch
1996	0	175	16.5*	149.5*	PC 96-058	*Carmel Valley Ranch

	WEST OF VIA MALLORCA (POLICY 28.1.26[CV])		*EAST OF VIA MALLORCA (POLICY 28.1.27)*		*DEVELOPMENT*	
Year	*Units Approved*	*Units Remaining*	*Units Approved*	*Units Remaining*	*File Number*	*Project Name*
1997	0	175	24 (Gurries) 13 (CVR) 37	112.5	PLN 970369 PC96-058	Gurries Carmel Valley Ranch Area F
1998	0	175	5/2 = 2.5	110	PC96-058 (Bldg. Pmts)	Carmel Valley Ranch Area F
1999	0	175	0	110		
2000	0	175	0	110		
2001	0	175	0	110		
2002	0	175	0	110		
2003	0	175	0	110		
2004	0	175	0	110		
2005	0	175	0	110		

*Pursuant to Resolution 95068 (PC 96017) by the Monterey County Planning Commission July 31, 1996, one half of all dwelling units issued building permits in Oak Place (Area F) of Carmel Valley Ranch may be utilized as Visitor Accommodation Units. In 1996 building permits were issued for 33 units. One half are counted on Chart III as "Units approved east of Via Mallorca, one half are counted on Chart I as single family dwellings on lots in the original 572 lots of record after 1/1/87 (see Chart I, Column 1).

Chart III Annual Summary of Carmel Valley Master Plan Visitor Accommodation Units – Revised 03/22/06

Monterey County Planning & Building Inspection Department

Subdivisions Approved since 1/1/86 as of Thursday, January 5, 2006

(Carmel Valley Master Plan Area)

Total Project Count =**12**

Project Title	File No.	APN	Planner	Type	Lots	Application Date	Final Decision	Description
Carmel Valley Master Pln								
1989								
CARMEL VALLEY RANCH	SB00858	416-522-012-000	PANZER	Standard Subdivision	0	02/15/1989	10/03/1989	REVISED STANDARD SUBDIVISION TENTATIVE MAP TO ALLOW DIVISION OF A 75 ACRE PARCEL INTO 89 PARCELS AND THREE YEAR EXTENSION OF THE TENTATIVE MAP WITHDREW REVISED TENTATIVE MAP - RECOMMENDED TO BOARD TIME EXTENSION
					0.00			
1991								
QUAIL MEADOWS SUBDIVISION	SB00843	157-121-019-000	MOUNDAY	Standard Subdivision	0	02/24/1988	08/20/1991	PRELIMINARY PROJECT REVIEW MAP FOR A STANDARD SUBDIVISION TO ALLOW DIVISION OF A 616 ACRE PARCEL INTO 56 RESIDENTIAL LOTS, 9 INCLUSIONARY HOUSING UNITS ON PARCEL A, SEMINAR CENTER ON PARCEL C, 6 PARCELS TO BE DONATED TO BIG SUR LAND TRUST AND 3 OPEN SPAC
					0.00			
1993								
CANADA WOODS SUBDIVISION	SB00886	169-011-004-000-M	TOWNER	Standard Subdivision	0	01/29/1991	06/15/1993	PRELIMINARY PROJECT REVIEW MAP FOR A STANDARD SUBDIVISION TO ALLOW DIVISION OF A 550 ACRE PARCEL INTO 59 PARCELS RANGING IN SIZE FROM 1.0 ACRES TO 89.9 ACRES EACH, INCLUDING 45 PARCELS FOR RESIDENTIAL DEVELOPMENT, 2 PARCELS FOR AGRICULTURAL USE, 1 PARCEL
					0.00			
1995								
MILLS COLLEGE	MS95005	169-181-043-000	HOPKINS	Minor Subdivision	4	03/22/1995	05/24/1995	MINOR SUBDIVISION TO DIVIDE A 23.8 ACRE PARCEL INTO FOUR NEW PARCELS OF 5, 3.8, 2.5, 2.5 ACRES IN SIZE WITH A 10 ACRE REMAINDER PARCEL
					4.00			
2000								
ROBINSON	PLN980146	197-011-008-000	BEARDALL	Minor Subdivision	1	07/01/1999	05/25/2000	Minor subdivision of 7.23 acres to create 2 lots of 2.5 acres and 4.73 acres on property located at 69 East Carmel Valley Road, north side of Carmel Valley Road, east of Carmel Valley Village, Carmel Valley Planning Area. Assessor's Parcel Number 197-011-008.

Project Title	File No.	APN	Planner	Type	Lots	Application Date	Final Decision	Description
PAGE & LAMONT	PLN980343	187-021-025-000	BEARDALL	Minor Subdivision	2	10/22/1998	03/09/2000	Tentative Parcel Map to allow division of a 291.78-acre parcel into 2 parcels of 10.0 acres and 16.0 acres, and a remainder parcel of 265.78 acres; located on Parcel 3, Los Laureles Rancho, fronting on and westerly of Country Club Heights Lane, Carmel Valley. Assessor's Parcel Number 187-021-025.
MONTEREY RESIDENTIAL GROUP	PLN980664	197-231-005-000-M	LEON	Minor Subdivision	3	06/17/1999	11/16/2000	Continued from 10/26/00. Combined Development Permit to allow a Vesting Tentative Parcel Map to allow subdivision of a 1,000.46 acre lot into 4 lots and a 563.41 acre remainder, ranging in size from 102.10 acres to 142.75 acres; Use permit for development on slopes in excess of 30% for road improvements; removal of up to 30 protected trees. The property is located 2 miles east of Carmel Valley Village, north of Carmel Valley Rd, 1/4 mile east of Holman Rd (Assessor's Parcel Number 197-231-005-000), Carmel Valley Master Plan and Toro Area Plan.
CARMEL VALLEY INVESTORS LLC	PLN990386	197-231-004-000-M	LEON	Minor Subdivision	2	10/18/1999	11/16/2000	Continued from 10/26/00. Vesting Tentative Minor Subdivision to allow subdivision of a 1,035.93 acre parcel into 3 lots, ranging in size from 268.07 acres to 414.52 acres; Use Permit for devleopment on slopes in excess of 30% for road improvements; removal of up to 30 protected trees. The property is located 2 miles east of Carmel Valley Village, north of Camel Valley Rd, 1/4 mile east of Holman Rd (Assessor's Parcel Number 197-231-004-000), Carmel Valley Master Plan and Toro Area Plan.
					8.00			
2003								
KAMINSKE	MS96006	169-131-014-000	LEON	Minor Subdivision	1	05/09/1996	03/26/2003	TENTATIVE PARCEL MAP TO ALLOW DIVISION OF A 7.7 ACRE PARCEL INTO 2 PARCELS OF 2.0 ACRES AND 5.7 ACRES EACH. THE PROPERTY IS LOCATED AT 9560 CENTER STREET, AT CARMEL VALLEY ROAD, EAST OF BERWICK DRIVE AND NORTH OF ROBINSON CANYON ROAD (ASSESSOR'S PARCEL NUMBER 169-131-014), CARMEL VALLEY.
					1.00			
2004								

Project Title	File No.	APN	Planner	Type	Lots	Application Date	Final Decision	Description
CARMEL VALLEY RANCH LLP	PLN020280	416-522-020-000	OSORIO	Standard Subdivision	0	02/25/2003	07/13/2004	COMBINED DEVELOPMENT PERMIT INCLUDING: 1) STANDARD SUBDIVISION TENTATIVE MAP FOR THE SUBDIVISION OF AN EXISTING, APPROXIMATELY 218-ACRE PARCEL INTO 12 RESIDENTIAL LOTS APPROXIMATELY 6.8 TO 16.9 ACRES IN SIZE AND 4 OPEN SPACE PARCELS TOTALLING APPROXIMATELY 99 ACRES; 2) USE PERMIT FOR DEVELOPMENT ON SLOPES GREATER THAN 30% FOR CONSTRUCTION OF AN ACCESS ROAD; 3) USE PERMIT FOR REMOVAL OF 193 PROTECTED OAK TRESS; 4) ZONING RECLASSIFICATION TO REZONE 11 EXISTING LOTS IN THE OAKSHIRE SUBDIVISION FROM "MDR/5-D-S" (MEDIUM DENSITY RESIDENTIAL) TO "O-D-S" (OPEN SPACE); AND 5) ASSIGNMENT OF THE "LDR/B-6-D-S" ZONING CLASSIFICATION (LOW DENSITY RESIDENTIAL WITH BUILDING SITE, DESIGN AND SITE REVIEW OVERLAYS) TO THE RESIDENTIAL PORTION OF THE PROPOSED SUBDIVISION AND THE "O-D-S" ZONING CLASSIFICATION (OPEN SPACE WITH DESIGN AND SITE REVIEW OVERLAYS) TO THE OPEN SPACE PORTIONS OF THE SUBDIVISION. THE SITE OF THE PROPOSED SUBDIVISION IS LOCATED IN THE AREA DESIGNATED AS "LAND RESERVE" IN THE CARMEL VALLEY RANCH SPECIFIC PLAN. THE SUBDIVISION WOULD NOT RESULT IN THE CREATION OF ADDITIONAL LOTS AS 11 OF THE PROPOSED RESIDENTIAL LOTS WOULD SUBSTITUTE 11 EXISTING UNDEVELOPED LOTS IN THE OAKSHIRE SUBDIVISION OF THE SPECIFIC PLAN. THE PROJECT SITE (ASSESSOR'S PARCEL NUMBERS 416-522-020-000 & 416-522-017-000) IS LOCATED IN THE SOUTHWESTERN PORTION OF THE CARMEL VALLEY RANCH WITH PORTIONS FRONTING ON ROBINSON CANYON ROAD, CARMEL VALLEY MASTER PLAN.
					0.00			
2005								
POTRERO SUBDIVISION, RSC	PLN010001	239-102-001-000-M	NOVO	Standard Subdivision	25	04/19/2001	02/15/2005	COMBINED DEVELOMENT PERMIT CONSISTING OF A VESTING TENTATIVE MAP TO ALLOW THE DIVISION OF A 1,286 ACRE PARCEL INTO 29 LOTS RANGING IN SIZE FROM 14.47 TO 67.21 ACRES; GRADING (APPROXIMATELY 29,600 CUBIC YARDS); A USE PERMIT TO ALLOW THE REMOVAL OF UP TO 295 PROTECTED TREES AND A USE PERMIT TO ALLOW FOR DEVELOPMENT ON SLOPES 30 PERCENT OR GREATER. THE SITE IS LOCATED EAST OF RANCHO SAN CARLOS ROAD AND WEST OF ROBINSON CANYON ROAD, CARMEL VALLEY (ASSESSOR'S PARCEL NUMBERS 239-102-001-000, 239-102-002-000, 239-102-003-000 AND 239-101-032-000), IN THE POTRERO CREEK AREA OF THE SANTA LUCIA PRESERVE (RANCHO SAN CARLOS), CARMEL VALLEY AREA.

Project Title	File No.	APN	Planner	Type	Lots	Application Date	Final Decision	Description
LIGGETT HOWARD JOHN IV	PLN030040	416-021-038-000	OSORIO	Minor Subdivision	1	03/05/2003	12/08/2005	COMBINED DEVELOPMENT PERMIT CONSISTING OF: 1) LOT LINE ADJUSTMENT TO ADJUST THE BOUNDARY BETWEEN TWO EXISTING LOTS OF RECORD OF 6.0 AND 58.2 ACRES, RESULTING IN TWO LOTS OF APPROXIMATELY 14.0 AND 50.2 ACRES RESPECTIVELY; AND 2) MINOR SUBDIVISION TENTATIVE PARCEL MAP FOR THE DIVISION OF THE RESULTING 50.2-ACRE LOT INTO TWO LOTS OF APPROXIMATELY 19.7 AND 30.6 ACRES. THE SUBJECT PROPERTY IS LOCATED AT 29001 ROBINSON CANYON ROAD, (ASSESSOR'S PARCEL NUMBERS 416-021-038-000 AND 416-021-039-000), ROBINSON CANYON ROAD AREA, CARMEL VALLEY MASTER PLAN AREA.
					:6.00			

Total Lots Created: **39**

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{Apd_Base.Sub_Type} in ["MS", "SUB"] and
{Apd_Txt0.Text_040} = "Carmel Valley Master Pln" and
{Apd_Base.Data_Status} in ["APPEALED", "APPROVED", "CLEARED", "COND"] and
{Apd_Base.Comp_Type} in ["PLAN_OTH", "PLANNING", "SP_HANDL"] and
{Apd_Base.Date_F}

Monterey County Planning & Building Inspection Department

Active Subdivisions as of Monday, June 19, 2006 by Planning Area

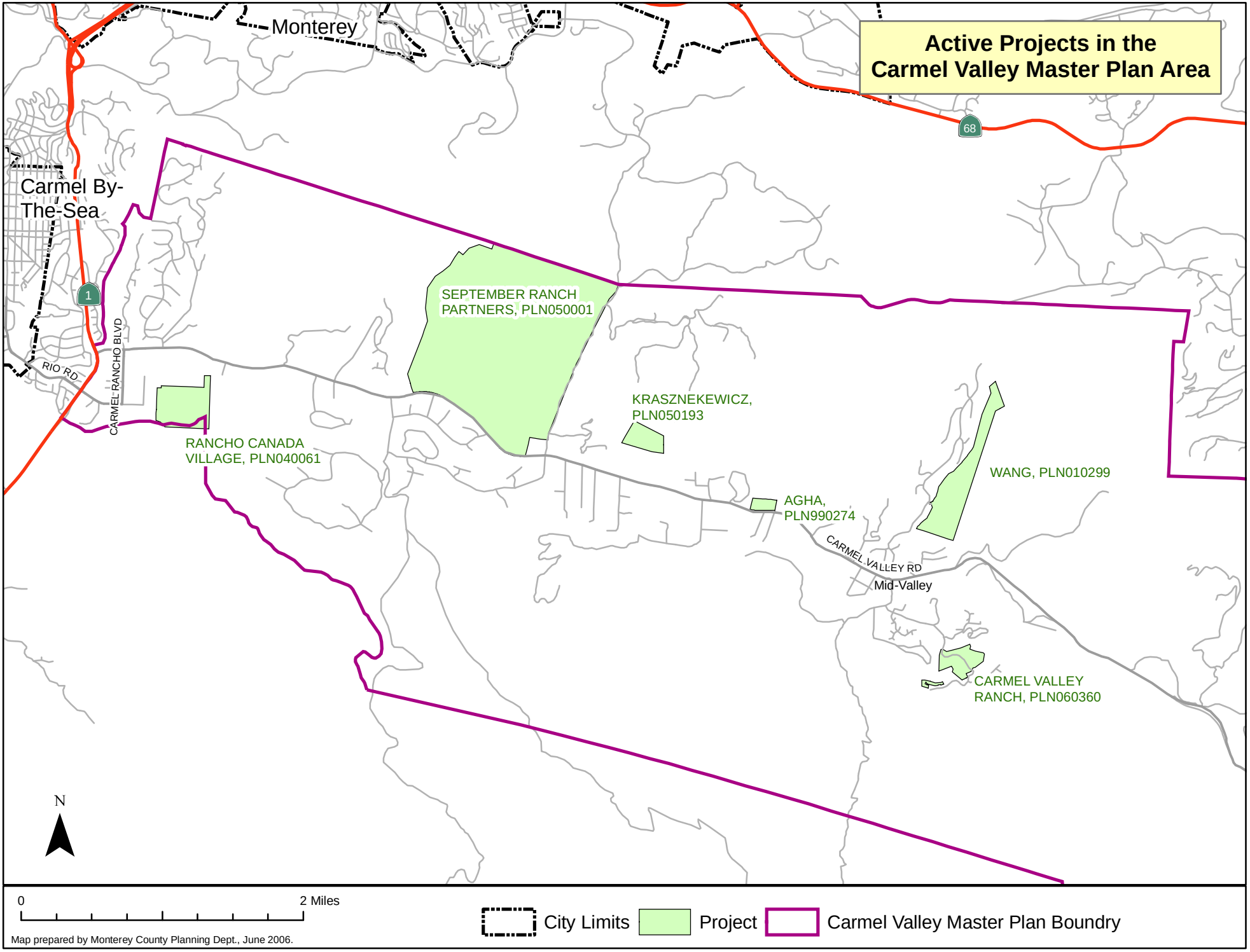
Total Project Count =**6**

Project Title	File No.	APN	Planner	Type	Application Date	Status	Description
Carmel Valley Master Pln							

Project Title	File No.	APN	Planner	Type	Application Date	Status	Description
SEPTEMBER RANCH PARTNERS	PLN050001	015-171-010-000	KNASTER	Standard Subdivision	06/16/1995	SET	CONTINUED FROM 4/13/06. CONSIDER THE REVISED DRAFT ENVIRONMENTAL IMPACT REPORT (RDEIR) FOR THE SEPTEMBER RANCH PROJECT AND MAKE A RECOMMENDATION TO THE MONTEREY COUNTY PLANNING COMMISSION REGARDING THE RDEIR AND THE ADEQUACY OF THE FINDINGS, EVIDENCE, CONDITIONS AND MITIGATIONS FOR THE SEPTEMBER RANCH PARTNERS COMBINED DEVELOPMENT PERMIT (PC95062/PLN050001) WHICH CONSISTS OF: 1) A REVISED PRELIMINARY PROJECT REVIEW MAP & VESTING TENTATIVE MAP FOR THE SUBDIVISION OF 891 ACRES INTO 94 MARKET-RATE RESIDENTIAL LOTS AND 15 INCLUSIONARY HOUSING LOTS FOR A TOTAL OF 109 RESIDENTIAL LOTS; A 20.2-ACRE LOT (LOT 101) FOR THE EXISTING EQUESTRIAN FACILITY & FARM HOUSE; 472 ACRES OF COMMON OPEN SPACE (PARCELS A,C & D); 319 ACRES OF PRIVATE OPEN SPACE (SCENIC EASEMENT) ON EACH RESIDENTIAL LOT OUTSIDE OF THE BUILDING ENVELOPE; A SEWAGE COLLECTION AND WASTEWATER TREATMENT SYSTEM ON A 7-ACRE PARCEL (PARCEL B) OR ANNEXATION TO THE CARMEL AREA WASTEWATER DISTRICT FOR PUBLIC SEWAGE DISPOSAL; SEPARATE WATER SYSTEMS WITH TWO WELLS, ONE BACKUP WELL, BOOSTER PUMPS AND PIPING FOR DISTRIBUTION OF POTABLE WATER; AND WATER TANKS FOR FIRE SUPPRESSION; 2) A USE PERMIT FOR THE PUBLIC/COMMERCIAL USE OF THE EQUESTRIAN CENTER & STABLES; 3) A USE PERMIT FOR REMOVAL OF A MAXIMUM OF 3,582 TREES, INCLUDING 2,692 MONTEREY PINES AND 890 COAST LIVE OAKS, FOR SUBDIVISION INFRASTRUCTURE IMPROVEMENTS AND MAXIMUM POTENTIAL REMOVAL WITHIN EACH BUILDING ENVELOPE; 4) A USE PERMIT FOR 100,000 CUBIC YARDS OF GRADING IN AN "S" (SITE PLAN REVIEW) OVERLAY ZONING DISTRICT FOR SUBDIVISION INFRASTRUCTURE IMPROVEMENTS; 5) A WAIVER OF THE POLICY PROHIBITING DEVELOPMENT ON SLOPES 30 PERCENT OR MORE FOR SUBDIVISION INFRASTRUCTURE IMPROVEMENTS; AND 6) AN ADMINISTRATIVE PERMIT FOR A TRACT SALES OFFICE, SECURITY GATEHOUSE & GATE. OR CONSIDER A PROJECT ALTERNATIVE IDENTIFIED IN THE REVISED DRAFT ENVIRONMENTAL IMPACT REPORT (RDEIR) FOR THE SEPTEMBER RANCH PROJECT KNOWN AS THE "REDUCED FOREST IMPACT WITH HIGH INCLUSIONARY HOUSING ALTERNATIVE" AND MAKE A RECOMMENDATION TO THE MONTEREY COUNTY PLANNING COMMISSION REGARDING THE RDEIR AND THE ADEQUACY OF THE FINDINGS, EVIDENCE, CONDITIONS AND MITIGATIONS FOR THE PROJECT ALTERNATIVE WHICH WOULD RESULT IN A TOTAL OF 94 RESIDENTIAL LOTS (OR UNITS) WITH A NET REDUCTION OF 15 LOTS. THIS ALTERNATIVE CONSISTS OF: 1) THE SUBDIVISION OF 891-ACRES INTO 72 MARKET-RATE RESIDENTIAL LOTS RESULTING IN A REDUCTION OF 22 MARKET-RATE RESIDENTIAL LOTS; 22 INCLUSIONARY OR AFFORDABLE HOUSING LOTS OR UNITS RESULTING IN A TOTAL INCREASE OF 7 INCLUSIONARY HOUSING UNITS (FIFTEEN AFFORDABLE HOUSING LOTS ARE IDENTIFIED ON THE REVISED PRELIMINARY PROJECT REVIEW MAP AND THE VESTING TENTATIVE MAP AS LOTS 105-119; THE REMAINING 7 LOTS OR

Project Title	File No.	APN	Planner	Type	Application Date	Status	Description
KRASZNEKEWICZ JOHN & SARAH	PLN050193	169-031-019-000-M	MONTANO	Minor Subdivision	06/09/2005	COMPLETE	MINOR SUBDIVISION TENTATIVE MAP FOR THE DIVISION OF AN EXISTING 50 ACRE PARCEL INTO TWO PARCELS OF 6.7 AND 43.3 ACRES, RESPECTIVELY. THE MINOR SUBDIVISION AS PROPOSED WILL LOCATE TWO EXISTING SINGLE FAMILY DWELLING IN TWO SEPARATE PARCELS. NO ADDITIONAL BUILDING SITES OR SITE IMPROVEMENTS ARE INCLUDED AS PART OF THIS PROPOSAL. THE PROPERTY IS LOCATED AT 8025 CARMEL VALLEY ROAD, CARMEL (ASSESSOR'S PARCEL NUMBER 169-031-019-000), NORTH OF CARMEL VALLEY ROAD, CARMEL VALLEY MASTER PLAN AREA.

Project Title	File No.	APN	Planner	Type	Application Date	Status	Description
RANCHO CANADA VILLAGE	PLN040061	015-162-017-000-M	ONCIANO	Standard Subdivision	04/20/2005	COMPLETE	THE PROPOSED DEVELOPMENT APPLICATION INCLUDES THE FOLLOWING: 1) AMENDMENT TO THE CARMEL VALLEY MASTER PLAN; 2) PREPARATION OF A SPECIFIC PLAN; AND 3) REZONING TO TITLE 21 TO INCORPORATE NEW REGULATIONS ALLOWING MIXED USE ZONING DISTRICTS AND NEW REGULATIONS IN THE SPECIFIC PLAN AREA. COMBINED DEVELOPMENT PERMIT CONSISTING OF A VESTING TENTATIVE STANDARD SUBDIVISION TO CREATE 281 MIXED USE RESIDENTIAL UNITS CONSISTING OF: SINGLE FAMILY DWELLINGS, TOWN-HOMES AND CONDOMINIUM/FLATS; USE PERMIT TO ALLOW DEVELOPMENT IN THE FLOODWAY; USE PERMIT FOR MOVEMENT OF 200,000 CUBIC YARDS OF SOIL; USE PERMIT FOR DEVELOPMENT OF PUBLIC FACILITIES AND INSTALLATION OF INFRASTRUCTURE. THE PROPERTIES ARE LOCATED ON CARMEL VALLEY ROAD (ASSESSOR'S PARCEL NUMBERS 015-162-017-000, 015-162-025-000, 015-162-026-000, 015-162-039-000 AND 015-162-040-000), CARMEL VALLEY AREA.
WANG PETER C & GRACE L	PLN010299	169-021-009-000	OSORIO	Minor Subdivision	08/07/2002	SET	MINOR SUBDIVISION VESTING TENTATIVE PARCEL MAP FOR THE SUBDIVISION OF AN EXISTING 106-ACRE PARCEL INTO 4 LOTS OF 36, 22, 20 AND 28 ACRES RESPECTIVELY. THE PROPERTY IS LOCATED NORTH OF CARMEL VALLEY ROAD, EASTERLY OF TIERRA GRANDE ROAD, EAST OF THE MID VALLEY SHOPPING CENTER (ASSESSOR'S PARCEL NUMBER 169-021-009-000), CARMEL VALLEY AREA, CARMEL VALLEY MASTER PLAN.
CARMEL VALLEY RANCH	PLN060360	416-522-010-000	OSORIO	Standard Subdivision	05/23/2006	APPLIED	STANDARD SUBDIVISION TENTATIVE MAP FOR THE CONVERSION OF 144 EXISTING HOTEL UNITS AT THE CARMEL VALLEY RANCH INTO 144 INDIVIDUALLY-OWNED HOTEL UNITS. THE HOTEL UNITS ARE LOCATED ON TWO SEPARATE PARCELS AT 1 OLD RANCH ROAD, CARMEL VALLEY (ASSESSOR'S PARCEL NUMBERS 416-522-010-000 & 416-592-023-000), WITHIN THE CARMEL VALLEY RANCH, SOUTH OF CARMEL VALLEY ROAD, CARMEL VALLEY MASTER PLAN AREA.
AGHA DURELL D TR	PLN990274	169-011-009-000-M	SCHUBERT	Standard Subdivision	08/26/2002	INCOMP	STANDARD SUBDIVISION TENTATIVE MAP FOR THE SUBDIVISION OF AN EXISTING LOT OF RECORD OF 50 ACRES INTO 20 LOTS RANGING IN SIZE FROM 1.1 ACRES TO 5.2 ACRES, INCLUDING GRADING FOR THE CONSTRUCTION OF 20-FOOT WIDE ACCESS ROAD; AND A USE PERMIT FOR DEVELOPMENT ON SLOPES GREATER THAN 30 PERCENT (ACCESS ROAD). THE PROPERTY IS LOCATED NORTH OF LOS ARBOLES ROAD, CARMEL (ASSESSOR'S PARCEL NUMBER 169-011-015-000), MID CARMEL VALLEY AREA.


Active Projects in the
Carmel Valley Master Plan Area
Monterey
Carmel By-
The-Sea
1
68
RIO RD
CARMEL RANCHO BLVD
SEPTEMBER RANCH
PARTNERS, PLN050001
KRASZNEKEWICZ,
PLN050193
RANCHO CANADA
VILLAGE, PLN040061
AGHA,
PLN990274
WANG, PLN010299
CARMEL VALLEY RD
Mid-Valley
CARMEL VALLEY
RANCH, PLN060360
N
0
2 Miles
City Limits
Project
Carmel Valley Master Plan Boundry
Map prepared by Monterey County Planning Dept., June 2006.