Carmel Valley Traffic Improvement Program

Partial Revision of the Draft
Subsequent Environmental Impact Report

April 2009

Prepared for:
County of Monterey

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Carmel Valley Traffic Improvement Program
Partial Revision of the Draft Subsequent Environmental Impact Report

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Executive Summary (April 2009 Update)

Introduction

This summary presents the major findings of this Partial Revision of the Draft Subsequent Environmental Impact Report (PRDEIR) including the following:

- An description of the updated Carmel Valley Traffic Improvement Program , (CVTIP, proposed program, or proposed project) including proposed changes in Carmel Valley Master Plan (CVMP) policies which constitute a General Plan Amendment;
- an updated analysis of key issues, specifically concerning cumulative traffic impacts to a portion of State Route 1 and land use plan consistency;
- an updated discussion of areas of controversy; and
- an update to the summary of environmental impacts.

CEQA Requirements

This PRDEIR is being circulated for public comment on the new and/or revised analyses of the subjects addressed in this document. Upon completion of the public review period, a Final EIR will be prepared that includes responses to comments received on this PRDEIR and on the August 2007 Draft EIR, except for those comments on the Draft EIR that address topics discussed in this PRDEIR.

As allowed by CEQA Guidelines Section 15088.5, comments received on the August 2007 Draft EIR related to the topics addressed in this PRDEIR are part of the administrative record and have been considered when preparing this PRDEIR. However, the Final EIR will not respond to these previously received comments related to the topics in this PRDEIR. *Only comments received on this PRDEIR that address the topics included in this PRDEIR will be included and responded to in the Final EIR.*

The County will be responding in writing to comments submitted on the August 2007 Draft EIR related to the analysis of all other subject areas covered in the Draft EIR (e.g. issues other than the PRDEIR subjects) in the Final EIR for this project.

Updates to the Program Overview

Traffic Improvements

No changes to the traffic improvements in the CVTIP included in the August 2007 Draft EIR (DEIR) are proposed.

Several potential improvements to State Route (SR) 1 between Rio Road and Carpenter Street were considered by the County, but ultimately found to be financially infeasible.

CVMP Policy Revisions (General Plan Amendment)

A number of proposed CVMP amendments are now specifically included as part of the program. Most of these policy changes were implied by the findings of the prior traffic study and the August 2007 DEIR, but were not specifically articulated as proposed policy changes. In addition, the conclusions of the SR1 traffic study and evaluation of the feasibility to fund improvements have implications relative to certain CVMP policies referencing Hatton Canyon freeway and SR1. As the CVMP is part of the General Plan, changes to the CVMP policies would represent a General Plan Amendment.

The proposed policy changes mirror those proposed in the 2007 Draft General Plan and including the following:

- Policy 39.1.6 (CV) is related to the completion of the Hatton Canyon freeway. This policy is proposed to be changed to delete reference to the freeway, as this roadway is no longer proposed by any party nor is considered feasible. It is also proposed to delete reference to delay of development approval in Carmel Valley pending construction of the freeway as called for in the current policy. Policy support for the northbound climbing lane from Rio Road to Carmel Valley Road is proposed to be added.

- Policy 39.1.7 (CV) - A minor wording addition is proposed for clarity to this policy.

- Policy 39.3.1.1 (CV) concerns proposed improvements to various Carmel Valley Road segments. This policy is proposed to be updated to include the specific recommendations of the CVTIP, including keeping Segments 6 through 8 as a 2- lane road but adding passing lanes (instead of 4-lanes as in current policy) and adding a passing lane to Segment 5,

- Policy 39.3.1.4 (CV) concerns road connections for controlled emergency accesses. This policy is proposed to be amended to delete reference to the Hatton Canyon freeway.

- Policy 39.3.1.5 (CV) is proposed to be amended to eliminate reference to a level of service of C for the CVMP area (in favor of the standards in 39.3.2.1 below), eliminate call for widening SR 1 between Carmel Valley Road and Rio Road, and to update language concerning Laureles Grade improvements to match that proposed in the CVTIP.

- Policy 39.3.1.8 (CV) which calls for an interchange at SR1 and Carmel Valley Road is proposed to be deleted.

- Policy 39.3.2.1 (CV) concerns traffic standards, monitoring, level of service standards, and permit processing. The traffic level of service standard for monitoring and evaluation of conditions in Carmel Valley is proposed to be changed from an average daily traffic (ADT) methodology to a peak hour methodology which is considered a more precise measurement of traffic conditions reflective of current traffic analysis procedures. With the exception of Carmel Valley Road through Carmel Valley Village, the LOS standards are the same as with the existing CVMP, but are now proposed to be measured using a peak hour methodology. The LOS standard for the Carmel Valley Village is proposed to be changed to a LOS D due to the infeasibility to identify appropriate traffic improvements to maintain a LOS C while still maintaining the Village character. Project review within the CVMP has been clarified to require consideration of the application of the CVTIP projects before considering whether additional project-level traffic improvements are necessary.

- New Policy 39.3.2.2 is proposed to be added to the CVMP to specifically add the projects in CVTIP. Updating of the CVTIP is proposed when conditions approach unacceptable conditions as defined by the traffic standards.

Policy changes to the CVMP were not specifically articulated in the August 2007 Draft EIR. However, the primary substantive components of the proposed policy changes were discussed in the August 2007 DEIR including the change in LOS methodology, the proposed change in the LOS standard for the Village and the new CVTIP roadway improvements.

Carmel Valley Subdivision Policy

The August 2007 DEIR included potential removal of Board of Supervisors' Resolution 02-024 in the Program. Resolution 02-024 provides that it is the policy of the County to deny applications for new subdivisions until specific roadway improvements are completed.

The adoption of the SDEIR for the CVTIP does not include rescission of Resolution No. 02-024. The CVTIP DEIR included an analysis of potential impacts to SR1 to disclose the potential traffic and other environmental impacts in the event that the Board of Supervisors were to modify the policy set forth in the resolution at a later time.

However, the analysis of traffic and other environmental impacts of CVMP buildout were included in the August 2007 DEIR (including potential future subdivisions) in the event that the Board of Supervisors decides to modify the policy set forth in the resolution at a later date. The analysis of traffic impacts on SR1 in this document also includes the traffic associated with CVMP buildout (including potential future subdivisions) for a similar reason.

Traffic Fee Program

The proposed traffic fees in the August 2007 DEIR were updated to exclude fees on affordable housing and account for fees on the Expanded Area. The Expanded Area includes unincorporated parts of the County east and south of the CVMP area that also influence Carmel Valley Road traffic including the Cachagua planning area and Rancho San Carlos.

Based on these adjustments, the updated traffic fee program is summarized in Table ES-1. The updated fees would represent an increase of approximately $4,800 for a market rate unit on an existing lot and approximately $7,600 for new market rate units on a new lot. The new rates represent an increase of 35% over the existing rates.

Table ES-2b. Recommended 2009 Impact Fee Structure

Fiscal Year 2009 – 2010 Traffic Mitigation Fees
Carmel Valley and Expanded Area

Development on Existing Lots of Record (before 8/25/92)	CVMP Area	Expanded Area
Market Rate Unit	$14,850	$7,425
Senior Unit	$7,425	$3,713
Caretaker Unit	$14,850	$7,425
2nd Unit / Apartment	$14,850	$7,425
Low / Moderate Income Unit	$0	$0
Development on New Lots of Record (after 8/25/92)		
Market Rate Unit	$29,700	$14,850
Senior Unit	$14,850	$7,425
Caretaker Unit	$29,700	$14,850

2nd Unit / Apartment	$29,700	$14,850
Low / Moderate Income Unit	$0	$0
Commercial		
New Hotel / Motel Unit (per room)	$32,300	$16,150
Existing Hotel / Motel Expansion (per room)	$16,150	$8,075
Commercial Uses (per 1,000 sf)	$7,800	$3,900
Service Centers (per 1,000 sf)	$3,900	$1,950

Updated Analysis of Key Issues

This section discusses the key issues of concern relative to the changes to the proposed program and the conclusions of this PRDEIR regarding those issues.

- **Transportation and Circulation—**Traffic along SR1 near Carmel is currently deficient with unacceptable LOS E and F segment operations between Rio Road and Ocean Avenue during both peak hours in the southbound direction. With cumulative development (including, but not limited to buildout of the CVMP), 2030 traffic conditions will worsen. Potential technically feasible improvements to SR1 segment operations could include moving the merge south of Ocean Avenue further southward (to help SR1/Ocean Avenue intersection operations) and/or widening SR1 between Rio Road and Ocean Avenue. Cumulative conditions would also result in worsening conditions from LOS D to LOS E at the SR 1/Ocean Avenue intersection. However, future development only contributes up to 22 percent of the cumulative roadway volumes between Rio Road and Carmel Valley Road (of which 11 percent originate or end in Carmel Valley) and 7 percent between Carmel Valley Road and Ocean Avenue (of which 4 percent originate or end in Carmel Valley). Thus future development impact fees can only be collected to cover at most 7 to 22 percent of the overall cost of potential roadway/intersection improvements. At this time, no alternative local, state, or federal funding sources have been identified for the necessary SR1 improvements and in the near term obtaining such funding appears speculative. Due to this financial infeasibility, mitigation to address the cumulative traffic impacts to this part of SR1 is considered infeasible and the cumulative impact of potential future growth within the CVMP (as well as elsewhere) is disclosed as significant and unavoidable.
- **Land Use –** This PRDEIR analyzes the consistency of the changes to the CVTIP since the August 2007 DEIR with the policies in the existing CVMP. With the proposed CVMP amendments included in the CVTIP, the CVTIP would be consistent with the CVMP. This PRDEIR also analyzes the consistency of the CVTIP (as revised in this PRDEIR) with the Draft 2007 CVMP (part of the Draft 2007 General) Plan. The CVTIP would be inconsistent with one policy of the Draft 2007 CVMP concerning widening of SR1. However, with the amendments proposed as mitigation in the DEIR

for the Draft 2007 General Plan (which would remove reference to widening of SR1) the CVTIP would be consistent with the draft 2007 CVMP.

- **Other Environmental Impacts –** The PRDEIR does not include any new traffic improvements beyond those proposed in the August 2007 DEIR and does not change the level of future CVMP buildout. Thus the environmental analysis of the impacts of roadway improvement and future growth impacts in the August 2007 DEIR remains unchanged.

Updated Areas of Controversy

The August 2007 DEIR disclosed areas of controversy. Relative to the subjects addressed in the PRDEIR, the following specific areas of controversy are noted:

- **Traffic Congestion along SR1 and Future CVMP Development**– As disclosed in this PRDEIR, the County has not proposed improvement of SR1 to address impacts of existing and future development on traffic conditions along SR1 due to the inability to fund necessary improvements solely through development impact fees and the speculative nature of other sources of funding at this time. Some commenters on the August 2007 presented the opinion that no new development should be allowed in the CVMP unless and until traffic conditions along SR1 are improved.
- **CVMP Policy Changes** – Some commenters on the August 2007 DEIR took issue with the application of peak hour LOS analysis as the metric of evaluation instead of use of an average annual daily trip (AADT) metric which is included formally in policy changes in this PRDEIR. In addition, formal removal of the CVMP policy concerning Hatton Canyon may be controversial for some parties due to concern about the ability to mitigate traffic impacts. Other CVMP policy changes concerning processing of development applications may also be controversial. Although the CVTIP does not by itself rescind Resolution No. 02-024, nor otherwise directly affect the policy embodied therein, there may be some concerns regarding the future rescission of Resolution No. 02-024.
- **Traffic Impact Fees** – The revised traffic impact fees are somewhat higher than those proposed in August 2007 DEIR. The revised calculations exclude application of any impact fees to affordable housing projects. The resultant calculated fees are approximately 35 % higher than the previously proposed fees in the 2007 DEIR.

This is not a complete list of every concern likely to be raised related to traffic and growth in the CVMP area, but these issues are likely the most controversial of those associated with the subjects addressed in this PRDEIR.

Summary of Impacts and Mitigation Measures and Levels of Significance

The summary of impacts presented in the August 2007 is unchanged with two exceptions regarding land use and traffic as shown in Table ES-3b below.

Table ES-3b. Summary of Impacts (Updates for April 2009; See August 2007 DEIR for other subjects)

Impact	Level of Significance	Mitigation Measure	Level of Significance after Mitigation
3.5 Land Use			
A. Land Use Compatibility			
LU-1: Potential Conflicts in Compatibility of Proposed Roadway Improvements with Surrounding Land Uses	LTS	None Required	_
B. Plan/Policy Consistency			
LU-2a: Conflicts with Land Use Plans, Policies, or Regulations (regarding SR1)	LTS	None Required	-
LU-2b: Conflicts with Proposed Land Use Plans, Policies, or Regulations (regarding SR1)	LTS	None Required	-
C. Division of an Established Community			
LU-3: Potential Division of an Established Community	LTS	None Required	_
Cumulative Impacts			
Cumulative Impact LU-1: Cumulative Impact on Communities and Local Land Uses	LCC	None required	_
3.7 Transportation and Circulation			
A. Intersection Improvements			
T-1a: Substantial Increase in Traffic at Project Intersection in the CVMP area Relative to the Existing Traffic Load and Capacity	LTS	None required	LTS
T-1b: Substantial Increase in Traffic at Project Intersections along SR1 Relative to the Existing Traffic Load and Capacity (SR1/Ocean Avenue)	SI	No feasible mitigation identified	SU
B. Roadway Segment LOS			
T-2a: Violation (Cumulatively) of the LOS Standard Established by the County for Segment 3 - Esquiline Road to Ford Road	SI	No feasible mitigation identified	SU
T-2b: Violation (Cumulatively) of the LOS Standard Established by the County for SR1 Southbound between Ocean Avenue and Rio Road	SI	No feasible mitigation identified	SU

Definitions:
LTS = Less-than-Significant
PS = Potentially Significant
NI= No Impact
SI = Significant Impact
SU = Significant and Unavoidable
LCC – Less than cumulatively considerable
CC – Cumulatively considerable
CCU – Cumulatively considerable and unavoidable

Impact	Level of Significance	Mitigation Measure	Level of Significance after Mitigation
C. Roadway Hazards and Emergency Access			
T-3: Potential Alteration of Present Patterns of Vehicular Circulation, Increased Traffic Delay, and Increased Roadway Hazards During Construction of Specific Projects	SI	T-3.1: Develop and Implement a Traffic Control Plan	LTS
D. Parking Capacity			
T-4: Cause Inadequate Parking Capacity	LTS	None Required	–
E. Alternative Transportation Plans and Policies			
T-5: Conflict with Alternative Transportation Plans and Policies	NI	None Required	–
Cumulative Impacts			
Cumulative Impact T-1a: Result in Traffic that exceeds LOS Standards Established by the County (Segment 3)	CC	No feasible mitigation identified	CCU
Cumulative Impact T-1b: Result in Traffic that exceeds LOS Standards Established by the County (SR1 southbound between Ocean Avenue and Rio Road)	CC	No feasible mitigation identified	CCU
Cumulative Impact T-2: Traffic Delays due to Simultaneous Construction	CC	Project-level mitigation noted above	LCC

LTS = Less-than-Significant
PS = Potentially Significant
NI = No Impact
SI = Significant Impact
SU = Significant and Unavoidable

LCC – Less than cumulatively considerable
CC – Cumulatively considerable
CCU – Cumulatively considerable and unavoidable

Chapter 1b
Introduction

Purpose of the Partial Revision of the Draft EIR (PRDEIR)

The County of Monterey (County) has prepared this partial revision of the draft environmental impact report (EIR) to provide the public, responsible agencies, and trustee agencies with updated information about the potential environmental effects of the proposed Carmel Valley Traffic Improvement Program (CVTIP, proposed program or proposed project). The original Draft EIR (August 2007) and this partial revision were prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.).

CEQA Requirements

Relevant portions of CEQA Guidelines Section 15088.5 for this PRDEIR are as follows:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

"Significant new information" requiring recirculation include, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

(c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified.

(f)(2) When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.

(g) When recirculating a revised EIR, either in whole or in part, the lead agency shall, in the revised EIR or by an attachment to the revised EIR, summarize the revisions made to the previously circulated draft EIR.

Scope of the PRDEIR

In August 2007, the County circulated a Draft EIR for the CVTIP for agency and public comment.

Since release of the Draft EIR, the County has:

- conducted additional analysis of traffic conditions along State Route (SR) 1 between Rio Road and Carpenter Street, identified the cumulative impact of CVMP buildout on traffic along this reach of SR 1 to be significant, evaluated funding potential to construct improvements to this part of SR1 through combination of development fees and other source, found it currently financially infeasible to obtain sufficient funding through development fees alone and speculative to identify other sources of funding, and thus identified significant and unavoidable cumulative traffic impacts along this reach of SR1;

- identified changes to CVMP policies to clarify traffic monitoring conditions, standards, and project review procedures;

- updated proposed traffic impact fees to modify the calculations to exclude fee application to affordable housing and to include projected fees from the Expanded Area; and

- clarified that as drafted, the CVTIP does not by itself rescind Resolution 02-024 (described in Chapter 2b) nor otherwise directly affect the policy embodied therein; but that the EIR does study the potential traffic and other environmental impacts in the event that the Board of Supervisors were to decide later to modify or rescind the resolution.

This PRDEIR was thus prepared to disclose additional significant and unavoidable impacts associated with CVMP buildout on traffic along SR1, proposed policy changes to the CVMP, updated traffic impact fees, and clarifications and provide the public an opportunity to comment on these disclosures.

Review Process for the Proposed Program

This document will be circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on the report. Its publication marks the beginning of a 45-day public review recirculation period. Written comments or questions concerning this PRDEIR should be directed to the name and address listed below.

This Partial Revision of the Draft EIR (PRDEIR) is being circulated for public comment on the new and/or revised analyses of the subjects addressed in this document. Upon completion of the public review period, a Final EIR will be prepared. Pursuant to CEQA Guidelines Section 15088.5, the Final EIR will respond to: (i) comments received during the initial circulation period on portions of the August draft EIR that have not been revised and recirculated; and (ii) comments received on this PRDEIR during this recirculation period that address the topics included in this PRDEIR. Comments received on the August 2007 Draft EIR related to the topics addressed in this PRDEIR are part of the administrative record and have been considered when preparing this PRDEIR; however, the Final EIR will not respond to previously received comments related to the analysis in the August draft EIR that has been revised and recirculated in this PRDEIR. Concerning this document, the County requests that reviewers limit their comments to the revised portions of the recirculated draft EIR.

Submittal of written comments via e-mail (Microsoft Word format) would be greatly appreciated and should be sent to the following contact:

Chad Alinio
Civil Engineer
Monterey County Resource Management Agency

Department of Public Works
168 West Alisal Street, 2nd Floor
Salinas, CA 93901-2680
(831) 755-4937
(831) 755-4958 (fax)
email: aliniocs@co.monterey.ca.

References cited in this PRDEIR can be reviewed between the hours of 7:30 A.M. and 4:00 P.M. Monday through Thursday, and 7:30 A.M. and 12:30 P.M. on Fridays at the Monterey County Resource Management Agency – Planning Department Permit Center, located at the following address:

Monterey County Resource Management Agency
Planning Department
168 West Alisal Street, 2nd Floor
Salinas, CA 93901-2680

Responses to written comments will be compiled in a Response to Comments document, which, together with the Draft EIR and other contents required by CEQA, will constitute the final EIR. After review of the project and the EIR, County staff will recommend to the Monterey County Planning Commission and Monterey County Board of Supervisors whether to approve or deny the project. The Planning Commission will make recommendations to the Board of Supervisors, and the Board of Supervisors will decide whether to certify the EIR and whether to approve, deny, or take other action on the project.

If the Board of Supervisors or other agency approves the proposed project in spite of significant impacts identified by the EIR that cannot be mitigated, the Board or other agency must state in writing the reasons for its actions. A Statement of Overriding Considerations must be included in the record of the project approval and mentioned in the Notice of Determination (14 CCR 15093[c]).

Chapter 2b

Revised Program Description (April 2009)

This chapter describes the area covered under the proposed Carmel Valley Traffic Improvement Program (CVTIP), describes the background for the preparation of the proposed CVTIP, lists the program objectives, and summarizes the proposed program components This chapter also describes proposed changes to CVMP policies. This chapter also describes the required permits and approvals.

Portions of the program description have been updated since the August 2007 DEIR (Monterey County 2007b) including the following:

- additional analysis of traffic conditions along State Route (SR) 1 between Rio Road and Carpenter Street;
- changes to CVMP policies to clarify traffic monitoring conditions, standards, and project review procedures;
- updated proposed traffic impact fees to modify the calculations to exclude fee application to affordable housing and to include projected fees from the Expanded Area;
- clarifications about the status of current and near term improvements;
- clarification that the CVTIP does not by itself rescind Resolution 02-024 nor otherwise directly affect the policy embodied therein; and
- minor other clarifications to text.

Location

Carmel Valley, an unincorporated area of Monterey County, is located south of Monterey and southeast of Carmel (Figure 2-1). The proposed CVTIP would occur along Carmel Valley Road extending from just east of Holman Road in the east to Highway 1 in the west, and along Laureles Grade from Carmel Valley Road in the south to SR 68 in the north (Figure 2-2). This area is referred to as the "program area" or "project area" in this EIR. The roads that intersect Carmel Valley Road are also included in the program area at the place of intersection.

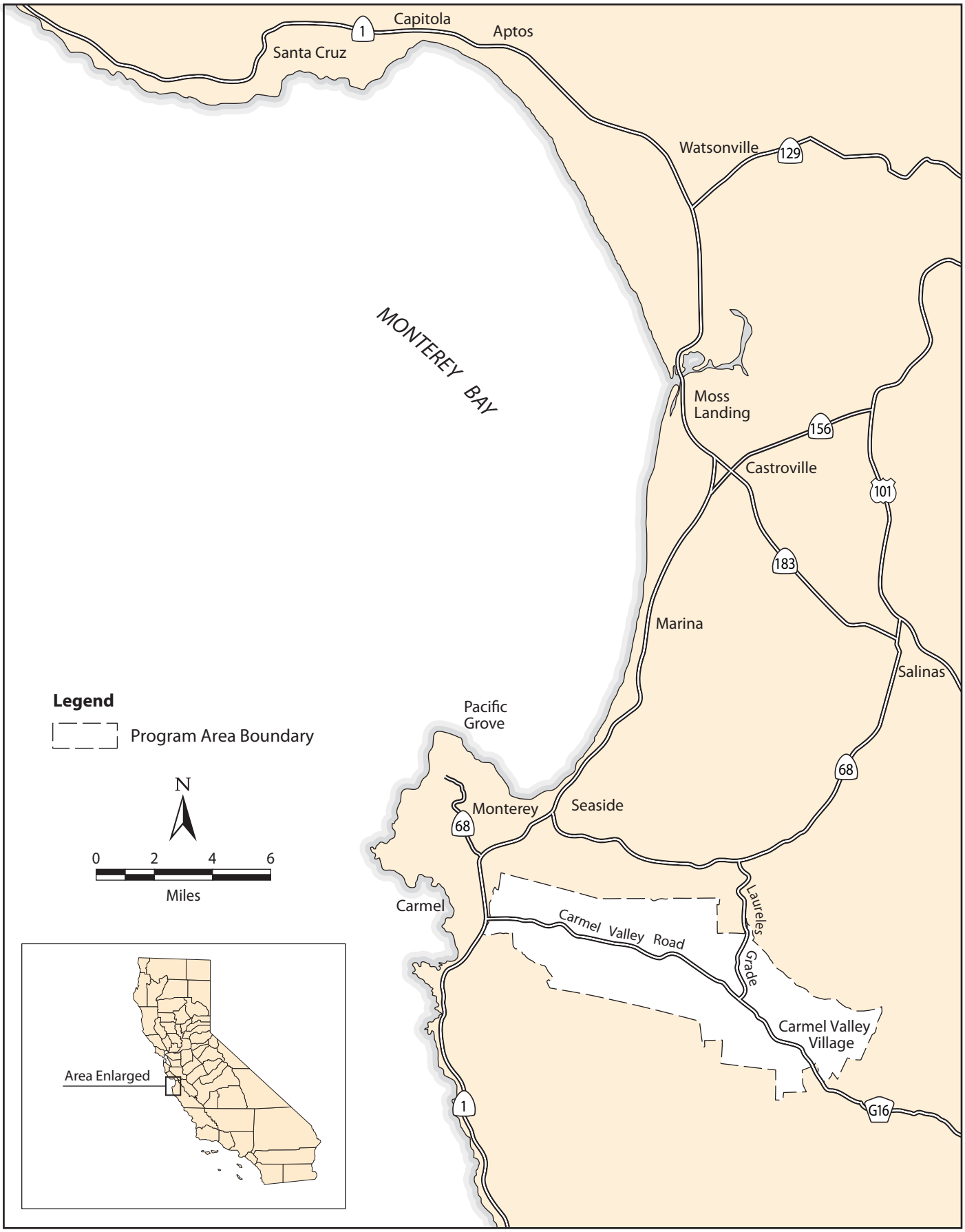

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Figure 2-1
Project Vicinity

CARMEL

LOWER VALLEY

10

9

8

7

6

5

4

3

2

1

See Inset Below

See Inset Above

HWY 1

CARMEL VALLEY RD

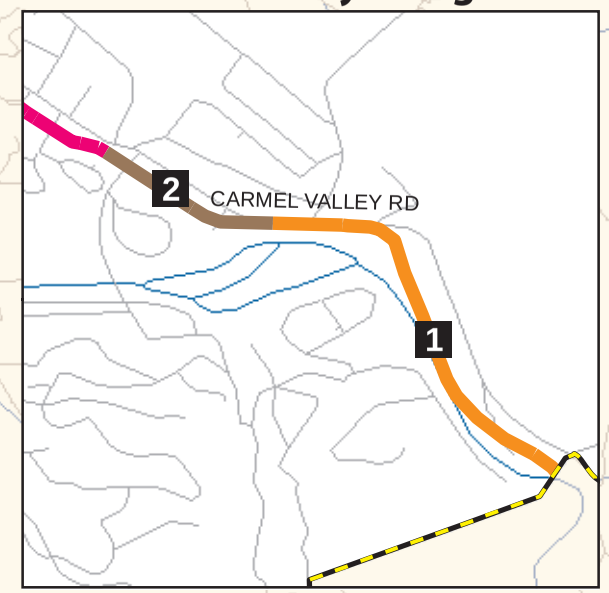
MID-VALLEY

CARMEL RIVER

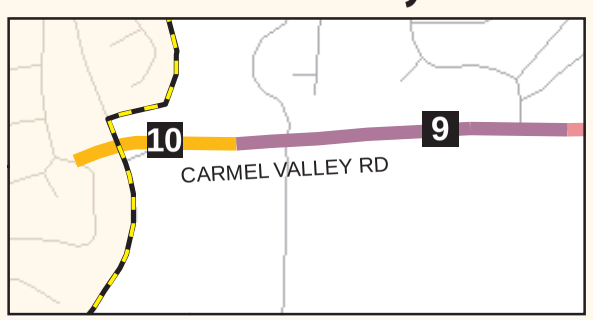
LAS GAZAS CR

CARMEL VALLEY VILLAGE

Carmel Valley Village



Lower Valley



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NOTE: Please see Appendix H, Figure 1-1, for SR1 Study Area.

Program Area Boundary

Roads

1 Traffic Study Segments

Carmel Valley Traffic Improvement Program SEIR

Figure 2-2
Program Area

Jones & Stokes

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As illustrated in Figure 2-2, the program area is divided into ten key study segments and includes 7 study intersections.

While conditions along State Route (SR) 1 were evaluated between Rio Road and Carpenter Street, as discussed below, no improvements are proposed along this roadway as part of the CVTIP.

Roadway Segments

For the purpose of this analysis, Carmel Valley Road has been divided into ten roadway segments[1], 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: SR1 to Carmel Rancho Boulevard

The following segments were selected for analysis for the study of conditions along SR1

- Rio Road to Carmel Valley Road;
- Carmel Valley Road to Ocean Boulevard; and
- Ocean Boulevard to Carpenter Street;

Study Intersections

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

- SR-1 & Carmel Valley Road
- Carmel Rancho Boulevard & Carmel Valley Road
- SR-1 & Rio Road

[1] Segments 2 and 3 were previously called Segments 2A and 2B and Segment 4 was previously called Segment 3 in the 1991 SEIR. However, the traffic study provides a sequential numbering of the ten roadway segments.

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

The following intersections were selected for analysis, for the study of conditions along SR1:

- SR 1 and Rio Road;
- SR 1 and Carmel Valley Road;
- SR 1 and Ocean Boulevard; and
- SR 1 and Carpenter Street.

Background

Carmel Valley Master Plan (CVMP)

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.

One of the policies in the CVMP is Policy 39.3.2.1, which provides 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

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) (Monterey County 1991). The SEIR was a subsequent EIR to the 1986 EIR for the CVMP and updated traffic, noise, and air quality conditions and updated the suite of traffic improvements then determined necessary to maintain established CVMP traffic LOS standards. The Monterey County Board of Supervisors certified the SEIR and adopted the project in November 1991.

Roadway Improvements Since 1991

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

- Enforcement and Signage Program (Completed in 2003).
- Sight Improvements, parking restrictions, and signage in Carmel Valley Village (Completed in 2003).
- Class II Bike Lanes (Completed in 2003) – 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 0.5 miles west of Rancho San Carlos (Completed in 2003).
- Left-Turn Channelization – West of Ford (Partially Completed in 2007 - currently working on the left-turn pockets at Boronda and Country Club Drive).
- Widen Refuge Area at Via Mallorca (Completed) in 2003.
- 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.

Carmel Valley Subdivision Policy

Background

On May 16, 2000, the Monterey County Board of Supervisors adopted a resolution (Resolution No. 99-379) providing policy direction to staff and guidance to the Planning Commission. In response to the 1999 elimination of the prior plan to build the Hatton Canyon Freeway and to ensure compliance with CVMP Policy 39.1.6 limiting development in Carmel Valley pending construction of the Hatton Canyon Freeway, the Board resolved that it was the policy of the Board that residential subdivisions in the Carmel Valley Master Plan area be denied, pending:

- the construction of left turn pockets on Segments 6 and 7 of Carmel Valley Road (from Robinson Canyon Road to Rancho San Carlos Road); and
- construction of improvements to State Highway 1 between its intersections with Carmel Valley Road and Morse Drive

An exception was provided for residential subdivisions with applications submitted before October 19, 1999 provided they address their traffic and other impacts.

This resolution was intended to remain in place until March 28, 2001 or as may be extended by future Board action.

On March 27, 2001, the Board adopted a second resolution (Resolution No. 01-133) with the same requirements as Resolution No. 99-379, but extending the resolution to March 28, 2002 or as may be extended by future Board action.

Resolution No. 02-024

In 2002, the Monterey County Board of Supervisors adopted a resolution (Resolution No. 02-024) providing policy direction to staff and guidance to the Planning Commission to deny residential and commercial subdivision

applications proposed for the Carmel Valley Planning Area pending the construction of specific roadway improvements and the adoption of updated General Plan/Master Plan policies related to level of service on Carmel Valley Road.

This resolution augmented and extended the policy set forth in Resolutions 99-379 and 01-133. In addition to ensuring compliance with Policy 39.1.6 discussed above, Resolution 02-024 was intended to ensure compliance with CVMP Policy 39.3.2.1 after a December 11, 2001 report by the Monterey County Department of Public Works indicated that two segments of Carmel Valley Road, Segment 4 and Segment 7, had exceeded the level of service threshold set out in Policy 39.3.2.1. (see *Road Segments Analyzed* below for further discussion of road segments).

In response to traffic reaching these thresholds and due to the 1999 elimination of the prior plan to build the Hatton Canyon Freeway, the County Board of Supervisors resolved that it was the policy of the Board that residential and commercial subdivisions be denied, pending:

- the construction of left turn pockets on Segments 6 and 7 of Carmel Valley Road (from Robinson Canyon Road to Rancho San Carlos Road);
- the construction of capacity-increasing improvements to SR 1 between its intersections with Carmel Valley Road and Morse Drive; and
- the adoption of updated General Plan/Master Plan policies related to Level of Service on Carmel Valley Road.

There are a few exceptions including residential subdivisions with applications submitted before October 19, 1999 provided they address their traffic and other impacts. The implementation of the resolution, subdivisions found on their facts not to increase traffic (e.g., a lot split involving no new development potential) have been allowed.

As drafted, the CVTIP does not by itself rescind Resolution No. 02-024 nor otherwise directly affect the policy embodied therein. The CVTIP DEIR included an analysis of potential impacts to SR1 to disclose the potential traffic and other environmental impacts in the event that the Board of Supervisors were to modify the policy set forth in the resolution at a later time.

Near Term Traffic Improvements

The following improvements are anticipated to be initiated or completed by RMA-Public Works in the next 5-year Capital Improvement Plan cycle:

- Left-turn pockets currently scheduled to be completed by 2010 are Boronda and Country Club (as listed under the Monterey County CIP 2007-2012 (Monterey County 2007c)).
- Left-turn pockets along Segment 3 are scheduled for completion by 2012.

- Upgrade to Class II bike lanes on Carmel Valley Road (ongoing, various locations)
- Various improvements along Carmel Valley Road and the Carmel Valley Village include shoulder widening, left-turn channelization, as well as various safety enhancements.

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 included an updated CVMP, reflecting traffic improvements developed to address th~~is~~ level of service deficiency. In June 2007, the General Plan Update (commonly referred to as "GPU4") was the subject of three different ballot measures. 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; and Measure C asked the voters if they approved of GPU4. All three measures were defeated. On July 11, 2007, the Board of Supervisors determined that the existing 1982 General Plan (and the existing CVMP) was in effect as the legal General Plan pending a future General Plan Update.

A new update to the General Plan was drafted (the 2007 Draft General Plan also known as "GPU5") and released for public review in late 2007 (Monterey County 2007a). A Draft EIR for the 2007 Draft General Plan was released in September 2008 (Monterey County 2008) and the public comment period ended in early February 2009.

Carmel Valley Road Traffic Study

In order to address the requirements of CVMP Policy 39.3.2.1 and Resolution No. 02-024, Monterey County requested Jones & Stokes and DKS Associates to conduct a traffic study to analyze whether improvements were needed to address current and future level of service deficiencies along Carmel Valley Road and to prepare an EIR analyzing a program of the needed improvements.

The traffic study (included in Appendix F in the August 2007 EIR(Monterey County 2007b)) evaluates current traffic conditions, identifies existing and potential future land use changes, and identifies potential traffic improvements to maintain established CVMP traffic level of service (LOS) standards.

Land Use Changes Since 1986

The traffic study includes 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 September Ranch subdivision[2], approximately 322 new residential lots were approved within the CVMP area within new subdivisions~~,~~ with an additional 288 lots approved outside the CVMP area in the Rancho San Carlos/Santa Lucia Preserve development (this area contributes directly to traffic on Carmel Valley Road). Not all potential units on new approved lots have yet been built yet nor been issued building permits. Also, 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.

The methodology used to update traffic conditions as a result of past, pending, and future development within the CVMP area and outside the CVMP area is described in detail in the traffic study in Appendix F (in the August 2007 DEIR (Monterey County 2007b).

Traffic 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.

Land Use Forecasting

In order to analyze the program conditions for the traffic study, DKS Associates used the AMBAG Regional Travel Demand Model, hereafter referred to as the AMBAG model, built using TransCAD software. The model was created by the Association of Monterey Bay Area Governments (AMBAG) 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

[2] The County certified a Revised EIR for the September Ranch project and approved the September Ranch subdivision ("Reduced Forest Impact with High Inclusionary Alternative"), but that action was successfully challenged in court. The court has ordered the County to set aside the September Ranch approvals, and the matter has been referred back to the County for additional environmental review of water demand issues. The September Ranch subdivision was included in Scenario B, C and D in the traffic study, but was excluded from Scenario A.

of the model structure and changes made for this analysis is provided in Appendix F (in the August 2007 DEIR (Monterey County 2007b)).

Traffic Study Scenarios

Five scenarios were evaluated in the traffic study:

- **No Project Scenario:** This scenario assumes no new traffic improvements and no additional residential or commercial subdivisions, as it is assumed that the existing County policy on subdivision approval in the CVMP area (Resol. No. 02-024) 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. It is also assumed that previously approved projects will be completed.
- **Scenario A:** This scenario assumes buildout under the adopted CVMP 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 above. Pending development proposals (including September Ranch) 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 under the adopted CVMP with pending development proposals (including September Ranch) 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 above.
- **Scenario C:** This scenario assumes buildout under the adopted CVMP with pending 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 certain traffic improvements in the current County Capital Improvement Program (CIP) Carmel Valley Road Improvement List.
- **Scenario D:** This scenario is the same as Scenario C, except that it also includes two passing lanes along Segments 6 and 7.

Traffic LOS Standards

Roadway Segment LOS Standards

CVMP Policy 39.3.2.1 quoted above defines “acceptable” roadway segment levels of service by the level of service at the time of the original CVMP traffic study in 1986. According to the 1986 study (CVMP Traffic Analysis, Keith B.

Higgins), the baseline LOS along Carmel Valley Road was as follows (LOS standards are noted applying the CVMP policy noted above in parentheses):

- Holman Road to Ford Road – Operated at LOS C or better in 1986 (standard of LOS C).
- Ford Road to Rancho San Carlos Road – Operated at LOS D in 1986 (standard of LOS D).
- Rancho San Carlos Road to Carmel Ranch Boulevard – Operated at LOS C or better in 1986 (standard of LOS C).
- Carmel Rancho Boulevard to SR1 – This portion of Carmel Valley Road operated at LOS E in 1986 (standard of LOS E).

The CVMP does not contain standards for LOS along SR1, as SR1 is outside the CVMP area. TAMC and Caltrans used an evaluation goal of LOS D in their recent traffic studies for SR1 near Carmel. Thus LOS D was used in this EIR to evaluate conditions along SR1 between Rio Road and Carpenter Street.

Intersection LOS Standards

According to Monterey County Public Works, the following LOS standards are the standard of acceptable level of service for intersections as follows:

- Signalized intersections - LOS C; and
- Unsignalized intersections - LOS E.

These standards were used for intersections in the CVMP area. Intersections along SR1 were evaluated using the TAMC and Caltrans evaluation goal of LOS D.

Traffic Study Results

The results of the traffic study by DKS are presented in Appendix F (in the August 2007 DEIR (Monterey County 2007b) and are summarized as follows:

- **Intersections:** All study intersections meet or exceed the applicable LOS standards described above under all scenarios with the exception of Highway One/ Rio Road and Laureles Grade/Carmel Valley Road intersections. TAMC is planning an improvement to the Highway One/Rio Road intersection that would take place before projected buildout and is likely to result in an acceptable level of service. The LOS standard for Laureles Grade / Carmel Valley Road is not met in the No Project Scenario, Scenario A, and Scenario B at each of these intersections. The LOS Standard is met for Laureles Grade/Carmel Valley Road in Scenario C and Scenario D due to the inclusion of a grade separation project at this intersection in these scenarios.
- **Roadway Segments:** Six roadway segments (Segments 1, 2, 4, 8, 9, and 10) meet or exceed the applicable LOS standards described above under all

scenarios. Segment 3 (through the Carmel Valley Village) has failing LOS under all scenarios. Three roadway segments (Segments 5, 6, and 7) will have deficient LOS under the No Project Scenario and Scenarios A and B. In Scenario C, Segment 5 would meet the LOS standard due to inclusion of CIP improvements. In Scenario D, Segments 6 and 7 would meet the LOS standard in Scenario D due to the inclusion of 0.25-mile passing lanes along each of the segments in this scenario.

- **Laureles Grade/Carmel Valley Road Intersection Improvement Options:** The grade separation in the current CIP will improve LOS at this intersection to an acceptable level. Because the traffic fee program (see description below) will only generate funding for this improvement in 2022, two additional interim improvement options (a signalized intersection and an all-way stop intersection) were identified in the study as potential means to address intersection options between now and 2022.
- **Carmel Valley Village (Segment 3):** LOS under all traffic study scenarios would be LOS D and would not meet the LOS standard of C for this segment. While the traffic study identified several options to improve traffic along this segment (such as left-turn pockets and medians, passing lanes, multiple lanes, or routing traffic on side streets through residential areas), none are considered consistent with the overall direction in the CVMP policies. The traffic study suggests that if further development approvals are anticipated that would affect this segment, the County may need to consider lowering the LOS Standard for this segment to D.
- **Rio Road:** The traffic study also concluded that the Rio Road extension between Carmel Valley Road and SR1 is not required in order to meet CVMP LOS standards. The Rio Road extension would cause traffic diversions from segments 8, 9, and 10 along Carmel Valley Road that currently operate at acceptable LOS. Diversion of traffic is not required to improve LOS to acceptable levels today or in the future.

The results of the traffic study were used to identify the components of the Carmel Valley Traffic Improvement Program, which is described below.

SR1 Traffic Study

Monterey County requested Kimley Horn and Associates (KHA) to complete an additional traffic study (see Appendix H in this document) to analyze the existing and future conditions along State Route 1 between Rio Road and Carpenter Street with buildout of the Carmel Valley Master Plan. This traffic study was added for this partial revision of the Draft EIR.

Kimley-Horn Associates used the travel model developed by DKS Associates for the CVMP traffic study to evaluate traffic conditions along SR1 between Rio Road and Carpenter Street. KHA also conducted additional traffic counts in 2007 along SR1. Scenarios evaluated included the base 2000 and the 2030 model. A detailed description of the model structure and changes made for this analysis is provided in Appendix H (in this document). Assumptions about

buildout for 2030 were the same as those used by DKS for prior evaluation of conditions along Carmel Valley Road.

The results of the traffic study by KHA are presented in Appendix H (in this document) and are summarized as follows:

- **Intersections:** The KHA study found that existing conditions were LOS D or better at all four study intersections. Cumulative (2030) conditions would be LOS D or better except for PM peak hour operations at the SR1/Ocean Avenue intersection which would be LOS E.
- **Segment Operations –** Existing southbound operations are LOS E for both peak hours between Rio Road and Carmel Valley Road, LOS F for southbound operations between Ocean Avenue and Carmel Valley Road in both peak hours, LOS C or better northbound from Rio Road to Carmel Valley Road, and LOS C between Ocean Avenue and Carpenter Street. Cumulative (2030) operations would be an unacceptable LOS E and LOS F for southbound operation in both peak hours between Ocean Avenue and Rio Road. All other operations would be LOS D or better.

CVTIP Program Description

The following is a description of the CVTIP.

Program Objectives

- To address existing and forecasted traffic level of service deficiencies in the CVMP area; and
- To allow development to proceed in accordance with all CVMP policies.

CVTIP Components

The CVTIP includes a specified list of road improvements, several interim improvement options for one intersection, a change in LOS standard for one segment, proposed amendments to CVMP policies, and a traffic fee program to pay for the proposed improvements on Carmel Valley Road through collection of fees from new development.

This CVTIP program (including the related CVMP policy changes) constitutes the "project" analyzed in this EIR for the purposes of CEQA. This EIR is a programmatic EIR and is not intended as a project-level CEQA document for the proposed improvements. Project-level CEQA compliance would need to be completed for proposed improvements at the point at which designs have been developed to allow site-specific analysis of environmental impacts.

Roadway Improvements

Based on the results of the DKS traffic study, the CVTIP should include the following specific projects:

- Left-turn channelization on Carmel Valley Road west of Ford Road (those currently scheduled to be completed by 2007 are Boronda and Country Club as listed under the Monterey County CIP 2007-2012 (Monterey County 2007c));
- Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road;
- Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade;
- Rio Road extension and signalization (including relocation of school access point);
- Grade separation at Laureles Grade and Carmel Valley Road;
- Passing lanes in front of the proposed September Ranch development;
- Passing lanes opposite Garland Park;
- Climbing Lane on Laureles Grade;
- Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes;
- Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and
- Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road.

Analysis in the DKS traffic study has found that these improvements will result in traffic operations at CVMP intersection and roadway segments that meet the established LOS standards, with the exception of Segment 3 through the Carmel Valley Village.

Interim Optional Improvements at Laureles Grade/ Carmel Valley Road Intersection

Without improvement, the intersection of Laureles Grade and Carmel Valley Road would operate at a deficient level in both A.M. and P.M. peak periods. The CIP includes a partial grade separation improvement but the fee program only generates sufficient funding for this improvement by 2022, and thus deficient operations would occur until that time without interim improvements.

Two other optional interim improvement measures (improved geometry and traffic signalization) have been developed to improve the LOS and are described below.

- **All-way Stop and Modified Geometry** - 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.

No Improvements along SR1 as part of CVTIP

No improvements are proposed along SR1 between Rio Road and Carpenter Street as part of the CVTIP for the following reasons:

- SR1 is outside the CVMP Plan Area.
- As discussed in Chapter 3 of this document, future unacceptable traffic conditions will primarily exist/occur because of existing conditions and only partially due to new development. In 2030, future development only contributes up to 22 percent of the cumulative roadway volumes between Rio Road and Carmel Valley Road (of which 11 percent originate or end in Carmel Valley) and 7 percent between Carmel Valley Road and Ocean Avenue (of which 4 percent originate or end in Carmel Valley).
- The collection of new development traffic impact fees is limited proportionally to the percentage of total traffic due to new development which in this case is approximately 7 to 22 percent (or 4 to 11 percent originates or ends in Carmel Valley).
- Neither Caltrans nor TAMC has included improvement of this segment of roadway in the regional traffic impact fee program or current planning and do not appear likely to do so in the near future.
- The recent attempt to raise sales tax to fund regional traffic improvements was not approved by the voters of the County in November 2008. Including the most recent effort, there have been three unsuccessful attempts to pass a transportation sales tax. The potential to raise future sales tax revenues to fund regional traffic improvements at this location is speculative at this time.
- California state law (the Mitigation Fee Act, Government Code Section 66000, et. seq.) requires the lead agency, by the fifth fiscal year following collection of the fee, to identify of all sources and amounts of funding anticipated to complete financing an incomplete improvement. As noted above, the County cannot identify at this time the other sources of funding to complete improvements along SR1.

- Thus, given the shortfall of development fees compared to the full cost of improvement and no near-term assurance of a funding source for improvement of this roadway, it is considered financially infeasible to assure roadway improvement of SR1 at this time.

Change in LOS Standard

As described in the traffic study under all traffic study scenarios, traffic through the Carmel Valley Village would be LOS D and would not meet the LOS standard of C for this segment.

While the traffic study identifies several options to improve traffic along this segment (such as left-turn pockets and medians, passing lanes, multiple lanes, or routing traffic through side streets through residential areas), none are considered consistent with the overall direction and policies of the CVMP.

This program includes the proposal to lower the LOS standard from C to D for this segment instead of pursuing physical road improvements that are considered likely to result in substantial disruption of the commercial areas in the center of the Carmel Valley Village.

Traffic Fee Program

Traffic fees were originally adopted by Monterey County for the CVMP in late 1992 through the adoption of Ordinance No. 3649, which was temporary. This ordinance was extended twice prior to 1995. In 1995, pursuant to Ordinance No. 3833, the traffic fee program was adopted and codified in the Monterey County Code (Chapter 18.60) Pursuant to Section 18.60.030 of the County Code, the Board of Supervisors establishes the amount of the fee by resolution.

The unit of measure for the fee program is different depending on the type of development. New lots, discretionary lots, and lots of record are based upon dwelling units. Service and commercial developments are assessed per 1,000 square feet, and visitor accommodations are assessed on a per room basis.

The traffic fees apply to areas within the CVMP and within the Greater Carmel Valley Area adjacent to the CVMP that also contribute~~s~~ traffic to Carmel Valley Road (referred to as the "Expanded Area"). Fee amounts within the Expanded Area are half that of the areas within the CVMP. Fee amounts are updated annually. The traffic fees for fiscal year 2007 – 2008 are shown in Table 2-1.

An updated traffic fee program was developed as a result of the traffic study for the 2007 DEIR in order to develop a fee program to pay for the current proposed improvements considered necessary to address traffic levels of service. The costs for the roadway and intersection improvements described above were updated using current data and assumptions. This fee program is described in further detail in Appendix G (in the August 2007 DEIR (Monterey County 2007b)).

This fee program was further updated since the Draft EIR to exclude application of the fee to affordable housing from the fee amount calculation and to correctly account for the fees applied to the Expanded Area (See Appendix G2 in this document).

The total costs of the proposed projects at each project's year completion would be approximately $59,057,000. The completion years were assumed to vary in order to spread the capital costs over time. The targeted completion years reflect what would occur should new homes be constructed at an even rate over the twenty-year period. If all projects were to be built and completed by 2009, it would cost the county approximately $41,120,000. However, it is not realistic to assume that all roadway projects would be built and completed within a year. Conversely, if all projects are postponed for twenty years, then built and completed in 2027, the total cost to the County would be approximately $90,100,000.

Based on these adjustments, the updated traffic fee program is summarized in Table 2-2. As shown below, the updated fees would represent an increase of approximately $3,800 for a market rate unit on an existing lot and approximately $7,600 for new market rate units on a new lot. The new rates represent an increase of 35 % over the existing rates.

Table 2-1. 2007 – 2008 Traffic Mitigation Fees (adopted in FY 2007-2008)

	CVMP Area	Expanded Area
Development on Existing Lots of Record (before 8/25/92)		
Market Rate Unit	$11,038	$5,519
Senior Unit	$5,519	$2,760
Caretaker Unit	$11,038	$5,519
2nd Unit / Apartment	$11,038	$5,519
Low / Moderate Income Unit	$0	$0
Development on New Lots of Record (after 8/25/92)		
Market Rate Unit	$22,076	$11,038
Senior Unit	$11,038	$5,519
Caretaker Unit	$22,076	$11,038
2nd Unit / Apartment	$22,076	$11,038
Low / Moderate Income Unit	$0	$0
Commercial		
New Hotel / Motel Unit (per room)	$24,008	$12,004
Existing Hotel / Motel Expansion (per room)	$11,729	$5,865
Commercial Uses (per 1,000 sf)	$5,795	$2,898
Service Centers (per 1,000 sf)	$2,898	$1,449

Source: Appendix G (in the August 2007 DEIR) (Monterey County 2007b).

Table 2-2. Recommended 2009 Impact Fee Structure

Fiscal Year 2009 – 2010 Traffic Mitigation Fees Carmel Valley and Expanded Area		
Development on Existing Lots of Record (before 8/25/92)	CVMP Area	Expanded Area
Market Rate Unit	$14,850	$7,425
Senior Unit	$7,425	$3,713
Caretaker Unit	$14,850	$7,425
2nd Unit / Apartment	$14,850	$7,425
Low / Moderate Income Unit	$0	$0
Development on New Lots of Record (after 8/25/92)		
Market Rate Unit	$29,700	$14,850
Senior Unit	$14,850	$7,425
Caretaker Unit	$29,700	$14,850
2nd Unit / Apartment	$29,700	$14,850
Low / Moderate Income Unit	$0	$0
Commercial		
New Hotel / Motel Unit (per room)	$32,300	$16,150
Existing Hotel / Motel Expansion (per room)	$16,150	$8,075
Commercial Uses (per 1,000 sf)	$7,800	$3,900
Service Centers (per 1,000 sf)	$3,900	$1,950

Changes in CVMP Policies (General Plan Amendment)

The following potential amendments to the CVMP are included in the program analyzed in this Program EIR. These policy changes are, in substance, the same policy changes included in the Draft EIR for the Draft 2007 General Plan (Monterey County 2008) under mitigation CV 2-10 through CV 2-19 (at pp. 4.6-69 through 4.6-73 of the DEIR for the draft 2007 General Plan). The purpose of these changes is to reflect the results of the traffic studies conducted, to update the methodology for monitoring traffic conditions, and to clarify the requirements for project-level review of traffic impacts and consideration of the CVTIP improvements in project-level review.

This section has been added since the August 2007 DEIR (Monterey County 2007b). In order to highlight the proposed CVMP policy changes, the text below shows proposed deletions in ~~strikeout~~ and proposed additions in underline.

Transportation (See Countywide General Plan)

39.1.6 (CV) ~~Every effort should be made to obtain the funding and proceed with construction of the Hatton Canyon Freeway at the earliest possible date. This should be a two-lane (each direction) non-access scenic route with every effort made to minimize the necessary cuts.~~

~~After five years of allocation the Board shall review local level of service and the status of the Hatton Canyon Freeway. If the Freeway has not been built, the Board shall limit further development until the freeway is under construction.~~

Every effort should be made to obtain the funding and proceed with completion of a northbound climbing lane from Rio Road to Carmel Valley Road including improvements to the intersections of SR1 at Rio Road and at Carmel Valley Road.

39.1.7 (CV) It is recommended that fees for off-site major thoroughfares be imposed as a condition of granting of building permits. The recommended zone of influence is the Carmel Valley Master Plan Study Area with funds to be expended for the Carmel Valley Road or other major road improvements

39.3.1.1 (CV) In order of priority, the following are policies regarding improvements to specific portions of Carmel Valley Road:

a) Via Petra to Robinson Canyon Road (Segments 6-8)

~~It is recommended that this 4.4 mile section of Carmel Valley Road be widened to four lanes when it reaches design capacity. This should be preceded by a reevaluation of the Official Plan Line alignment in order to reduce road cuts in several locations.~~

Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

b) Robinson Canyon Road to Laureles Grade (Segment 5)

~~This section of Carmel Valley Road is adequate for the foreseeable future.~~

Every effort should be made to preserve its rural character by maintaining it as a two-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

c) Laureles Grade to Ford Road (Segment 3)

Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and may include left turn channelization at intersections as warranted.

d) East of Esquiline Road (Segments 1 and 2)

Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs.

39.3.1.4 (CV) The following road connections may be established, as controlled emergency accesses:

a) De los Helechos to Paso Hondo as a dry weather ford;

b) Paso del Rio (off W. Garzas) to Carmel Valley Road;

c) Tierra Grande to Saddle Road in Hidden Hills;

d) Country Club Drive to El Caminito;

e) Robles del Rio area east of Esquiline Road

f) Outlook Drive to High Meadows ~~(once Hatton Canyon Freeway is completed~~).

39.3.1.5 (CV) To accommodate existing and future traffic ~~at level of service C~~, the following road improvements are recommended pursuant to Monterey County General Plan policies 37.2.1 and 39.1.4:

~~a) Widen Highway One to four lanes between Carmel Valley Road and Rio Road in conjunction with the Hatton Canyon Freeway project;~~

a) Laureles Grade - ~~undertake shoulder improvements, widening and spot realignment~~ Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.

b) Carmel Valley Road, Robinson Canyon Road to Ford Road - add left turn channelization at all intersections. Shoulder improvements should be undertaken.

~~39.3.1.8 (CV) In the event the State does not build the Hatton Canyon Freeway or widen Highway One, the County shall consider an interchange at Highway One and Carmel Valley Road.~~

39.3.1.9 (CV) A northbound climbing lane should be considered for construction on Laureles Grade to accommodate future traffic volumes. Alternatively, several curves should be flattened and shoulder widths should be increased.

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 peak hour ~~average daily~~ traffic at the 12 locations ~~identified in the Keith Higgins Report in Carmel Valley on Carmel Valley Road, Carmel Rancho Boulevard, and Rio Road~~ as follows:

Carmel Valley Road

1. East of Holman Road
2. Holman Road to Esquiline Road
3. Esquiline Road to Ford Road
4. Ford Road to Laureles Grade
5. Laureles Grade to Robinson Canyon Road
6. Robinson Canyon Road to Schulte Road
7. Schulte Road to Rancho San Carlos Road
8. Rancho San Carlos Road to Rio Road
9. Rio Road to Carmel Rancho Boulevard
10. Carmel Rancho Boulevard to SR1

Other Locations

11. Carmel Rancho Boulevard between Carmel Valley Road and Rio Road
12. Rio Road between its eastern terminus and SR1

b. A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the level of service for these 12 locations to indicate segments approaching a traffic volume which would lower ~~existing~~ level of service below the LOS standards established ~~below~~ in 39.3.2.1(d) below ~~and which would compare average daily traffic (ADT) counts with service volumes for levels of service~~.

c. Public hearings shall ~~to~~ be held in January immediately following a December report in (b) above in which only 100 or less peak hour ~~ADT~~ trips remain before an unacceptable ~~a lower~~ level of service (based on the LOS standards established ~~below~~ in 39.3.2.1(d) below) would be reached for any of the 12 segments described above ~~on Figure B-1 of EIR 85-002 on the Carmel Valley Master Plan.~~

d. The traffic LOS standards for the CVMP Area shall be as follows:

- Signalized Intersections – LOS of "C" is an acceptable condition.
- Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant is an unacceptable condition.
- Carmel Valley Road Segment Operations – LOS of "C" for Segments 1, 2, 8, 9, and 10 and LOS of "D" for all other segments (3, 4, 5, 6, and 7) are acceptable conditions.

During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the prior (e.g., prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow the County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family residence on a legal lot of record.

~~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 the Carmel Valley Master Plan area which are 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 lowerlevel. 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.~~

39.3.2.2 Carmel Valley Traffic Improvement Program (CVTIP)

a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy 39.3.2.1(d)):

1. Left-turn channelization on Carmel Valley Road west of Ford Road;
2. Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road;
3. Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade;

4. Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation);
5. Sight Distance Improvement at Dorris Road;
6. Passing lanes in front of the proposed September Ranch development;
7. Passing lanes opposite Garland Park;
8. Climbing Lane on Laureles Grade;
9. Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes;
10. Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and
11. Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road.

b) The County shall adopt an updated fee program to fund the CVTIP.

c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance.

d) Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under Policy 39.3.2.1(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.

Required Permits and Other Approvals

Monterey County

As the lead agency under CEQA, Monterey County is the agency that would certify the EIR and approve the proposed program. This EIR is intended to be used solely for the consideration for approval of the proposed program and not used for the approval of individual projects included in the proposed program. However, information in this document may be referenced as applicable in later project-specific environmental reviews.

As the program represents a circulation program for the CVMP, Monterey County will consider adoption of the program. Should the Board of Supervisors decide to do so, they would consider adoption of the CVTIP.

Other Agencies

The preparation of this program EIR does not relieve individual projects listed in the proposed program of the responsibility to comply with the requirements of CEQA (and/or National Environmental Policy Act [NEPA] for projects requiring federal funding or approvals). This EIR represents the first tier of environmental review for the specific projects and actions under the proposed program.

As projects are advanced further in the design phase, the lead agency responsible (at this time likely Monterey County Public Works Department) will determine the level of further, project-level environmental review needed, as project details are refined. New CEQA documents may reference the discussion of regional impacts in this EIR as a basis of their assessment of regional or cumulative transportation impacts.

Project implementation may also require permits from the following other agencies:

- U.S. Army Corps of Engineers - Clean Water Act Section 404 Permit;
- U.S. Fish and Wildlife Service – Federal Endangered Species Act Compliance;
- National Marine Fisheries Service – Federal Endangered Species Act Compliance;
- Federal Emergency Management Agency – If floodplain encroachment is proposed;
- California Department of Fish and Game – California Endangered Species Act Compliance and Streambed Alteration Agreement;
- Regional Water Quality Control Board – Clean Water Act Section 401 and 402 compliance and Porter-Cologne Water Quality Act Waste Discharge Requirements; and
- Other agencies not yet identified such as Monterey Peninsula Water Management District (if new water hookups are proposed).

Section 3.5b
Land Use (April 2009 Update)

Introduction

This section provides a discussion of the land use issues related to the changes in CVMP policies included in the proposed program, the consistency of the changes with the existing CVMP, and the consistency of the changes with the CVMP included in the Draft 2007 General Plan.

The August 2007 DEIR land use section included a review of existing conditions based on available literature and a summary of federal, state, and local policies and regulations related to land use. Analyses of the environmental impacts of the proposed roadway improvements were discussed, and where feasible, mitigation measures were recommended to minimize or avoid potentially significant impacts. This analysis is not repeated in this document as the changes in the CVTIP in this PRDEIR do not include any new proposed roadway improvements.

Regulatory Setting

The following discussion summarizes the relevant goals and policies from each of these plans as they relate to the proposed roadway program.

Development Plans in the Program Area

Current CVMP

The *Carmel Valley Master Plan* [1]is part of the *Monterey County General Plan* and is the specific planning document that governs the program area. It seeks to "accommodate[e] development pressures from a comprehensive standpoint" in order to preserve and enhance the rural and scenic qualities of Carmel Valley (Monterey County 1986).

[1] Monterey County. 1986. Carmel Valley Master Plan. Available at the Front Desk of the Monterey County Planning Department in Salinas.

Table C-1 in Appendix C-1b (in this document) contains analysis of the consistency of the updates to the CVTIP included in this PRDEIR with the existing *Carmel Valley Master Plan* and notes where consistency findings have changed since the August 2007 DEIR (Monterey County 2007b).

Draft 2007 CVMP

The *Draft 2007 Carmel Valley Master Plan*[2] is part of the *Draft 2007 Monterey County General Plan* and is the proposed new specific planning document that would govern the program area upon approval (Monterey County 2007a).

Appendix C-2 (in this document) includes all the policies in the proposed *Draft 2007 Carmel Valley Master Plan* and a determination for the proposed program's consistency with each policy, as well as rationale for why the proposed program would or would not be consistent with each policy.

Criteria for Determining Significance

In accordance with State CEQA Guidelines, applicable federal and state regulations, and local plans and policies, the proposed program would be considered to result in a significant impact if it would:

A. Land Use Compatibility

Introduce new land uses into an area that could be considered to be incompatible with the surrounding land uses or with the general character of the area.

B. Plan/Policy Consistency

Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to a general plan, specific plan, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

C. Division of an Established Community

Physically divide an established community.

[2] Monterey County. 2007. Draft 2007 Carmel Valley Master Plan. Available at the Front Desk of the Monterey County Planning Department in Salinas.

Impacts and Mitigation Measures

A. Land Use Compatibility

Impact LU-1b: Potential Conflicts in Compatibility of Proposed Roadway Improvements with Surrounding Land Uses (No Additional Impact)

No new roadway improvements are proposed beyond those analyzed in the August 2007 DEIR (Monterey County 2007b). Thus there are no additional conflicts with surrounding land uses.

B. Plan/Policy Consistency

Impact LU-2a: Consistency with Current Carmel Valley Master Plan (Consistent with Proposed CVMP changes)

Table C-1b in Appendix C (in this document) provides an analysis of the consistency with the CVMP of the CVTIP, including the proposed policy changes with regard to all CVMP land use policies. In general, the proposed program would be consistent with the intent of CVMP transportation policies. However, the policy changes would be inconsistent with the following existing policies for the reasons described below, unless the amendments to CVMP policies proposed as part of the CVTIP are adopted. :

Policy 39.1.6 currently supports construction of the Hatton Canyon Freeway and limiting further development until it is under construction. The Hatton Canyon Freeway project has been abandoned. The CVTIP proposed policy changes would eliminate the Hatton Canyon Freeway and any linkage of development approval to completion of the Hatton Catton Freeway or capacity-increasing improvements to SR1. The policy is proposed to be changed to support funding for the northbound climbing lane from Rio Road to Carmel Valley Road including intersections improvements at Rio Road and Carmel Valley Road. The CVTIP would be consistent with the CVMP as proposed to be amended, but as discussed in Section 3.7b (of this document), the end result is that cumulative development will result in continued failing segment operations along southbound SR1 between Ocean Avenue and Rio Road, which is a significant unavoidable traffic impact.

Policy 39.3.1.5 recommends widening SR 1 between Rio Road and Carmel Valley Road and other specific other improvements. The updates to the CVTIP would not include SR1 widening which is not considered feasible given current financial considerations, and thus SR1 segment operations would remain deficient and the traffic impact would be significant and unavoidable. The CVTIP does include the other specific improvements.

Policy 39.3.1.8 supports an interchange at SR1/Carmel Valley road if the Hatton Canyon Freeway is not build or SR1 is not widened. The updates to the CVTIP do not include provision for an interchange at Highway One and Carmel Valley Road. The SR1 traffic study identified the need for widening of SR1, not an interchange (although funding for the widening is financially infeasible at this time).

Policy 39.3.2.1 includes requirements for traffic standards, monitoring, and project review. The updates to the CVTIP propose to change this policy to: (1) change the traffic analysis methodology to a peak-hour analysis; (2) specifically identify the LOS standards for Carmel Valley Road by segment; and (3) clarify the development review process relative to LOS standards and the CVTIP. Monitoring will continue, but will be on a peak-hour basis. A yearly evaluation report will be prepared, but will be on a peak-hour basis. Public hearings will continue to be required, but will be triggered by 100 or less peak hour trips. (Note: 100 peak hour trips is a more conservative measure and will be triggered long before 100 average daily trips would be triggered). Evaluation of traffic impacts of projects will be tied to the proposed traffic standards. The effect of CVTIP projects will be taken into account. If traffic impacts still exceed traffic standards, then either prior construction of additional roadway improvement shall be a condition of approval or an EIR shall be prepared.

While this policy would change, the new LOS standards are consistent with the prior LOS standards with the exception of in the Village where a lowered standard is necessary to avoid traffic improvement that would be out of character with the Village. Traffic monitoring will still be required along with updating of the CVTIP over time. Project review will be still be required to address traffic impacts and. Thus, the new policy is consistent with the intent of existing policy.

With the proposed amendments to the CVMP described in Chapter 2b, Program Description, the CVTIP would be consistent with the CVMP and would have **less than significant land use impacts**.

Overall, the CVTIP, including amendments to policies noted above, would result in a significant and unavoidable impact to traffic along SR1 in Carmel. This impact is discussed further in Section 3.7 of this document. The CVTIP would not result in additional impact to traffic within the CVMP area beyond those disclosed in the August 2007 DEIR.

Impact LU-2b: Conflicts with Proposed 2007 Carmel Valley Master Plan (Consistent with Mitigated Plan)

Appendix C.2 (in this document) provides an analysis of the consistency of the proposed CVTIP with regard to the Draft 2007 CVMP. As discussed in Appendix C.2 (in this document), the proposed program would be consistent with the Draft 2007 CVMP policies with one exception.

As updated in this PRDEIR, the CVTIP would be inconsistent with **Policy CV-2.12 in the 2007 Draft CVMP** because it would delete the portion of this policy

regarding widening of SR1. However, the CVTIP would be consistent regarding Policy 2.12 if amended in accordance with Mitigation Measure TRAN-2B in the DEIR for the 2007 General Plan (see p. 4.6-69 of the 2007 General Plan DEIR) (Monterey County 2008). This mitigation measure also removes widening of SR1 from this Policy 2.12.

As disclosed in Appendix C.2 (in this document), the updates to the CVTIP in this PRDEIR would alter **Policy CV-2.18 in the 2007 Draft CVMP** concerning monitoring and evaluation methodology and project processing but would be consistent with the spirit of the policy and would be consistent with changes to Policy CV-2.18 proposed by Mitigation Measure TRAN-2B in the 2007 General Plan DEIR (Monterey County 2008).

As disclosed in Appendix C.2, the CVTIP is consistent with all other applicable policies in the 2007 Draft CVMP.

Prior to commencement of any project construction, subsequent project-specific environmental analysis would be conducted to assess whether any individual project would be inconsistent with applicable federal, state, and local plans, policies, and ordinances.

Therefore, with the proposed CVMP policies included in the CVTIP, land use consistency impacts related to environmental impacts are considered **less-than-significant**.

As disclosed in Chapter 3.7 of this PRDEIR, widening of SR1 is considered financially infeasible at this time and traffic impacts along SR1 near Carmel are considered significant and unavoidable.

C. Division of an Established Community

Impact LU-3: Potential Division of an Established Community (No Additional Impact)

No new roadway improvements are proposed beyond those analyzed in the August 2007 DEIR. Thus there are no additional impacts related to established communities.

Section 3.7b

Transportation and Circulation (April 2009 Update)

Introduction

This section analyzes the proposed program's potential effects related to State Route 1 (SR 1) between Rio Road and Carpenter Street. The source of data used in the preparation of this section is the *Carmel Valley Master Plan SR-1 Study* prepared by Kimley-Horn Associates and appended to this PRDEIR as Appendix H (in this document). This section includes a review of existing and cumulative conditions along this portion of SR1 based on the KHA traffic study completed for the proposed program.

As no additional traffic improvements are proposed along SR1, no additional analyses of the environmental impacts of proposed traffic improvements is included.

For an analysis of traffic impacts within the CVMP itself and the environmental impacts of proposed traffic improvements within the CVMP, the reader is directed to the August 2007 Draft EIR (Monterey County 2007b).

Environmental Setting

Highway 1 (State Route 1)

Highway 1 (SR 1) 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, SR 1 provides three travel lanes (two in the northbound direction and one lane in the southbound direction) until Ocean Avenue. North of Ocean Avenue SR1 provides four travel lanes (two in each direction). SR 1 provides access to the CVMP area via Carmel Valley Road and Rio Road.

Existing Traffic Conditions

Intersection Level of Service

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 evaluation indicates the degree of congestion that occurs during peak travel periods and is the principal measure of roadway performance. 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, 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.

Monterey County uses the *2000 Highway Capacity Manual* (HCM) (Transportation Research Board 2000) operations method for analysis of intersection levels of service for both unsignalized and signalized intersections.

A total of four intersections were studied by KHA on SR1. Based on counts conducted prior to school dismissal in June 2008, the four intersections in the study area (Rio Road, Carmel Valley Road, Ocean Avenue, and Carpenter Street) all operate at LOS D or better. Ocean Avenue operates at LOS D in the AM peak hour and Carpenter Street operates at LOS D in the PM peak hour.

Table 3.7b-1. Intersection Level of Service— SR1 Existing Conditions (2008)

#	Intersection Name	A.M. Peak		P.M. Peak	
		Avg. Delay[1]	LOS[2]	Avg. Delay[1]	LOS[2]
1	SR1 & Rio Road (S)	27.5	C	31.6	C
2	SR1 & Carmel Valley Road (S)	10.3	B	24.1	C
3	SR1 & Ocean Avenue (S)	35.9	D	48.8	D
4	SR1 & Carpenter Street (S)	17.8	B	36.5	D

Source: Appendix H (in this document)

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

[2] LOS: Level of Service. LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual (Transportation Research Board 2000) and performed using Synchro 6.0.

(S): Signalized intersection.

Roadway Segment Analysis

A roadway segment analysis was also performed for three roadway segments along SR1 using the Highway Capacity Manual Methodology (see Appendix H in this document).

Table 3.7b-2 provides the LOS criteria for two-lane and multi-lane highways.

Table 3.7b-2. Two-Lane and Multi-Lane Highway—LOS Criteria

	Two-Lane[1]	Multi-Lane[2]
Level of Service	Percent Time-Spent Following (PTSF)	Density (pc/mi/ln)
A	<= 35	<= 11
B	> 40 to 50	> 11 to 18
C	> 50 to 65	> 18 to 26
D	> 65 to 80	> 26 to 35
E	> 80	> 35 to 45
F	See note 3	> 45

Source: Appendix H (in this document)

Notes:

[1] Highway Capacity Manual, Transportation Research Board, 2000, Exhibit 20-2, Class I Facility.

[2] Highway Capacity Manual, Transportation Research Board, 2000, Exhibit 21-2—Facility with free flow speed of 45 mph.

[3] LOS F applies whenever the flow rate exceeds the roadway segment capacity.

Roadway Segment Operations

Tables 3.7b-3 and Table 3.7b-4 provide an existing conditions LOS comparison analysis for each of the studied roadway segments, respectively.

The existing conditions roadway analysis indicates that the two-lane section of SR-1 between Rio Road and Carmel Valley Road is currently at LOS E during both peak hours. For the segment between Carmel Valley Road and Ocean Road, the two-lane northbound section is at LOS C and the one lane southbound section is at LOS F during both peak hours. The section of SR-1 between Ocean Avenue and Carpenter Street operates at a LOS C during both peak hours.

Table 3.7b-3. SR 1 Two-Lane Roadway Segments—Existing Condition (2008) LOS Analysis

Segment	To/From		A.M. Peak			P.M. Peak		
			Volume	PTSF	LOS	Volume	PTSF	LOS
1	Rio Road to Carmel Valley Road[1]	BOTH	1284	77.6%	E	1367	79.6%	E
2	Carmel Valley Road to Ocean Avenue[1]	SB	1576	100%	F	1438	100%	F

Source: Appendix H (in this document)

Notes:

[1]Two-lane segment analyzed as a two-lane segment using HCS 5.21 software

Table 3.7b-4. SR1 Multi-Lane Roadway Segment—Existing Condition (2008) LOS Analysis

Segment	To/From	Direction	A.M. Peak				P.M. Peak			
			Volume (vph)	Flow Rate (pcphpl)[1]	Density[2]	LOS	Volume (vph)	Flow Rate (pcphpl)	Density	LOS
2	Carmel Valley Road to Ocean Avenue[3]	NB	1273	818	18.2	C	1562	963	21.8	C
3	Ocean Avenue to Carpenter Street[4]	NB	1487	984	21.9	C	1782	1082	24.0	C
		SB	1556	955	21.2	C	1429	859	19.1	C

Source: Appendix H (in this document)

Notes:

[1]pcphpl = passenger cars per hour per lane

[2]Density in passenger cars per mile per lane.

[3]Three-lane segment analyzed as a four-lane segment on the northbound side and a directional two-lane segment on the southbound side using HCS 5.21 software

[4]Four-lane segment analyzed as a four-leg segment using HCS 5.21 software

Criteria for Determining Significance

Impacts would be considered significant under the following conditions:

The current Monterey County standard for segment operations and for signalized intersections is LOS C.

The Caltrans manual (Caltrans 2002) states that "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS."

A Caltrans Project Study Report (Caltrans 2001) in 2001 evaluated options for improving SR1 from the Carmel River bridge to Highway 68 and a second Caltrans PSR (Caltrans 2005) evaluated the northbound climbing lane from Rio Road to Carmel Valley Road. In both documents, the Project Development Team, with the concurrence of the TAMC Board, in recognition of likely public opposition to the impacts related to the substantial improvements that would be required to achieve LOS C on the study section of SR1, selected LOS D in design year 2030 as the standard for screening project alternatives.

The County concurs with the approach of Caltrans and TAMC in their PSRs for this portion of SR1 that a LOS D should be the standard and thus LOS D is used as the significance criteria in this document for evaluation of this portion of SR1. Please note that this significance criteria for SR1 is different than that used in the August 2007 DEIR (Monterey County 2007b) for evaluation of traffic conditions within the CVMP area itself.

Impacts and Mitigation Measures

A. Intersection Operations

Impact T-1b: Substantial Increase in Traffic at Project Intersections Relative to the Existing Traffic Load and Capacity (Cumulatively Significant; Considerable and Unavoidable Contribution)

With existing and proposed development under the CVMP (as well as elsewhere in the County), there would be an expected increase in vehicular traffic on roadways due to growth within and outside of Carmel Valley. The intersections and their corresponding levels of service under the proposed transportation improvements are presented in Table 3.7b-5. The forecasting methodology for 2030 conditions are presented in Appendix H (in this document).

At SR1/Rio Road, the intersection would continue to operate at LOS C in the A.M. peak hour, but would decline from an existing LOS C to LOS D in the P.M. peak hour. At SR1/Carmel Valley Road, all operations would be LOS C at both

peak hours. At SR1/Ocean Avenue, A.M. peak hour operations would be LOS D, but would be LOS E during the evening peak hour. At SR1/Carpenter Street, operations would remain LOS C in the morning peak hour, but would be LOS D during the P.M. peak hour.

Operations of the SR1/Ocean Avenue intersection would not meet the LOS D evaluation goal, and thus the impact of cumulative growth (in the CVMP and elsewhere) is considered a **significant** cumulative impact.

By volume, new cumulative development would contribute 7 percent of traffic between Carmel Valley Road and Ocean Avenue, of which 4 percent would originate or end in Carmel Valley. New development in Carmel Valley would be responsible for about 56 percent of the new traffic; the remaining 44 percent would be from new development elsewhere or background traffic growth. The SR1/Ocean Avenue intersection would be improved to an acceptable level of service with the addition of a westbound right turn lane. As noted above, only a small percentage of the trips traveling through the SR-1 and Ocean Avenue intersection are attributable to future development within the Carmel Valley Planning Area. Therefore, this improvement cannot be fully funded by the CVTIP program and would require additional funding from other sources that have not been identified. As such, this improvement is considered infeasible and cannot be added to the CVTIP program. Thus, impacts to the SR1/Ocean Avenue intersection are **cumulatively significant and unavoidable**, and new development in Carmel Valley would make a considerable contribution to this impact.

Table 3.7b-5 SR1 2030 Intersection LOS Summary

#	Intersection Name	A.M. Peak			P.M. Peak		
		Avg. Delay (2030)	LOS (2030)	LOS (2008)	Avg. Delay (2030)	LOS (2030)	LOS (2008)
1	SR1 & Rio Road	34.4	C	C	41.1	D	C
2	SR1 & Carmel Valley Road	10.2	B	B	16.8	B	C
3	SR1 & Ocean Avenue	43.6	D	D	59.6	E	D
4	SR1 & Carpenter Street	20.7	C	B	47.7	D	D

Source: Appendix H (in this document)

B. Roadway Segment LOS

Impact T-2b: Violation (Cumulatively) of the LOS Standard Established by County for Roadway Segment Operations (Cumulatively Significant; Considerable and Unavoidable Contribution)

The Cumulative Conditions (Year 2030) roadway analysis includes the climbing lane between Rio Road and Carmel Valley Road that is currently in the PA/ED stage with Caltrans.

Cumulative growth within and outside the CVMP area would result in the following levels service by 2030 along the three study area roadway segments:

- Rio Road to Carmel Valley Road– Northbound operations would improve to from LOS E to LOS B conditions in both peak hours due to the completion of the TAMC project for the northbound climbing lane between Rio Road and Carmel Valley Road (this project is already fully funded). Southbound operations would improve slightly but would remain LOS E in both peak hours.
- Carmel Valley Road to Ocean Avenue – Northbound operations would remain LOS C in both peak hours. Southbound operations would worsen slightly and continue to operate at LOS F in both peak periods.
- Ocean Avenue to Carpenter Street – Southbound operations would be maintained at LOS C. Northbound operations would worsen from LOS C to LOS D in both peak periods.

The cumulative conditions in the southbound direction between Ocean Avenue and Rio Road are considered a **significant impact** of cumulative development as they would either exacerbate currently deficient conditions. Cumulative development in the CVMP area along with cumulative development outside the CVMP area would contribute considerably to this impact.

Table 3.7b-6. SR 1 Two-Lane Roadway Segments—Cumulative Conditions (2030) LOS Analysis

Segment	To/From		A.M. Peak			P.M. Peak		
			Volume	PTSF[1]	LOS	Volume	PTSF[1]	LOS
1	Rio Road to Carmel Valley Road[2]	SB	643	75.0%	E	582	72.7%	E
2	Carmel Valley Road to Ocean Avenue[2]	SB	1,576	95.6%	F	1,600	100%	F

Source: Appendix H (in this document)

Notes:

[1]Percent time spent following.

[2]Three-lane segment analyzed as a four-lane segment on the northbound side and a directional two-lane segment on the southbound side using HCS 5.21 software

Table 3.7b-7. SR1 Multi-Lane Roadway Segment—Cumulative Condition (2030) LOS Analysis

Segment	To/From	Direction	A.M. Peak				P.M. Peak			
			Volume (vph)	Flow Rate (pcphpl)	Density	LOS	Volume (vph)	Flow Rate (pcphpl)	Density	LOS
1	Rio Road to Carmel Valley Road[1]	NB	899	546	12.1	B	1110	688	15.3	B
2	Carmel Valley Road to Ocean Avenue[1]	NB	1564	1005	22.3	C	1752	988	22.0	C
3	Ocean Avenue to Carpenter Street[2]	NB	1809	1198	26.6	D	1970	1197	26.6	D
		SB	1697	1042	23.2	C	1652	993	22.1	C

Source: Appendix H (in this document)

Notes:

[1]Three-lane segment analyzed as a four-lane segment on the northbound side and a directional two-lane segment on the southbound side using HCS 5.21 software

[2]Four-lane segment analyzed as a four-leg segment using HCS 5.21 software

Two potential mitigation measures were considered to address the deficient roadway segment operations in the southbound directions between Ocean Avenue and Rio Road.

- Option 1: Widen the SR1 southbound roadway from one lane to two lanes from Ocean Avenue to Rio Road which would improve operations to an acceptable LOS D.

- Option 2: Move the merge point for southbound SR-1south of Ocean Avenue from two lanes to lone lane further to the south to increase its distance from the Ocean Avenue intersection. Due to the proximity of the merge point to the Ocean Avenue intersection, vehicles queue back from the merge point into the intersection, affecting intersection operations. By moving the merge point, additional capacity can be provided on SR-1 south of Ocean Avenue, improving intersection operations and slightly enhancing roadway capacity. However, this improvement would not result in an improved level of service for SR-1 south of Ocean Avenue. Roadway widening to Carmel Valley Road or Rio Road is the only way to improve the existing and forecast deficiency to an acceptable level of service.

By volume, new cumulative development would be responsible for 22 percent of total traffic between Rio Road and Carmel Valley Road and 7 percent between Carmel Valley Road and Ocean Avenue.

Mitigation to improve SR1 between Ocean Avenue and Rio Road is considered infeasible for the following reasons:

- Existing southbound operations between Ocean Avenue and Rio Road are currently deficient. Future unacceptable traffic conditions will be primarily (78 to 93 percent) due to existing traffic and only partially due to new development (7 to 22 percent, of which 4 to 11 percent originates or ends in Carmel Valley).

- U.S. Constitutional requirements (per the U.S. Supreme Court decisions in *Nollan v. California Coastal Commission* and *Dolan v. City of Tigard*) require that mitigation must have a nexus and rough proportionality to the impact caused. Thus, new development traffic impact fees are limited proportionally to a percentage corresponding to their percentage of total traffic at a failing facility, which in this case is a maximum of 22 percent.

- Neither Caltrans nor TAMC has included improvement of this section of SR1 in the regional traffic impact fee program or current planning nor are likely to do so in the near future.

- The recent attempt to raise sales tax to fund regional traffic improvements was not approved by the voters of the County in November 2008. The potential to raise future sales tax revenues to fund regional traffic improvements is speculative at this time.

- California state law (the Mitigation Fee Act, Government Code Section 66000, et. Seq.) requires the lead agency, when imposing a fee as a condition of approval, to identify of all sources and amounts of funding anticipated to complete financing in incomplete improvement. As noted above, the County cannot identify at this time the other sources of funding to complete improvements along SR1.

- Thus, given the shortfall of development fees compared to the full cost of improvement and no near-term assurance of a funding source for improvement of this roadway, it is considered financially infeasible to assure roadway improvement of SR1 at this time.

Since no feasible mitigation measures have been identified to improve the LOS roadway segment standard to the acceptable level, this cumulative impact is considered **significant and unavoidable**.

Chapter 4b

Other CEQA Analyses (Updated April 2009)

Introduction

This chapter contains updated analyses of the proposed program's potential to contribute to cumulative impacts in the region, induce growth, and result in significant, irreversible environmental changes. Resource topics for which no significant cumulative impacts were identified are also included in this chapter.

Key data sources reviewed in the preparation of this chapter include:

- CVMP Traffic Study prepared by Kimley Horn and Associates (See Appendix H);

Cumulative Impacts

Transportation and Circulation

The following is an additional cumulative impact of the CVTIP in addition to those disclosed in the August 2007 DEIR.

Cumulative Impact T-1b: Substantial Increase in Traffic at Project Intersections Relative to the Existing Traffic Load and Capacity (Cumulatively Significant; Considerable and Unavoidable Contribution)

As described in Section 3.7b in this PRDEIR, the proposed program would have a significant and unavoidable cumulative impact on the SR1/Ocean Avenue interchange because no financially feasible mitigation measure has been identified to improve the LOS at this location.

Cumulative Impact T-2b: Result in Traffic that exceeds LOS Standards Established by the County (Cumulative Contribution)

As described in Section 3.7 in this PRDEIR, the proposed program would have a significant and unavoidable cumulative impact on southbound segment operations along SR1 between Ocean Avenue and Rio Road because no financially feasible mitigation measure has been identified to improve the LOS for this segment.

Significant and Unavoidable Adverse Impacts

Section 15126.2(b) of the State CEQA Guidelines requires an EIR to describe any significant impacts that cannot be mitigated to a level of insignificance. All of the impacts associated with the proposed program would be reduced to a less-than-significant level through the implementation of identified mitigation measures and environmental commitments, with the exception of the impacts listed below.

The following are additional significant unavoidable impacts beyond those disclosed in the August 2007 Draft EIR.

Transportation and Circulation

Impact T-1b: Substantial Increase in Traffic at Project Intersections Relative to the Existing Traffic Load and Capacity (Cumulatively Significant; Considerable and Unavoidable Contribution)

Impact T-2b: Violation (Cumulatively) of the LOS Standard Established by County for Roadway Segment Operations (Cumulatively Significant; Considerable and Unavoidable Contribution)

Cumulative Impact T-1b: Substantial Increase in Traffic at Project Intersections Relative to the Existing Traffic Load and Capacity (Cumulatively Significant; Considerable and Unavoidable Contribution)

Cumulative Impact T-2b: Result in Traffic that exceeds LOS Standards Established by the County (Cumulative Contribution)

Chapter 6 b

References for the PRDEIR (April 2009)

References for the PRDEIR

The following documents listed below can be reviewed in hard copy at the Front Counter of the Monterey County Planning Department, Salinas Permit Center, 168 W. Alisal St. 2nd Floor Salinas, CA 93901, (831) 755-5025, unless otherwise noted below:

1. Association of Monterey Bay Area Governments (AMBAG). 2006. AMBAG Travel Demand Forecasting Model. (Proprietary Model. Requires use agreement from AMBAG).

2. Caltrans. 2001. Project Study Report. Project Development Support. On Route 1 Near Carmel Between the Carmel River Bridge and Route 68 West. Prepared by Dokken Engineering. November.

3. Caltrans. 2002. *Guide for the Preparation of Traffic Impact Studies*. December. Also available at: http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf (As of 04/22/09).

4. Caltrans. 2005. Project Study Report. On Route 1 near Carmel Between the Carmel River Bridge and Carmel Valley Road Prepared by Wood Rogers. January.

5. DKS Associates. 2007. Carmel Valley Master Plan Traffic Study. Prepared for The County of Monterey. July. Included as Appendix F in the Draft EIR for the CVTIP (see Monterey County 2007b below).

6. Monterey County. 1982. Monterey County General Plan. Adopted September 30, 1982. Also available on County web site at: http://www.co.monterey.ca.us/planning/docs/Plans/landuse.htm (As of 04/22/09).

7. Monterey County. 1986. Carmel Valley Master Plan. Last Amended to November 5, 1996. Also available on County web site at: http://www.co.monterey.ca.us/planning/docs/Plans/landuse.htm(As of 04/22/09).

8. Monterey County. 1991. Carmel Valley Road Improvement Plan. Environmental Impact Report. Prepared by Planning Analysis & Development. Certified in November.

9. Monterey County. 1992. Ordinance No. 3649 – An Ordinance of the County of Monterey Adding Chapter 18.60 to the Monterey County Code, Relating to the Establishment of a Traffic Mitigation Fee for Carmel Valley Road Improvements.

10. Monterey County. 1995. Ordinance No. 3833 - An Ordinance of the County of Monterey Adding Chapter 18.60 to the Monterey County Code, Relating to the Establishment of a Traffic Mitigation Fee for Carmel Valley Road Improvements.

11. Monterey County. 2007a. Draft 2007 Monterey County General Plan. Also available at: http://www.co.monterey.ca.us/planning/gpu/draftNov2007/default.htm (As of 04/22/09).

12. Monterey County. 2007b. Carmel Valley Traffic Improvement Program Draft Subsequent Environmental Impact Report. Prepared by Jones & Stokes http://www.co.monterey.ca.us/planning/plan_info/CarmelValley_SEIR.htm. (As of 04/22/09).

13. Monterey County. 2007c. Capital Improvement Program Summary: Five Year; Fiscal Years 2007 – 2008 through 2011-2012. Department of Public Works. Also available at: http://www.co.monterey.ca.us/publicworks/cip_2007to2012.htm.(As of 04/22/09).

14. Monterey County. 2008. 2007 Monterey County General Plan Draft Environmental Impact Report. Prepared by ICF Jones & Stokes. September. Also available at: http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/2007_GPU_DEIR_September_2008.htm. (As of 04/22/09).

15. Transportation Research Board. 2000. Highway Capacity Manual 2000, National Research Council. TRB Publishing. Excerpt used in EIR in hard copy at the Front Counter.

Appendix C.1b

CVMP Policy Consistency Analysis (updated April 2009)

Table C-1b. Consistency Analysis of CVTIP Updates with Existing Carmel Valley Master Plan (April 2009)

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
Open Space Conservation		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Geology, Minerals, and Soils		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Water Resources		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Vegetation and Wildlife Habitats		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Environmentally Sensitive Areas		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Archaeological Resources		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Seismic and Other Geological Hazards		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Air and Water Quality		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
General Land Use		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Carmel Valley Airport		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Residential Land Use		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Commercial Land Use		

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Carmel Valley Village		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Visitor Accommodations		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Public/Quasi-Public		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Open Space		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Watershed Areas		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		
Transportation		
37.4.1 (CV) The County shall encourage overall land use patterns which reduce the need to travel.	No change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
37.4.2 (CV) The County shall encourage the provision, where feasible, of bicycle and automobile storage facilities to be used in conjunction with public transportation.	No change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
38.1.4.1 (CV) Public transit should be explored as an alternative to the use of private automobiles and to help preserve air quality. (Whenever feasible all new development shall include a road system adequate not only for its internally generated automobile traffic but also for bus -- both transit and school -- pedestrian and bicycle traffic which should logically pass through or be generated by the development.)	No change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.1.5 (CV) Consideration should be given to locating a County road and utility maintenance facility in the Carmel Valley area. Such facility would provide for storage of equipment as well as	No change	Updates to the CVTIP do not change the DEIR findings regarding consistency.

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
materials.		
39.1.6 (CV) Every effort should be made to obtain the funding and proceed with construction of the Hatton Canyon Freeway at the earliest possible date. This should be a two-lane (each direction) non- access scenic route with every effort made to minimize the necessary cuts. After five years of allocation the Board shall review local level of service and the status of the Hatton Canyon Freeway. If the Freeway has not been built, the Board shall limit further development until the freeway is under construction.	Consistent with Proposed CVMP Amendments	The Hatton Canyon Freeway project has been abandoned. The CVMP amendments would eliminate the Hatton Canyon Freeway and any linkage of development approval to completion of the Hatton Catton Freeway or capacity-increasing improvements to SR1. The policy is proposed to be changed to support funding for the northbound climbing lane from Rio Road to Carmel Valley Road including intersections improvements at Rio Road and Carmel Valley Road.
39.1.7 (CV) It is recommended that fees for off-site major thoroughfares be imposed as a condition of granting of building permits. The recommended zone of influence is the Carmel Valley Master Plan Study Area with funds to be expended for the Valley Road or other major road improvements.	Consistent	The fee amount has been updated in this PRDEIR.
39.2.2.1 (CV) The needs of bicyclists, pedestrians, utilities and drainage shall be considered and, where appropriate, provided for on all public right-of- ways where such improvements will be safe for the intended use.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.2.2 (CV) Bike routes must be considered in conjunction with all new road construction and improvements to existing roads.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.2.3 (CV) All new road work or major work on existing roads within the commercial core areas of development areas shall provide room for use of bicycles and separate pedestrians walkways. The County shall provide bicycle routes on the shoulders between development areas throughout the Carmel Valley.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.2.4 (CV) All new bridge construction or remodeling shall include provision for pedestrians and bicyclists.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.2.5 (CV) Circulation in the village should emphasize pedestrian access. Walkways and paths are to be provided rather	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
than conventional sidewalks. Pedestrian walkways should be used to provide access among new or remodeled commercial and other higher density uses.		
39.2.5.1 (CV) Multiple driveway accesses to Carmel Valley Road should be discouraged. Approval of future development of land having frontage on Carmel Valley Road must be conditioned upon minimizing access to Carmel Valley Road, or denying it if access is otherwise available.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.5.2 (CV) Off-street parking should be developed at suitable locations within development areas.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.6.1 (CV) Wherever possible a network of shortcut trails and bike paths should interconnect neighborhoods, developments and roads. These should be closed to motor vehicles and their intent is to facilitate movement within the Valley without the use of automobiles.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.7 (CV) In hillside areas, relaxation of road standards should be permitted for low density developments where it can be demonstrated that reduced standards result in fewer or less severe cut and fill slopes, and where bicycle, vehicular, and pedestrian safety is not adversely affected. In such cases, it must also be demonstrated that the relaxed standards positively contribute to furtherance of plan policies related to hazards avoidance, protection of biological resources, or protection of viewshed.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.2.8 (CV) No roads should cross slopes steeper than 30% unless factors of erosion and visible scarring can be mitigated.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.3.1.1 (CV) In order of priority, the following are policies regarding improvements to specific portions of Carmel Valley Road: ▪ Via Petra to Robinson Canyon Road (Segments 6-8) It is recommended that this 4.4 mile section of Carmel Valley Road be widened to four lanes when it reaches design capacity. This should be preceded by a reevaluation of the	Consistent (No change from DEIR finding)	The updates to CVMP policies in the updated CVTIP describes priorities for future traffic improvement based on projected levels of service. The program includes passing lanes along Segments 5, 6 and 7 that is more consistent with rural character than a 4-lane facility. Shoulder widening is included along Segment 3.

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
Official Plan Line alignment in order to reduce road cuts in several locations. ▪ Robinson Canyon Road to Laureles Grade (Segment 5) This section of Carmel Valley Road is adequate for the foreseeable future. Every effort should be made to preserve its rural character by maintaining it as a two-lane road with paved shoulders, and left turn channelizations at intersections where warranted. ▪ Laureles Grade to Ford Road (Segment 3) Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and may include left turn channelization at intersections as warranted. ▪ East of Esquiline Road (Segments 1 and 2) Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs.		
39.3.1.2 (CV) It is recommended that the County reduce the dangers of driving Carmel Valley Road by repainting the lines as consistent with the California Vehicle Code.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.3.1.3 (CV) Left turn channelizations and/or ingress-egress tapers at significant access points on Carmel Valley Road should be high priority improvements to alleviate existing hazards.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.3.1.4 (CV) The following road connections may be established, as controlled emergency accesses: a. De los Helechos to Paso Hondo as a dry weather ford; b. Paso del Rio (off W. Garzas) to Carmel Valley Road; c. Tierra Grande to Saddle Road in Hidden Hills; d. Country Club Drive to El Caminito; e. Robles del Rio area east of Esquiline Road;	Not Applicable	The updates to the CVTIP would eliminate reference to Hatton Canyon Freeway in item f, but would not change the policy in regards to road connections.

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
f. Outlook Drive to High Meadows (once Hatton Canyon Freeway is completed).		
39.3.1.5 (CV) To accommodate existing and future traffic volumes at level of service C, the following road improvements are recommended pursuant to Monterey County General Plan policies 37.2.1 and 39.1.4: a. Widen Highway One to four lanes between Carmel Valley Road and Rio Road in conjunction with the Hatton Canyon Freeway project; b. Laureles Grade - undertake shoulder improvements, widening and spot realignment; c. Carmel Valley Road, Robinson Canyon Road to Ford Road - add left turn channelization at all intersections. Shoulder improvements should be undertaken.	a. Consistent with proposed CVMP Amendments b. Consistent (Same as DEIR) c. Consistent (Same as DEIR	a. Widening SR1 is not part of the updated CVTIP and is not considered feasible given current financial considerations. However, TAMC is funding a northbound climbing lane which will provide two lanes in a northbound direction. Proposed CMVP amendments would make the CVTIP consistent. b. The program includes paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade. Refer to Chapter 2, *Program Description*. c. The program includes left turn channelizations on Carmel Valley Road west of Ford Road. Refer to Chapter 2, *Program Description*.
39.3.1.6 (CV) It is recommended that signals be provided at the following intersections and at other locations when accepted engineering warrants are met as a result of development under the Carmel Valley Master Plan: ▪ Carmel Valley Road/Rio Road	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.3.1.7 (CV) The County shall consider constructing minor interchanges as an alternative to signalizing the Carmel Valley Road intersection. This would result in an unimpeded flow of traffic on Carmel Valley Road and would facilitate left turning movements from and onto Carmel Valley Road intersections.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
39.3.1.8 (CV) In the event the State does not build the Hatton Canyon Freeway or widen Highway One, the County shall consider an interchange at Highway One and Carmel Valley Road.	Consistent with CVMP Amendments [Change from Finding of Not Applicable in	The updates to the CVTIP do not include provision for an interchange at Highway One and Carmel Valley Road. The SR1 traffic study identified the need for widening of SR1, not an interchange (although funding the widening is financially infeasible at this time). With the CVMP Amendments, the

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
	DEIR]	CVTIP would be consistent.
39.3.1.9 (CV) A northbound climbing lane should be considered for construction on Laureles Grade to accommodate future traffic volumes. Alternatively, several curves should be flattened and widths should be increased.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
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 the Carmel Valley Master Plan area which are 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	Consistent (= No Change from DEIR)	The updates to the CVTIP propose to change this policy as follows: 1. Change the traffic analysis methodology to a peak-hour analysis. 2. Specifically identify the LOS standards for Carmel Valley Road by Segment. 3. Clarify the development review process relative to LOS standards and the CVTIP. Consistency with the sub-elements of this policy discussed below: a. Monitoring will continue, but will be on a peak-hour basis. b. A yearly evaluation report will be prepared, but will be on a peak-hour basis. c. Public hearings will be required, but will be triggered by 100 or less peak hour trips. (Note: 100 peak hour trips is a more conservative measure and will be triggered long before 100 average daily trips would be triggered). d. Evaluation of traffic impacts of projects will be tied to the proposed traffic standards. The effect of CVTIP projects will be taken into account. If traffic impacts still exceed traffic standards, then

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
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.		either prior construction of additional roadway improvement shall be a condition of approval or an EIR shall be prepared. While this policy will change, the new LOS standards are consistent with the prior LOS standards with the exception of in the Village where a lowered standard is necessary to avoid traffic improvement that would be out of character with the Village. Traffic monitoring will still be required along with updating of the CVTIP over time. Project review will be still be required to address traffic impacts and. With the proposed CVMP amendments, the CVTIP would be consistent.
39.3.3 (CV) It is recommended that fire hydrant and/or water supply locations be identified by placement of blue reflective pavement markers in roadways, and that these markers be prohibited for any other purpose.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
40.1.1.1 (CV) County Scenic Route status shall be sought for Carmel Valley Road.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
40.2.1.1 (CV) An appropriate setback at a minimum of 100 feet shall be established along Carmel Valley Road without causing existing structures to become non-conforming and without rendering existing lots of record unbuildable.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
40.2.1.2 (CV) Public vista areas shall be provided and improved.	No Change	Updates to the CVTIP do not change the DEIR findings

Carmel Valley Master Plan Policy	Consistency Determination	Discussion
		regarding consistency.
40.2.1.3 (CV) Development (including buildings, fences, signs and landscaping) shall not be allowed to significantly block views of the viewshed, the river or the distant hills as seen from key public viewing areas such as Garland Ranch Regional Park, and such obstructions should be discouraged along both Carmel Valley Road and Laureles Grade Road. This applies to commercial and private parcels and to both developments and existing lots of record. The removal of existing solid fences and rows of Monterey Pine trees which block views of the river and the mountains is encouraged.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
40.2.1.4 (CV) Any major improvements to Carmel Valley Road shall require, where feasible, the undergrounding of utility lines.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
41.1.2.1 (CV) New major developments with access adjacent to Carmel Valley Road shall be required to provide space for the transit buses to stop, the parking of cars and facilities for the safe storage of bicycles.	No Change	Updates to the CVTIP do not change the DEIR findings regarding consistency.
Public Services and Facilities		
Updates to the CVTIP do not change the DEIR findings regarding consistency.		

Appendix C.2

Draft 2007 CVMP Policy Consistency Analysis

APPENDIX C.2

CONSISTENCY ANALYSIS OF CVTIP WITH DRAFT 2007 CARMEL VALLEY MASTER PLAN

1.0 - Land Use

CV-1.1 Policies relative to the Carmel Valley Area are intended to retain a rural character.

Consistency Determination: Consistent. The CVMP states that rural character (viewshed, open-space character, watershed protection) is encouraged through policies that favor innovative site planning techniques that cluster development and enhance essential natural resources. The program involves minor roadway improvements to alleviate traffic congestion primarily within existing rights-of-way and would not alter the rural character of the program area.

CV-1.2 When an ownership is covered by two or more land use designations, the total allowable development should be permitted to be located on the most appropriate portion of the property.

Consistency Determination: Not Applicable The program includes roadway improvements, primarily within existing road rights-of-way.

CV-1.3 Open space uses shall be located between the development areas in order to clearly define them and maintain a distinction between the more rural and more suburban areas of the valley. Small and large open space areas should be created with preference given to those that add open space to existing open space areas.

Consistency Determination: Not Applicable. The program does not propose new development.

CV-1.4 Existing higher intensity residential and recreational uses in the Valley are intended to be recognized by this Plan.

Consistency Determination: Not Applicable. The program does not include development of residential uses.

CV-1.5 In the residential areas, maximum densities are as shown on the Carmel Valley Master Plan Land Use Map. However, attainment of maximum density in these areas is dependent upon conformity of the proposed project to plan goals and policies.

Consistency Determination: Not Applicable. The program does not include development of residential uses.

CV-1.6 New residential subdivision in Carmel Valley shall be limited to creation of 266 new lots with preference to projects including at least 50% affordable housing units. The County shall develop a tracking system and shall present an annual report before the Planning Commission.

Consistency Determination: Consistent. The CVTIP is a plan for addressing traffic conditions through 2030 through planned improvements paid for through development impact fees. The Draft 2007 CVMP Area Plan anticipates 266 new lots along with development on existing lots. While the absolute buildout level under the Draft 2007 CVMP Area Plan would exceed the level nominally allowable by the current Area Plan (as an absolute cap on overall units is not part of the Draft 2007 CVMP Area Plan), the amount of buildout anticipated with the Draft 2007 CVMP Area Plan does not exceed the amount included in the CVTIP traffic study. The exact timing and pace of development cannot be predicted with great accuracy, but the CVTIP is designed to account for the potential growth under either the existing CVMP Area Plan or the Draft 2007 CVMP Area Plans.

CV-1.7 Subdivision for conservation purposes which is in the public interest is exempt from any quota and allocation system where such subdivision does not create additional residential building sites. It is preferable that parcels thus created shall be owned by an appropriate public entity or a non-profit public benefit corporation.

Consistency Determination: Not Applicable. The CVTIP would not create additional residential building sites.

CV-1.8 Cluster development:

a. must meet the objectives of the Master Plan.
b. shall be used to protect visible open space in sensitive visual areas or to protect natural resources.
c. Clustering adjacent to vertical forms, although preferable to development in open spaces, will be considered in light of the visual sensitivity of the building site.
d. should be consistent with wastewater application rates of the Carmel Valley Wastewater Study that generally would require clustering of five units or less on a minimum of five acres of land.
e. may be permitted only where it will result in the preservation of visible open space and is in compliance with other applicable policies.
f. Open space for clustered developments shall be dedicated in perpetuity.

Consistency Determination: Not Applicable. The CVTIP does not propose residential development.

CV-1.9 Structures proposed in open grassland areas that would be highly visible from Carmel Valley Road and Laureles Grade shall be minimized in number and be clustered near existing natural or man-made vertical features.

Consistency Determination: Not Applicable. The program does not include any such structures.

CV-1.10 The Val Verde Drive area is planned for residential use at a basic density of one (1) unit per acre. With suitable clustering, up to two (2) units per acre may be allowed. However, a density of up to four (4) units per acre may be allowed provided that 25% of the units are developed for individuals of low and moderate income or for workforce housing. This policy is intended to be independent from *Policy CV-1.11*, and not counted in conjunction with the density bonus identified in that policy.

Consistency Determination: Not Applicable. The program does not include development of residential uses.

CV-1.11 Projects for low or moderate income family housing shall be exempt from any annual allocation provisions, but shall be subtracted from the 20-year buildout quota on a basis of one such unit reducing the remaining buildout by one unit. Projects for senior citizens of low or moderate income may have up to twice the number of units normally allowed on a site. Such increased density shall only be allowed where it is determined to be feasible and consistent with other plan policies. Such projects shall be subtracted from the 20-year buildout quota on a basis of two such units reducing the remaining buildout by one unit.

Consistency Determination: Consistent. The program does not include development of residential uses. However the CVTIP fee program accounts for affordable housing and senior housing consistent with this policy.

CV-1.12 Areas designated for commercial development in the valley shall:

a. be placed in design control overlay districts ("D"),
b. have planted landscaping covering no less than 10% of the site, and
c. provide adequate parking.

Consistency Determination: Not Applicable. The CVTIP does not propose commercial development.

CV-1.13 To preserve the character of the village, commercially designated lots in Carmel Valley shall not be used for exclusive residential purposes.

Consistency Determination: Not Applicable. The CVTIP does not propose commercial development.

CV-1.14 Provision should be made for service centers in Carmel Valley. They shall be limited to urbanized areas such as the mouth of the Valley, Carmel Valley Village or mid-Valley area. Sites shall meet the following criteria:

a. Low visibility
b. Safe and unobtrusive access away from pedestrian traffic areas
c. Low noise impact on surrounding uses
d. Conform to all other Plan requirements

Service centers shall be limited to those enterprises which provide services and facilities for persons engaged in the construction, maintenance and repair trades and not allow enterprises whose chief business is on-site retail sales.

Consistency Determination: Not Applicable. The CVTIP does not propose service centers.

CV-1.15 Visitor accommodation uses shall follow the following guidelines:

a. Expansion of existing hotels, motels and lodges should be favored over the development of new projects.
b. Visitor accommodation projects must be designed so that they respect the privacy and rural residential character of adjoining properties.
c. Bed and breakfast facilities shall be counted as visitor accommodation units and be limited to a maximum of five (5) units clustered on five (5) acres in accord with Monterey County Code *Section 15.20.060.M* unless sewered by public sewers.

Consistency Determination: Not Applicable. The CVTIP does not propose visitor accommodations.

CV-1.16 Applications for service and special use facilities (including in Carmel Valley, Hidden Valley Music Seminars), as defined by the General Plan, are to be considered on their merits and shall not automatically be deemed inconsistent with the Plan. They must, however, conform to all applicable plan policies.

Consistency Determination: Not Applicable. The CVTIP does not propose service or special use facilities.

CV-1.17 Publicly used buildings and areas should be encouraged to be oriented to views of the river.

Consistency Determination: Not Applicable. The CVTIP does not propose publicly used buildings or areas.

CV-1.18 Facilities classified as either Public/Quasi-Public or Special Use (such as schools, churches, hospitals, convalescent homes, rehabilitation centers, hospice facilities, emergency facilities and public facilities such as community halls) may be considered in any land use category provided that they meet the following criteria:

a. Low visibility
b. Safe and unobtrusive access away from pedestrian traffic areas.
c. Low noise impact on surrounding uses.
d. Development should follow a rural architectural theme with design review.
e. Conform to all other Plan requirements.

Consistency Determination: Not Applicable. The CVTIP does not propose such uses.

CV-1.19 Mines or quarries shall:

a. be screened from public view by use of natural terrain, vegetation, or artificial screening compatible with the environment;
b. have safe and unobtrusive access;
c. minimize noise impact on surrounding areas; and
d. conform to all other Plan requirements except the restriction on development on slopes over 30% within the limits of quarry operations.

Consistency Determination: Not Applicable. The CVTIP does not propose mines or quarries.

CV-1.20 Design ("D") and site control ("S") overlay district designations shall be applied to the Carmel Valley area. Design review for all new development throughout the Valley, including proposals for existing lots of record, utilities, heavy commercial and visitor accommodations but excluding minor additions to existing development where those changes are not conspicuous from outside of the property shall consider the following guidelines:

a. Proposed development encourages and furthers the letter and spirit of the Master Plan.
b. Development either shall be visually compatible with the character of the valley and immediate surrounding areas or shall enhance the quality of areas that have been degraded by existing development.
c. Materials and colors used in construction shall be selected for compatibility with the structural system of the building and with the appearance of the building's natural and man-made surroundings.
d. Structures should be controlled in height and bulk in order to retain an appropriate scale.
e. Development, including road cuts as well as structures, should be located in a manner that minimizes disruption of views from existing homes.
f. Minimize erosion and/or modification of landforms.
g. Minimize grading through the use of step and pole foundations.

Consistency Determination: Consistent. The CVTIP is subject to all local roadway design standards.

CV-1.21 Commercial projects shall meet the following guidelines:

a. Buildings shall be limited to 35 feet in height and shall have mechanical apparatus adequately screened, especially on the roofs.
b. Commercial projects shall include landscaping that incorporates large-growing street trees. Parking areas shall be screened with exclusive use of native plants or compatible plant materials. Land sculpturing should be used where appropriate.

Consistency Determination: Not Applicable. The CVTIP does not propose commercial uses.

CV-1.22 Special Treatment Area: Carmel Valley Ranch – The Carmel Valley Ranch (APNs 416-522-020-000 and 416-522-017-000) shall be designated as a "Special Treatment Area." The Amended Carmel Valley Ranch Specific Plan, dated 11/3/76, is incorporated by reference into this Plan and the provisions of this Specific Plan shall continue to apply. However, attainment of densities authorized by this Specific Plan is dependent upon conditions existing at the time each future increment of development is sought and is further dependent upon conformity with the Specific Plan Amended Conditions of Approval as well as the goals and policies of this General Plan, whichever is most restrictive. Any amendment of the Specific Plan must be consistent with the policies and provisions of this General Plan.

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but takes into account prior approvals and future potential for development in accordance with land use designations and zoning.

CV-1.23 Special Treatment Area: Condon/Chugach Property (approximately 51 acres; APN's 189-111-022 and 189-111-024) – The Condon/Chugach property shall be designated as a Special Treatment Area. In recognition of the unique circumstances of the property, including the past gift conveyances of several hundred acres to Garland Park, the Condon/Chugach property shall be allowed to be subdivided into four parcels consistent with the 2004 Subdivision Ordinance Standards.

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but takes into account prior approvals and future potential for development in accordance with land use designations and zoning.

CV-1.24 The property located between the end of Center Street and north of the Carmel River within the mid-valley area shall be retained as one building site (APN: 169-131-024, 169-131-025).

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but takes into account prior approvals and future potential for development in accordance with land use designations and zoning.

CV-1.25 Special Treatment Area: Rancho San Carlos - Residential development is permitted on the portions of the Santa Lucia Preserve (formerly Rancho San Carlos) within the Greater Monterey Peninsula Planning Area, and shall follow densities and policies as specified in Board of Supervisor *Resolution No. 93-115*, "Comprehensive Planned Use" Overlay for Rancho San Carlos and the Comprehensive Development Plan for the Santa Lucia Preserve (See also *Policy GMP-1.6*).

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but takes into account prior approvals and future potential for development in accordance with land use designations and zoning.

CV-1.26 Gardiner/Tennis Club Study Area - The County shall establish a study area near the Carmel Valley Village where there is a mix of visitor serving uses. A Study will be performed to evaluate the potential for development in light of the environmental conditions of the area (traffic, water quantity, water quality, wastewater disposal). If deemed appropriate and resource constraints have been resolved, the County may establish a Special Treatment Area and adopt specific land use policies that would apply to new development. (APNs: 189-121-001-000, 189-201-003-000, 189-201-013-000, 189-251-014-000, 189-251-015-000, 189-251-016-000, 189-252-002-000, 189-261-001-000, 189-261-005-000, 189-261-006-000, 189-261-009-000, 189-261-010-000, 189-261-011-000, 189-251-012-000, 189-261-013-000, 189-261-015-000, 189-261-016-000, and 189-261-017-000).

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but takes into account prior approvals and future potential for development in accordance with land use designations and zoning.

CV-1.27 Special Treatment Area: Rancho Canada Village – Approximately 40 acres consisting of properties located generally between Val Verde Drive and the Rancho Canada Golf Course clubhouse, from the Carmel River to Carmel Valley Road, excluding portions of properties in floodplain shall be designated as a Special Treatment Area (APN: 015-162-017-000, 015-162-025-000, 015-162-026-000, 015-162-039-000 and 015-162-040-000). Residential development may be allowed with a density of up to 10 units/acre in this area and shall provide a minimum of 50% Affordable/Workforce Housing. Prior to beginning new residential development (excluding the first unit on an existing lot of record), projects must address environmental resource constraints (e.g.; water, traffic, flooding).

Consistency Determination: Consistent. The CVTIP does not propose anything specific relative to this property but it does take into account the future potential for development of this property per the submitted development application.

2.0 - Circulation

CV-2.1 Public transit should be explored as an alternative to the use of private automobiles and to help preserve air quality. Whenever feasible all new development shall include a road system adequate not only for its internally generated automobile traffic but also for bus (both transit and school), pedestrian, and bicycle traffic, which should logically pass through or be generated by the development.

Consistency Determination: Consistent. Under the program, roadways would be upgraded to provide bicycle use lanes throughout the Carmel Valley Road corridor.

CV-2.2 Consideration should be given to locating a County road and utility maintenance facility in the Carmel Valley area. Such facility would provide for storage of equipment as well as materials.

Consistency Determination: Not Applicable. The program would not create a new County road and utility maintenance facility.

CV-2.3 All new road work or major work on existing roads within the commercial core areas shall provide room for use of bicycles and separate pedestrian walkways. The County shall provide bicycle routes on the shoulders between development areas throughout the Carmel Valley.

Consistency Determination: Consistent. The program includes widening of shoulders, addition of turnouts, and upgrades to and construction of bicycle lanes to provide better access to users of these public rights-of-way.

CV-2.4 All new bridge construction or remodeling shall include provision for pedestrians and bicyclists.

Consistency Determination: Consistent. The program, as proposed, does not involve construction or remodeling of major bridges. However, depending on location it possible that minor bridge work may be necessary. This will be evaluated at the individual project design phase.

CV-2.5 Circulation in the village should emphasize pedestrian access. Walkways and paths are to be provided rather than conventional sidewalks. Pedestrian walkways should be used to provide access among new or remodeled commercial and other higher density uses.

Consistency Determination: Consistent. See Discussion under CV-2.3 above.

CV-2.6 Multiple driveway accesses to Carmel Valley Road should be discouraged. Approval of future development of land having frontage on Carmel Valley Road must be conditioned upon minimizing access to Carmel Valley Road, or denying it if access is otherwise available.

Consistency Determination: Not Applicable. The program does not include construction of driveway accesses to Carmel Valley Road.

CV-2.7 Off-street parking should be developed at suitable locations within development areas.

Consistency Determination: Not Applicable. The program does not include provision for parking facilities.

CV-2.8 In hillside areas, relaxation of road standards should be permitted for low density developments where it can be demonstrated that reduced standards result in fewer or less severe cut and fill slopes, and where bicycle, vehicular, and pedestrian safety is not adversely affected. In such cases, it must also be demonstrated that the relaxed standards positively contribute to furtherance of plan policies related to hazards avoidance, protection of biological resources, or protection of viewshed.

Consistency Determination: Not Applicable. The project does not propose residential development.

CV-2.9 No roads should cross slopes steeper than 30-percent (30%) unless factors of erosion and visible scarring can be mitigated.

Consistency Determination: Not Applicable. The policy concerns road development for new development which is not proposed as part of the CVTIP. The roadway system, particularly Laureles Grade, must traverse steep slopes in certain areas. The CVTIP does include any new roadways – only modifications of existing roadways.

CV-2.10 The following are policies regarding improvements to specific portions of Carmel Valley Road:

a) Via Petra to Robinson Canyon Road
Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

b) Robinson Canyon Road to Laureles Grade
Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

c) Carmel Valley Road/Laureles Grade
A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road.

d) Laureles Grade to Ford Road
Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted.

e) East of Esquiline Road
Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs.

f) Laureles Grade improvements
Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.

Consistency Determination: Consistent. The amended CVMP including the policy changes in Chapter 2 would include all of these policies.

CV-2.11 Left turn channelizations and/or ingress-egress tapers at significant access points on Carmel Valley Road should be high priority improvements to alleviate existing hazards.

Consistency Determination: Consistent. The program proposes left turn channelizations on Carmel Valley Road west of Ford Road. Refer to Chapter 2, Program Description in the August 2007 DEIR.

CV-2.12 To accommodate existing and future traffic volumes at level of service (LOS) C, the following road improvements are recommended:

a. Widen Highway One to four lanes between Ocean Avenue and Rio Road;
b. Laureles Grade - undertake shoulder improvements, widening and spot realignment;
c. Carmel Valley Road, Robinson Canyon Road to Ford Road - add left turn channelization at all intersections. Shoulder improvements should be undertaken.

Consistency Determination: Consistent with Proposed CVMP Amendments.

a. Consistent with Proposed Amendments - Widening SR1 is not part of the updated CVTIP and is not considered feasible given current financial considerations. However, TAMC is funding a northbound climbing lane which will provide two lanes in a northbound direction. This policy is proposed to be changed with the program. It should be noted that the Draft EIR for the 2007 General Plan proposed modification of this policy to remove widening of SR1 in the same manner as proposed as part of the CVTIP.

b. Consistent - The program includes paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade. Refer to Chapter 2, Program Description in the August 2007 DEIR.

c. Consistent - The program includes left turn channelizations on Carmel Valley Road west of Ford Road. Refer to Chapter 2, Program Description of the August 2007 DEIR.

CV-2.13 The County shall consider constructing minor interchanges as an alternative to signalizing Carmel Valley Road intersections. This would result in an unimpeded flow of traffic on Carmel Valley Road and would facilitate left turning movements from and onto Carmel Valley Road.

Consistency Determination: Consistent. The program includes a grade separation at Laureles Grade and Carmel Valley Road. Refer to Chapter 2, Program Description of the August 2007 DEIR.

CV-2.14 A northbound climbing lane should be considered for construction on Laureles Grade to accommodate future traffic volumes.

Consistency Determination: Consistent. The program includes construction of a climbing lane on Laureles Grade. Refer to Chapter 2, Program Description.

CV-2.15 New major developments with access adjacent to Carmel Valley Road shall be required to provide space for the transit buses to stop, the parking of cars and facilities for the safe storage of bicycles.

Consistency Determination: Not Applicable. The program does not include any new commercial, residential, or service-related development.

CV-2.16 County Scenic Route status shall be sought for Carmel Valley Road.

Consistency Determination: Consistent. The program does not affect the designation of Carmel Valley Road as a scenic route. The program would not alter the rural character of the roadway.

CV-2.17 Any major improvements to Carmel Valley Road shall require, where feasible, the undergrounding of utility lines.

Consistency Determination: Consistent. The program would be subject to all local policies.

CV-2.18 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 of 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 the Carmel Valley Master Plan area which are 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.

Policy CV-2.19 shall be superceded by a mitigation monitoring program of a Carmel Valley Master Plan Traffic EIR that:

a. identifies incremental improvements to segments of Carmel Valley Road to maintain the previously identified Master Plan levels of service;

b. identifies a capital improvement cost for said segments; and

c. develops a fee program to support funding of the improvements that allows the County to complete the improvements

Consistency Determination: Consistent. The updates to the CVTIP propose to change this policy consistent with Mitigation Measure TRAN-2b (p. 4.6-69 et seq.) in the Draft EIR for the 2007 Draft General Plan as follows:

1. *Change the traffic analysis methodology to a peak-hour analysis.*
2. *Specifically identify the LOS standards for Carmel Valley Road by Segment.*
3. *Clarify the development review process relative to LOS standards and the CVTIP.*

Consistency with the sub-elements of this policy discussed below:

a. Monitoring will continue, but will be on a peak-hour basis.

b. A yearly evaluation report will be prepared, but will be on a peak-hour basis.

c. Public hearings will be required, but will be triggered by 100 or less peak hour trips. (Note: 100 peak hour trips is a more conservative measure and will be triggered long before 100 average daily trips would be triggered).

d. Evaluation of traffic impacts of projects will be tied to the proposed traffic standards. The effect of CVTIP projects will be taken into account. If traffic impacts still exceed traffic standards, then either prior construction of additional roadway improvement shall be a condition of approval or an EIR shall be prepared.

While this policy will change, the new LOS standards are consistent with the prior LOS standards with the exception of in the Village where a lowered standard is necessary to avoid traffic improvement that would be out of character with the Village. Traffic monitoring will still be required along with updating of the CVTIP over time. Project review will be still be required to address traffic impacts and. With the proposed amendments, the CVTIP would be consistent with the CVMP.

3.0 - Conservation/Open Space

CV-3.1 A minimum setback of 100 feet shall be established for all properties abutting Carmel Valley Road. An exception may be granted in cases where:

a. an existing structure permitted for construction prior to adoption of the original Carmel Valley Master Plan (December 16, 1986) would become non-conforming, or

b. implementation would render an existing lot of record unbuildable.

Consistency Determination: Not Applicable. The program does not involve construction of commercial, residential, or service-related buildings. The proposed roadway improvements would be within existing rights-of-way along Carmel Valley Road. If additional right-of-way is needed the County would be subject to with all state and local policies and/or laws pertaining to right-of-way acquisition.

CV-3.2 Public vista areas shall be provided and improved.

Consistency Determination: Not Applicable. The program does not involve changes to public vistas. Subsequent project-specific environmental analyses would evaluate whether impacts to public vistas would occur as a result of a specific roadway project.

CV-3.3 Development (including buildings, fences, signs and landscaping) shall not be allowed to significantly block views of the viewshed, the river or the distant hills as seen from key public viewing areas such as Garland Ranch Regional Park, along Carmel Valley Road, and along Laureles Grade Road. This policy applies to commercial and private parcels including existing lots of record. Removal of existing solid fences and rows of Monterey Pine trees which block views of the river and the mountains shall be encouraged.

*Consistency Determination: Consistent. As specified in the August 2007 DEIR, Section 3.4, Aesthetics, the County would implement measures to avoid or minimize any impacts to existing views and viewsheds (see **Mitigation Measures AES 2.1, 3.1, and 4.1**).*

CV-3.4 Alteration of hillsides and natural landforms caused by cutting, filling, grading or vegetation removal shall be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Where cut and fill is unavoidable on steep slopes, disturbed areas shall be revegetated.

*Consistency Determination: Consistent. As specified in the August 2007 DEIR, Section 3.4, Aesthetics, the County would implement measures to avoid or minimize any impacts to existing views and viewsheds (see **Mitigation Measures AES- 2.1, 3.1, and 4.1**).*

CV-3.5 Signs should be low-key and shall not be allowed to block views, cause visual clutter, or detract from the natural beauty. Commercial signs shall not be constructed of plastic or be internally lighted. Neon signs shall not be permitted where visible from the street.

Consistency Determination: Not Applicable. The program does not include commercial structures.

CV-3.6 No off-site outdoor advertising is allowed in the Plan area.

Consistency Determination: Not Applicable. The program does not include commercial structures.

CV-3.7 Areas of biological significance shall be identified and preserved as open space. These include, but are not limited to:

a. The redwood community of Robinson Canyon;
b. The riparian community and redwood community of Garzas Creek;
c. All wetlands, including marshes, seeps and springs (restricted occurrence, sensitivity, outstanding wildlife value).
d. Native bunchgrass stands and natural meadows (restricted occurrence and sensitivity).
e. Cliffs, rock outcrops and unusual geologic substrates (restricted occurrence).
f. Ridgelines and wildlife migration routes (wildlife value).

When a parcel cannot be developed because of this policy, a low-density, clustered development (but no subdivision) may be approved on those portions of the land not biologically significant or on a portion of the land adjoining existing development so that the development will not diminish the visual quality of such parcels or upset the natural functioning of the ecosystem in which the parcel is located.

*Consistency Determination: Consistent. As described in the August 2007 DEIR, Section 3.3, Biological Resources, **Mitigation Measures, BIO-1.1, 1.2, 2.1-2.6, 3.1, 3.2, 5.1, 6.1, 6.2, 7.1-7.3, 9.1, 10.1, 10.2**, **and 11.1**, the County will ensure that any adverse effects to biological resources resulting from the proposed roadway improvements would be studied, documented, mitigated, and compensated for in accordance with federal and state regulations and to comply with this policy.*

CV-3.8 Development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. In places where the riparian vegetation no longer exists, it should be planted to a width of 150 feet from the river bank, or the face of adjacent bluffs, whichever is less. Density may be transferred from this area to other areas within a lot.

*Consistency Determination: Consistent. See discussion above under Policy CV-3.7 concerning biological resources. As specified in the August 2007 DEIR, Section 3.1, Geology, Soils, and Seismicity, **Mitigation Measure GEO-6.1**, the County will prepare and implement an erosion and sediment control plan and a stormwater pollution control plan. As specified in the August 2007 DEIR, Section 3.2, Hydrology and Water Quality **Mitigation Measure H-3.1,** the County will prepare a stormwater pollution prevention plan at the project level.*

CV-3.9 Willow cover along the banks and bed of the Carmel River shall be maintained in a natural state for erosion control. Constructing levees, altering the course of the river, or dredging the river shall only be allowed by permit from the Monterey Peninsula Water Management District or Monterey County.

*Consistency Determination: Consistent. As described in the August 2007 DEIR, Section 3.3, Biological Resources, **Mitigation Measures, BIO-2.1, 2.1-2.6**, the County will ensure that any adverse effects to riparian habitat resulting from the proposed roadway improvements would be studied, documented, mitigated, and compensated for in accordance with federal and state regulations and to comply with this policy.*

CV-3.10 Predominant landscaping and erosion control material shall consist of plants native to the valley that are similar in habitat, form, and water requirements. The following guidelines shall apply for landscape and erosion control plans:

a. Existing native vegetation should be maintained as much as possible throughout the valley.
b. Valley oaks should be incorporated on floodplain terraces.
c. Weedy species such as pampas grass and genista shall not be planted in the Valley.
d. Eradication plans for weedy species shall be incorporated.
e. The chaparral community shall be maintained in its natural state to the maximum extent feasible in order to preserve soil stability and wildlife habitat and also be consistent with fire safety standards.

Consistency Determination: Consistent. See discussion under Policy CV-3.7.

CV-3.11 Removal of healthy, native oak, madrone and redwood trees in the Carmel Valley Master Plan Area shall be discouraged. A permit shall be required for the removal of any of these trees with a trunk diameter in excess of 6-inches (6") diameter breast height (d.b.h.). Where feasible, trees removed will be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of 1-gallon in size. Removal without a permit shall result in a minimum fine, equivalent to the retail value of the wood removed plus replacement of 1-gallon, nursery-grown trees at a 2:1 ratio. Exemptions to the above permit requirement shall include:

a. tree removal by public utilities, as specified in the California Public Utility Commission's *General Order 95*, and by governmental agencies.
b. emergencies caused by the hazardous or dangerous condition of a tree and requiring immediate action for the safety of life or property, provided the County is notified of the action within ten (10) working days.

Consistency Determination: Consistent. See discussion under Policy CV-3.7.

CV-3.12 Open space areas should include a diversity of habitats with special protection given to areas where one habitat grades into another (these ecotones are ecologically important zones) and areas used by wildlife for access routes to water or feeding grounds.

Consistency Determination: Consistent. See discussion under Policy CV-3.7.

CV-3.13 Historic and Archaeological Resources, including buildings and sites of historical significance, located in Carmel Valley shall:

a. be reviewed on a site by site basis.
b. be rezoned to the "HR" District as a condition of permit approval for any development impacting such sites.
c. require preservation of the integrity of historic sites and/or structures.

A committee to evaluate the current condition of each and recommend deletions, additions or other measures shall be drawn from members of local historical, architectural, and/or educational societies as determined by the Planning Commission.

Consistency Determination: Consistent. The County is required to comply with state and federal historic preservation acts and other relevant regulations. The EIR assesses impacts on known and previously unidentified archaeological and historic resources and recommends mitigation for all significant impacts, as described in the August 2007 DEIR Section 3.11, Cultural Resources, ***Mitigation Measures CR-1.1 – 1.6, 2.1– 2.5, and 3.1****.*

CV-3.14 Wherever possible a network of shortcut trails and bike paths should interconnect neighborhoods, developments and roads. These should be closed to motor vehicles and their intent is to facilitate movement within the Valley without the use of automobiles.

Consistency Determination: Not Applicable. The program does not include provision for these facilities outside of public rights-of-way.

CV-3.15 Public and private agencies such as the Big Sur Land Trust, the Monterey Regional Park District and others may acquire development rights and/or accept easements and dedications for significant areas of biological, agricultural or other open space land.

Consistency Determination: Not Applicable. The program does not include roadway improvements in areas expected to be acquired by such public or private agencies.

CV-3.16 Lighting for outdoor sports shall not be allowed where it would be visible from off-site.

Consistency Determination: Not Applicable. The program does not include lighting for outdoor sports.

CV-3.17 Street lighting shall be designed to promote traffic safety and be unobtrusive and harmonious with the local character. Such lighting must be constructed and located to illuminate only the intended area and prevent off-site glare.

*Consistency Determination: Not Applicable. Lighting associated with the program would be designed to conform to all applicable standards (see **Mitigation Measure AES-4.1 in the August 2007 DEIR**).*

CV-3.18 Except where inconsistent with sound environmental planning, new aboveground transmission facilities shall incorporate the following design guidelines:

a. follow the least visible route (e.g., canyons, tree rows, and ravines),
b. cross ridgelines at the most visually unobtrusive locations,
c. follow, not compete with, either natural features of the terrain or man-made features in developed areas,
d. Create a simple and unobtrusive in appearance,
e. minimize the bulk of structures,
f. use the minimum number of elements permitted by good engineering practice, and
g. incorporate colors and materials compatible with local surroundings.

Consistency Determination: Not Applicable. The program does not include aboveground transmission facilities.

CV-3.19 As development of bike paths and a coordinated, area-wide trails system are essential for circulation, safety and recreation in the Carmel Valley Planning Area, dedication of trail easements may be required as a condition of development approval, notwithstanding *Policy OS-1.10(b).*

Consistency Determination: Not Applicable. The CVTIP does not propose development.

CV-3.20 In Carmel Valley, conversion for agricultural purposes of previously uncultivated lands on slopes in excess of 25 percent (25%) shall be prohibited.

Consistency Determination: Not Applicable. The CVTIP does not proposed agricultural uses.

4.0 - Safety

CV-4.1 In order to reduce potential erosion or rapid runoff:

a. The amount of land cleared at any one time shall be limited to the area that can be developed during one construction season.

b. Motorized vehicles shall be prohibited on the banks or in the bed of the Carmel River, except by permit from the Water Management District or Monterey County.

c. Native vegetative cover must be maintained on areas that have the following combination of soils and slope:

1. Santa Lucia shaly clay loam, 30-50% slope (SfF)
2. Santa Lucia-Reliz Association, 30-75% slope (Sg)
3. Cieneba fine gravelly sandy loam, 30-70% slope (CcG)
4. San Andreas fine sandy loam, 30-75% slope (ScG)
5. Sheridan coarse sandy loam, 30-75% slope (SoG)
6. Junipero-Sur complex, 50-85% slope (Jc)

Consistency Determination: Consistent. As specified in the August 2007 DEIR, Section 3.1, Geology, Soils, and Seismicity, under Mitigation Measure GEO-5.1, the County will implement recommended design criteria of the geotechnical investigation wherever steep slopes would be graded or manufactured to comply with this policy. Under Mitigation Measure GEO-6.1, the County will prepare and implement an erosion and sediment control plan and a stormwater pollution control plan at the project level to comply with this policy.

CV-4.2 A comprehensive drainage maintenance program should be established by either sub-basins or valley-wide watershed zones.

Consistency Determination: Not Applicable. This policy is beyond the scope of the proposed program.

CV-4.3 In addition to required on-site improvements for development projects, a fee shall be imposed to help finance the improvement and maintenance of the drainage facilities identified in the Master Drainage Plan for Carmel Valley.

Consistency Determination: Consistent. The County would be responsible for appropriate drainage controls.

CV-4.4 The County shall require emergency road connections as necessary to provide controlled emergency access as determined by appropriate emergency service agencies (Fire Department, OES). The County shall coordinate with the emergency service agencies to periodically update the list of such connections.

Consistency Determination: Consistent. The program does not include the establishment of road connections for controlled emergency accesses. By promoting roadway improvements, the CVTIP would assist with vehicle movements during an emergency.

5.0 - Public Services

CV-5.1 Pumping from the Carmel River aquifer shall be managed in a manner consistent with the Carmel River Management Program. All beneficial uses of the total water resources of the Carmel River and its tributaries shall be considered and provided for in planning decisions.

Consistency Determination: Consistent. The program would not generate demand for, or require use of water resources. See discussion of water demand in Section 3.10 Public Services and Utilities.

CV-5.2 Water projects designed to address future growth in the Carmel Valley may be supported.

Consistency Determination: Not Applicable. The CVTIP is not a water project.

CV-5.3 Development shall incorporate designs with water reclamation, conservation, and new source production in order to:

a. maintain the ecological and economic environment;
b. maintain the rural character; and
c. create additional water for the area where possible including, but not limited to, on-site stormwater retention and infiltration basins.

Consistency Determination: Consistent. Although the program does not involve development of water reclamation, conservation, or new source production, as discussed above under Mitigation Measure GEO-6.1, the County will prepare and implement an erosion and sediment control plan and a stormwater pollution control plan at the project level to comply with this policy.

CV-5.4 The County shall establish regulations for Carmel Valley that limit development to vacant lots of record and already approved projects, unless additional supplies are identified. Reclaimed water may be used as an additional water source to replace domestic water supply in landscape irrigation and other approved uses provided the project shows conclusively that it would not create any adverse environmental impacts such as groundwater degradation.

Consistency Determination: Not Applicable. The CVTIP does not propose new development.

CV-5.5 Parts of the Carmel Valley aquifer are susceptible to contamination from development in areas not served by public wastewater systems. Development projects that include an on-site septic system shall provide geologic and soils surveys that assess if conditions could preclude or restrict the possibility of satisfactorily locating such a system where it would not pose a threat of contamination to the aquifer. New development shall be carefully reviewed for proper siting and design of on-site sewage disposal systems in accordance with the standards of the Carmel Valley Wastewater Study.

Consistency Determination: Not Applicable. The CVTIP does not include on-site septic systems.

CV-5.6 Containment structures or other measures shall be required to control the runoff of pollutants from commercial areas or other sites where chemical storage or accidental chemical spillage is possible.

*Consistency Determination: Consistent. The project is neither a major commercial development nor a site where chemical storage or accidental chemical spillage is possible. Additionally, as described in the August 2007 DEIR, Section 3.1, Geology, Soils, and Seismicity, **Mitigation Measures GEO-10.1 and 10.2,** the County will perform pre-construction hazardous waste investigations to identify presence of known or unidentified hazardous waste sources to comply with this policy.*

CV-5.7 Existing school facilities should be used as a nucleus for expansion of recreational uses. Land next to the Carmelo and Middle Schools should be considered for recreational uses.

Consistency Determination: Not Applicable. The CVTIP does not include expansion of recreational uses .

6.0 - Agriculture

CV-6.1 Development adjacent to agricultural lands shall be planned to minimize adverse effects on the productivity of the agricultural soils.

*Consistency Determination: Consistent. As described in Section 3.6, Agricultural Resources, **Mitigation Measure AG-1.1**, the County will assess potential conflicts with adjacent agricultural uses to comply with this policy.*

CV-6.2 Gardens, orchards, row crops, grazing animals, farm equipment, and farm buildings are part of the heritage and the character of Carmel Valley. This rural agricultural nature should be encouraged, except on slopes of 25-percent (25%) or greater or where it would require the conversion or extensive removal of existing native vegetation.

Consistency Determination: Not Applicable. The program does not involve agricultural activities.

CV-6.3 Croplands and orchards shall be retained for agricultural use. When a parcel cannot be developed because of this policy, a low-density, clustered development may be permitted in accordance with the following guidelines:

a. Development shall be located on portions of the land not in cultivation or on a portion of the land adjoining existing development in a manner that said development will not diminish the visual quality of such parcels.
b. Overall density shall not exceed one (1) unit per 2.5 acres
c. New residential units shall be sited on one-third (1/3) of the property or less.
d. Required agriculturally related structures and housing for workers of that parcel may be allowed on the property in a manner that does not diminish the visual quality of the open space.

Consistency Determination: Consistent. See discussion under Policy CV-6.1. Also, the program does not involve agricultural activities or construction of any associated agricultural facilities.

Appendix G.2

Carmel Valley Traffic Impact Fee Update (April 2009)

MEMORANDUM

TO: Chad Alinio, Monterey County

FROM: Rich Walter, ICF Jones & Stokes

DATE: April 20, 2009

SUBJECT: Carmel Valley Traffic Impact Fee Update

The purpose of this memorandum is to update the traffic impact fees proposed as part of the Carmel Valley Traffic Improvement Program (CVTIP). DKS Associates' summarized the existing fee structure and methodology for the proposed new traffic fee in their July 27, 2007 memorandum that was included in the August 2007 Draft EIR as Appendix G. The proposed new traffic fee amounts were updated to account for the following:

- The August 2007 fee calculations did not assume that a portion of residential development on new lots would be subject to the Monterey county Inclusionary Housing Ordinance requiring 20% of new units to be inclusionary for developments of three units or more. Per County direction, the fee calculations were updated to account for inclusionary units. The exact amount of inclusionary units cannot be predicted. The updated fee assumes that 20 percent of new units on new lots in the CVMP are and the Expanded Area are inclusionary and thus would be excluded from the traffic impact fee.

- The August 2007 fee calculations did not include new development in the Expanded Area, which includes Rancho San Carlos and Cachagua. Per County direction, the fee calculations were updated to include the Expanded Area.

- The August 2007 fee calculations were updated to account for the prior building permits issued in the CVMP through December 15, 2008 and thus the amount of future potential buildout through 2030 that would be subject to the traffic impact fee was adjusted downward accordingly.

- In the August 2007, commercial buildout by 2030 was calculated based on employee numbers in the AMBAG model. In the fee update calculations, commercial buildout was estimated based on available commercial land, a 25% floor-area-ratio (FAR) and an assumptions of 28% buildout by 2030 (consistent with assumptions used in the Draft EIR for the 2007 Draft Monterey County General Plan). This only resulted in a small (~40,000 SF) change in the assumed amount of commercial development accounted for in the fee calculations in the new versus prior calculation. In addition, the fee update accounted for 10% of overall new commercial uses being service centers which have a 50% lower fee amount than other commercial uses.

- The fee update calculations include both the grade separation at Laureles/Carmel Valley Road and an interim signalization/or stop sign.

- The fee update adopted equivalent percentage increases over existing fee amounts whereas the August 2007 fee calculation equalized the fee amounts on new residential versus new hotel/motel rooms.

- In the August 2007 fee calculation the future fee amounts were not adjusted for inflation. Per County direction, the future fee amounts were adjusted for inflation.

The adjusted fee calculations are shown in the new **Table 5b**, which replaces T**able 5** in the July 27, 2007 memo from DKS. The adjusted fees are approximately 35% greater than the existing fees and approximately 14 to 24 % greater (depending on which fee) than those estimated in August 2007 in the DKS memo. **Table 5b** illustrates the recommended updated impact fee structure assuming that the County's impact fee fund breaks even at the end of the fiscal year in 2028.

Table 1b. Recommended 2009 Impact Fee Structure

Fiscal Year 2009 – 2010 Traffic Mitigation Fees
Carmel Valley and Expanded Area

Development on Existing Lots of Record (before 8/25/92)	CVMP Area	Expanded Area
Market Rate Unit	$14,850	$7,425
Senior Unit	$7,425	$3,713
Caretaker Unit	$14,850	$7,425
2nd Unit / Apartment	$14,850	$7,425
Low / Moderate Income Unit	$0	$0
Development on New Lots of Record (after 8/25/92)		
Market Rate Unit	$29,700	$14,850
Senior Unit	$14,850	$7,425
Caretaker Unit	$29,700	$14,850
2nd Unit / Apartment	$29,700	$14,850
Low / Moderate Income Unit	$0	$0
Commercial		
New Hotel / Motel Unit (per room)	$32,300	$16,150
Existing Hotel / Motel Expansion (per room)	$16,150	$8,075
Commercial Uses (per 1,000 sf)	$7,800	$3,900
Service Centers (per 1,000 sf)	$3,900	$1,950

2009 CVTIP Proposed Financing Program (Updated April 2009)

DEVELOPMENT

		YEAR	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
		Present Yr	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
FAS																						
FAU																						
NEW LOTS - CVMP- Units (Senior @0.5)			25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	16
Market Rate Units/Caretaker/2nd Unit/Apartment			20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	13
Senior Unit			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low/Moderate Income Unit			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
NEW LOTS- EXPANDED AREA - Units (Senior @0.5)			13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Market Rate Units/Caretaker/2nd Unit/Apartment			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Senior Unit			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low/Moderate Income Unit			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
VISITOR ACCOMODATIONS (per room) - CVMP					75					75					75					60		
New Hotel/Motel Unit					50					50					50					40		
Existing Hotel/Motel Expansion					25					25					25					20		
VISITOR ACCOMODATIONS (per room) - EXPANDED AREA																						
New Hotel/Motel Unit			0	0	0	0	40	0	0	0	0	40	0	0	0	0	40	0	0	0	0	30
Existing Hotel/Motel Expansion			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL (per 1000 sq. ft.) - CVMP			44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	7
COMMERCIAL (per 1000 sq. ft.) - EXPANDED AREA			3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.5
DISCRETIONARY (per dwelling unit)																						
LOTS OF RECORD (per dwelling unit) - CVMP			11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	7.5
Market Rate Units/Caretaker/2nd Unit/Apartment			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	6
Senior Unit			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3
LOTS OF RECORD - EXPANDED AREA (units, senior @0.5)			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9
Market Rate Units/Caretaker/2nd Unit/Apartment			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	7
Senior Unit			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4

Income ($mil of dlls) 3.66% inflation

	$ Millions	Fee	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FAS	0	**$0**																				
FAU	0	**$0**																				
NEW LOTS - CVMP			0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.38
Market Rate Units/Caretaker/2nd Unit/Apartment	0.030	**$29,700**	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.38
Senior Unit	0.015	**$14,850**																				
Low/Moderate Income Unit	0.000	**$0**																				
NEW LOTS - EXPANDED AREA																						
Market Rate	0.015	**$14,850**	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Senior Unit	0.007	**$7,425**																				
Low/Moderate Income Unit	0.000	**$0**																				
VISITOR ACCOMODATIONS - CVMP					2.02					2.02					2.02					1.62		
New Hotel/Motel Unit	0.032	**$32,300**			1.62					1.62					1.62					1.29		
Existing Hotel/Motel Expansion	0.016	**$16,150**			0.40					0.40					0.40					0.32		
VISITOR ACCOMODATIONS - EXPANDED AREA																						
New Hotel/Motel Unit	0.016	**$16,150**					0.65					0.65					0.65					0.48
Existing Hotel/Motel Expansion	0.008	**$8,075**																				
COMMERCIAL - CVMP	0.008	**$7,800**	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.05
COMMERCIAL - EXPANDED AREA	0.004	**$3,900**	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
DISCRETIONARY		**$0**																				
LOTS OF RECORD - CVMP			0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.11
Market Rate	0.015	**$14,850**	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.09
Senior Unit	0.007	**$7,425**	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02
LOTS OF RECORD - EXPANDED AREA																						
Market Rate	0.007	**$7,425**	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05
Senior Unit	0.004	**$3,713**	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Income / Revenue per year			**1.27**	**1.27**	**3.29**	**1.27**	**1.92**	**1.27**	**1.27**	**3.29**	**1.27**	**1.92**	**1.27**	**1.27**	**3.29**	**1.27**	**1.92**	**1.27**	**1.27**	**2.89**	**1.27**	**1.25**
Income Revenue (w/ inflation @3.6%)			**1.32**	**1.37**	**3.67**	**1.47**	**2.30**	**1.58**	**1.64**	**4.39**	**1.76**	**2.75**	**1.89**	**1.96**	**5.26**	**2.11**	**3.29**	**2.26**	**2.35**	**5.52**	**2.52**	**2.57**

2009 CVTIP Proposed Financing Program (Updated April 2009)

Expenditures ($mil of dlls) Projects increase in inflation by 3.66%

Project Name	$ millions	2007 Status	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CVR 4-Lane widening	14.5	Finished																				
Rio Rd Extension	1.71	Deleted																				
Channelization	1.6	Partially	1.66	1.72	1.78	1.85	1.92	1.99	2.06	2.13	2.21	2.29	2.38	2.46	2.55	2.65	2.74	2.84	2.95	3.06	3.17	3.28
LGR Shoulder addition	3.6	Not Started	3.68	3.82	3.96	4.10	4.25	4.41	4.57	4.74	4.91	5.09	5.28	5.47	5.67	5.88	6.10	6.32	6.55	6.79	7.04	7.30
LGR climbing lane	7.1	Not Started	7.37	7.64	7.92	8.21	8.51	8.82	9.14	9.48	9.83	10.19	10.56	10.94	11.34	11.76	12.19	12.64	13.10	13.58	14.08	14.59
Minor Interchanges	4.7	Not Started	4.91	5.09	5.28	5.47	5.67	5.88	6.10	6.32	6.55	6.79	7.04	7.30	7.56	7.84	8.13	8.42	8.73	9.05	9.38	9.73
Class II Bike Lanes	0.1	Partially	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.22	0.23	0.24	0.24	0.25	0.26
Left-Turn Channelization - west of Ford	2.3	Partially	2.37	2.46	2.55	2.64	2.74	2.84	2.94	3.05	3.16	3.28	3.40	3.52	3.65	3.79	3.93	4.07	4.22	4.37	4.53	4.70
Sight Distance Improvements at Dorris Drive	2.7	Not Started	2.82	2.92	3.03	3.14	3.26	3.38	3.50	3.63	3.76	3.90	4.04	4.19	4.34	4.50	4.67	4.84	5.01	5.20	5.39	5.59
Shoulder Widening Between Laureles and Ford [on CVR]	2.6	Not Started	2.74	2.84	2.94	3.05	3.16	3.28	3.40	3.52	3.65	3.78	3.92	4.07	4.22	4.37	4.53	4.70	4.87	5.05	5.23	5.42
Paved Turnouts on Laureles & Signs [north of CVR]	0.9	Partially	0.91	0.95	0.98	1.02	1.05	1.09	1.13	1.17	1.22	1.26	1.31	1.36	1.41	1.46	1.51	1.57	1.62	1.68	1.74	1.81
Grade Separation at Laureles / CVR	4.1	Not Started	4.20	4.35	4.51	4.68	4.85	5.03	5.21	5.40	5.60	5.80	6.02	6.24	6.46	6.70	6.95	7.20	7.46	7.74	8.02	8.31
Passing Lanes in front of September Ranch	6.6	Not Started	6.80	7.05	7.31	7.58	7.86	8.14	8.44	8.75	9.07	9.40	9.75	10.10	10.47	10.86	11.26	11.67	12.09	12.54	13.00	13.47
Passing Lanes opposite Garland Park	3.5	Not Started	3.65	3.78	3.92	4.07	4.22	4.37	4.53	4.70	4.87	5.05	5.23	5.42	5.62	5.83	6.04	6.26	6.49	6.73	6.97	7.23
Passing Lanes Segment 6 and 7	1.1	Not Started	1.10	1.14	1.19	1.23	1.27	1.32	1.37	1.42	1.47	1.53	1.58	1.64	1.70	1.76	1.83	1.89	1.96	2.03	2.11	2.19
Laureles Grade & Carmel Valley Road Signalization	0.3	Not Started	0.25	0.27	0.28	0.29	0.30	0.31	0.32	0.33	0.35	0.36	0.37	0.38	0.40	0.41	0.43	0.44	0.46	0.48	0.49	0.51
Total Project Cost	$41.12		0.000	1.053	5.558	0.000	3.258	0.000	0.000	0.000	0.000	9.404	1.582	5.422	0.000	0.000	6.945	4.695	6.550	0.000	0.000	14.591
Admin costs / year			0.012	0.012	0.013	0.013	0.013	0.013	0.014	0.014	0.014	0.014	0.015	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.018	0.018
Total Cost per year			**0.012**	**1.065**	**5.571**	**0.013**	**3.271**	**0.013**	**0.014**	**0.014**	**0.014**	**9.418**	**1.597**	**5.437**	**0.015**	**0.016**	**6.961**	**4.711**	**6.567**	**0.017**	**0.018**	**14.609**

Account Balance ($mil of dlls)

	12/15/2008																				
Revenues	1.504	2.824	1.368	3.667	1.470	2.298	1.580	1.638	4.391	1.760	2.751	1.892	1.961	5.257	2.107	3.293	2.265	2.348	5.522	2.523	2.570
Expenditures		0.012	1.065	5.571	0.013	3.271	0.013	0.014	0.014	0.014	9.418	1.597	5.437	0.015	0.016	6.961	4.711	6.567	0.017	0.018	14.609
Annual Balance		2.812	3.289	1.542	3.045	2.211	3.844	5.651	10.318	12.552	6.585	7.192	4.091	9.520	12.025	9.015	7.011	3.144	8.767	11.633	0.217
Interest Income @ 6%		0.174	0.156	0.046	0.139	0.066	0.183	0.290	0.487	0.700	0.313	0.375	0.187	0.413	0.658	0.442	0.353	0.118	0.360	0.622	0.006
Carry Forward Next Year		2.986	3.445	1.588	3.184	2.277	4.027	5.941	10.805	13.252	6.898	7.567	4.278	9.933	12.683	9.457	7.363	3.263	9.128	12.255	0.223

1 - The County has approximately $1.504 million dollars in the bank as of December 15, 2008.

2 - The Fee values indicate optomized values according to a break even scenario. FAS, FAU funding were not considered a part of income sources

3 - Green Cells indicate the cost of the project if activated that year.

4 - Carry Forward Next Year (Present Year) = Net Annual Balance + Carry Forward Next Year (Previous Year) + Interest Income (Present Year)

Appendix H

Carmel Valley Master Plan SR-1 Study

Carmel Valley Master Plan
SR-1 Study

February 2009

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1.0 INTRODUCTION

This study analyzes existing and forecast traffic conditions on Highway 1 (SR-1) in the vicinity of the Carmel Valley Master Plan Area. It is intended to provide additional information to the Carmel Valley Master Plan (CVMP) Traffic Improvement Program (TIP) Subsequent Environmental Impact Report (SEIR). The study is based on the land use assumptions and scenarios developed as part of the *Carmel Valley Master Plan Traffic Study* (DKS Associates, July 2007).

Purpose

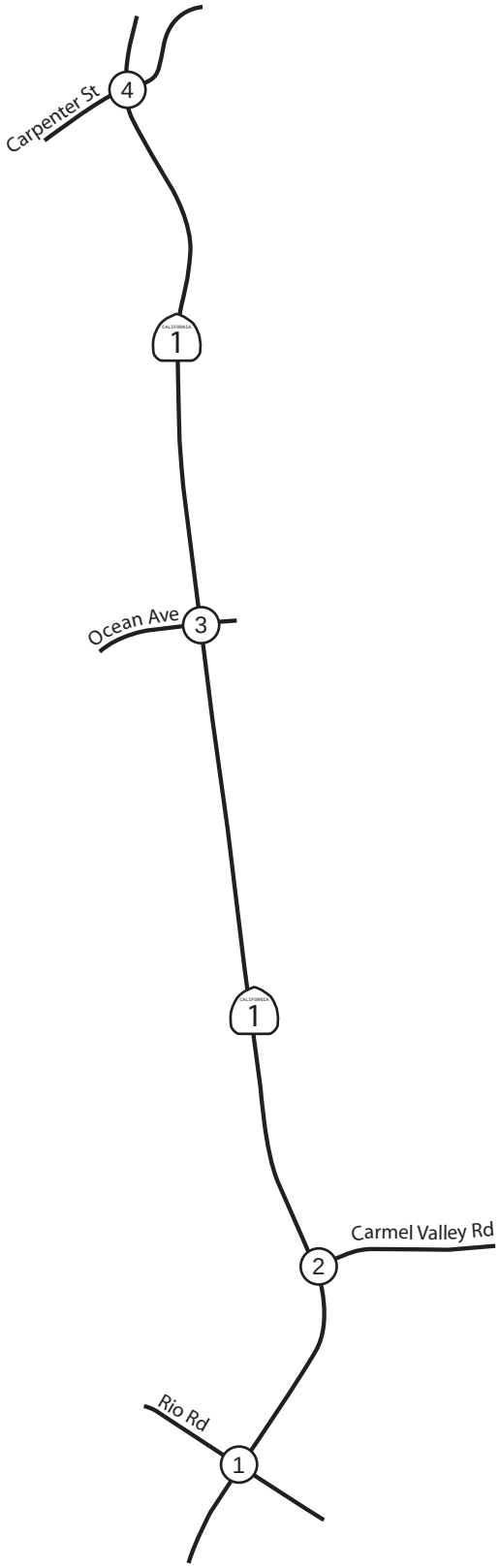
Development in the Carmel Valley Master Plan area would result in the generation of trips on SR-1 in the vicinity of Carmel Valley Road. This analysis seeks to determine if additional improvements are needed on SR-1 either with existing or forecast year 2030 conditions in order to achieve acceptable intersection and roadway operations along the corridor. If additional improvements are required and deemed feasible, they will be incorporated into the Carmel Valley Master Plan Traffic Mitigation Fee program.

Corridor Description

This study analyzes roadway conditions on the segments of SR-1 between Carpenter Street and Rio Road, and intersection conditions at the four signalized intersections along the segment. The signalized intersections included in this analysis are:

- Rio Road
- Carmel Valley Road
- Ocean Avenue
- Carpenter Street

The study area is shown in **Figure 1-1**.



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Analysis Scenarios

The following two time horizons were analyzed as part of the project:

Existing Conditions (2008)

- Existing Conditions: Represents the traffic conditions of the existing highway network. Traffic counts were conducted at the study intersections and roadway segments in June 2008.

Year 2030 Conditions

- Year 2030 Conditions: Represents the forecast traffic conditions of the highway network assumed to be in place under Year 2030 conditions. Traffic volumes are obtained from the Association of Monterey Bay Area Government (AMBAG) Regional Travel Demand Model. The highway network is assumed to be the same as existing, plus the extension of the northbound truck climbing lane from its existing origination at Carmel Valley Road to Rio Road and associated improvements at the Rio Road intersection.

2.0 METHODOLOGY

The following section describes the methodology used to forecast traffic volumes, complete the analysis process, and determine significant impacts.

Forecast Traffic Volumes

Forecast traffic volumes were obtained from the AMBAG Regional Travel Demand Model, as modified by DKS Associates for use in the *Carmel Valley Master Plan Traffic Study* (July 2007). Model scenario B, as provided by DKS, was utilized in developing forecast traffic volumes for this analysis. The Carmel Valley Master Plan Traffic Study has the following description of the land uses incorporated into 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 the anticipated additional residential subdivisions to be evenly distributed across potential development locations, and no additional traffic improvements.

For a detailed description of projected Scenario B land uses please refer to the *Carmel Valley Master Plan Traffic Study.*

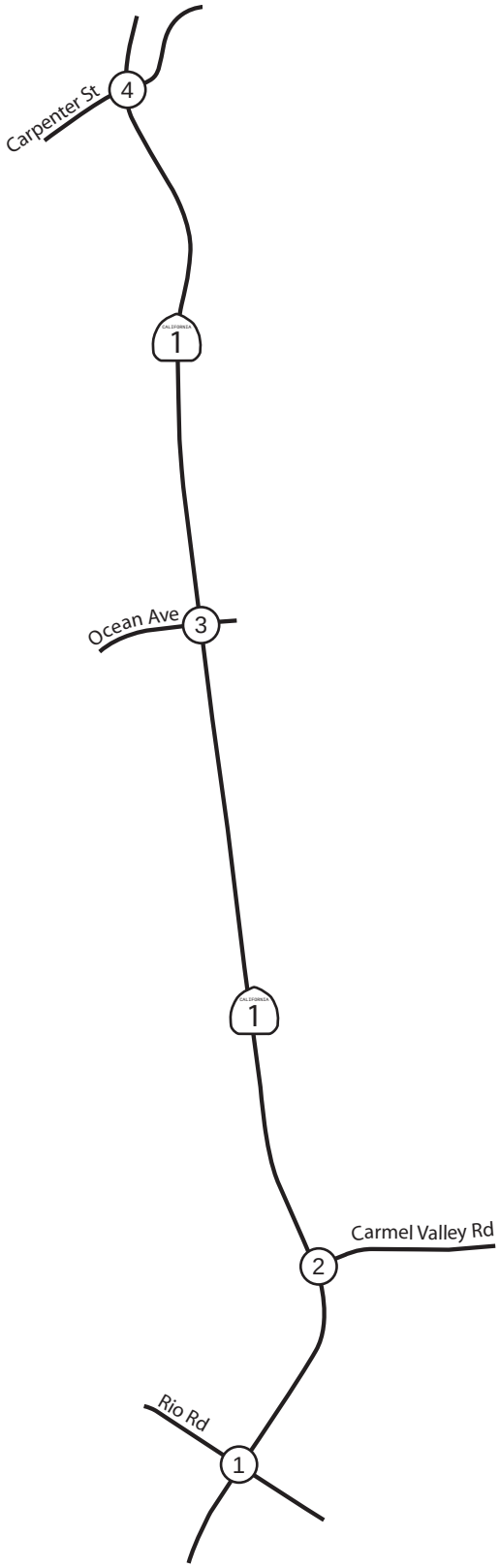
The model volumes were calibrated based on existing traffic patterns. The AMBAG model provided directional link volumes for the AM and PM peak hours for forecast year 2030. These directional link volumes were compared to the base year (year 2000) modeled directional link volumes and an annual growth rate was calculated for each link. This growth rate was used to extrapolate turning movement and roadway segment volumes from year 2008 actual count data to forecast year 2030 data.

Study Intersections

All signalized intersections along the corridor were analyzed. The study intersections included in the analysis are listed in **Table 2-1** and the study area is shown in **Figure 2-1.**

TABLE 2-1
STUDY INTERSECTIONS

	Intersection	Traffic Control
1	SR-1/Rio Road	Signal
2	SR-1/Carmel Valley Road	Signal
3	SR-1/Ocean Avenue	Signal
4	SR-1/Carpenter Street	Signal



Legend:

(X) Intersection ID

N

NOT TO SCALE

Analysis Process

The analysis process determined operations at the study intersections for the a.m. and p.m. peak-hours. Intersections were measured and quantified by using the Synchro traffic analysis software package. Results were compared to the County's standards to determine if the corridor has any deficiencies.

Analysis Software

To analyze the operations of signalized intersections, Synchro 6.0 (Trafficware) was used for the analysis. Synchro 6.0 uses the methodologies outlined in the 2000 *Highway Capacity Manual (HCM)*. To analyze the operations of the highway segments, HCS 5.21 software was utilized. This software uses the methodologies outlined in the 2000 *Highway Capacity Manual (HCM)*.

Signalized Intersections

The 2000 *Highway Capacity Manual (HCM)* published by the Transportation Research Board establishes a system whereby highway facilities are rated for their ability to process traffic volumes. The terminology "level of service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations, which are related to empirical values.

Level of service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in additional to the stop delay. The criteria for the various levels of service designations are provided in **Table 2-2**.

TABLE 2-2
LEVEL OF SERVICE (LOS) CRITERIA FOR SIGNALIZED INTERSECTIONS

LOS	Control Delay (sec/veh) (a)	Description
A	≤10.0	Operations with very low delay and most vehicles do not stop.
B	<10.0 and <20.0	Operations with good progression but with some restricted movement.
C	>20.0 and <35.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and <55.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and <80.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Notes:
(a) 2000 Highway Capacity Manual, Chapter 16, Page 2, Exhibit 16-2

Roadway Segments

Roadway segment operations are also classified by a level of service, as defined by the 2000 *Highway Capacity Manual*. For a two-lane highway or a two-lane highway with a truck climbing lane, the level of service is based on calculated "percent time-spent following" and average travel speed. For multilane highways, the level of service is calculated based on vehicle density. **Table 2-4** below indicates the LOS resulting from calculated percent-time following and average travel speeds on two-lane Class I highways. Class I highways are defined as "Highways on which motorists expect to travel at relatively high speeds, including major intercity routes, primary arterials, and daily commuter routes. Table 2-4 is referenced from Exhibit 20-2 in the 2000 *Highway Capacity Manual*.

TABLE 2-4
LOS CRITERIA FOR TWO-LANE HIGHWAYS IN CLASS I

LOS	Percent Time-Spent-Following	Average Travel Speed (mi/h)
A	≤ 35	> 55
B	35-50	50-55
C	50-65	45-50
D	65-80	40-45
E	> 80	≤ 40

Note:
LOS F applies whenever the flow rate exceeds the segment capacity
Source: Exhibit 20-2; 2000 Highway Capacity Manual

Table 2-5 below indicates the LOS resulting from the calculated density on multilane highways.

TABLE 2-5
LOS CRITERIA FOR MULTILANE HIGHWAYS

LOS	Maximum Density (pc/mi/ln)	Maximum service flow rate (pc/h/ln)
A	11	490
B	18	810
C	26	1170
D	35	1550
E	45	1900

Notes:
LOS F is characterized by highly unstable and variable traffic flow.
LOS criteria assumes a free-flow speed of 45 mi/h
Source: Exhibit 21-2; 2000 Highway Capacity Manual

Level of Service Thresholds

The current Monterey County standard for roadway operations is LOS C.

The Caltrans manual states that "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS."

A Caltrans Project Study Report (PSR) in 2001 evaluated options for improving SR-1 from the Carmel River bridge to Highway 68 and a second Caltrans PSR, completed in 2005, evaluated the northbound climbing lane from Rio Road to Carmel Valley Road. Per the recommendation contained in the Caltrans manual, level of service thresholds for this report for SR-1 are based on Caltrans developed standards for this segment, particularly those utilized 2001 and 2005 Project Study Reports (PSR) completed by Caltrans on the study area. Both PSRs contain an explanation of the use of a threshold of LOS D, which is excerpted below:

> The standard for the operation of arterial roadways, as defined in the Monterey County General Plan is Level of Service (LOS "C". However, in recognition of likely public opposition to the impacts related to the substantial improvements that would be required to achieve LOS "C" on the study section of SR-1, the Project Development Team and the TAMC Board has selected arterial LOS "D" in design year 2030 as the standard for screening project alternatives.

The County concurs with the approach of Caltrans and TAMC in their PSRs for this portion of SR-1 that a LOS D should be the standard and thus LOS D is used as the level of service threshold in this document for evaluation of this portion of SR-1.

3.0 EXISTING CONDITIONS

This section summarizes the existing roadway circulation network, peak-hour traffic volumes, and operations at the study intersections and roadway segments.

Road Network

The following provides a description of SR-1 within the vicinity of the project study area.

Rio Road to Carmel Valley Road: SR-1 is a two-lane highway with a speed limit of 40 miles per hour. It has a raised median at the north ends of the segment, a double yellow centerline in the middle, and a painted median at the south end of the segment. There is a shoulder along the entire segment on the east side of the road.

Carmel Valley Road to Ocean Avenue: SR-1 has two northbound lanes and one southbound lane with a speed limit of 40 miles per hour. There is a double yellow centerline. There are no turn lanes to intersecting streets. Just south of Ocean Avenue two southbound lanes merge into one lane. There is a shoulder along both sides of the road.

Ocean Avenue to Carpenter Street: SR-1 has two northbound lanes and two southbound lanes with a speed limit of 40 miles per hour. There is a two-way left-turn lane or turn lanes along the southern portion of the segment, with a double yellow centerline. There is a narrow shoulder along both sides of the road.

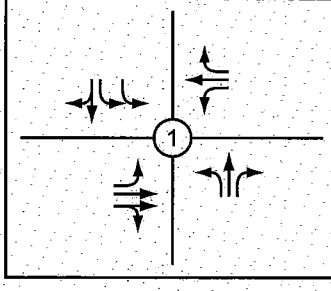
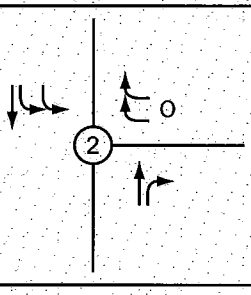
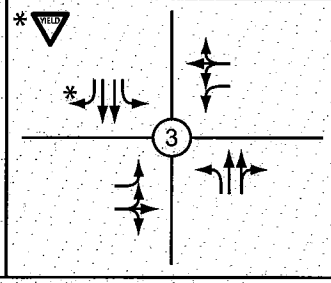
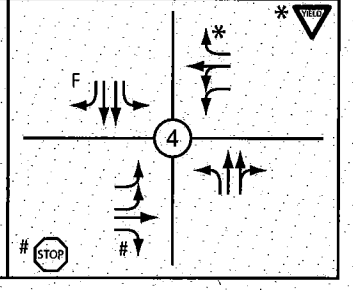
Figure 3-1 shows the existing geometrics of the intersections and roadway segments within the study area.

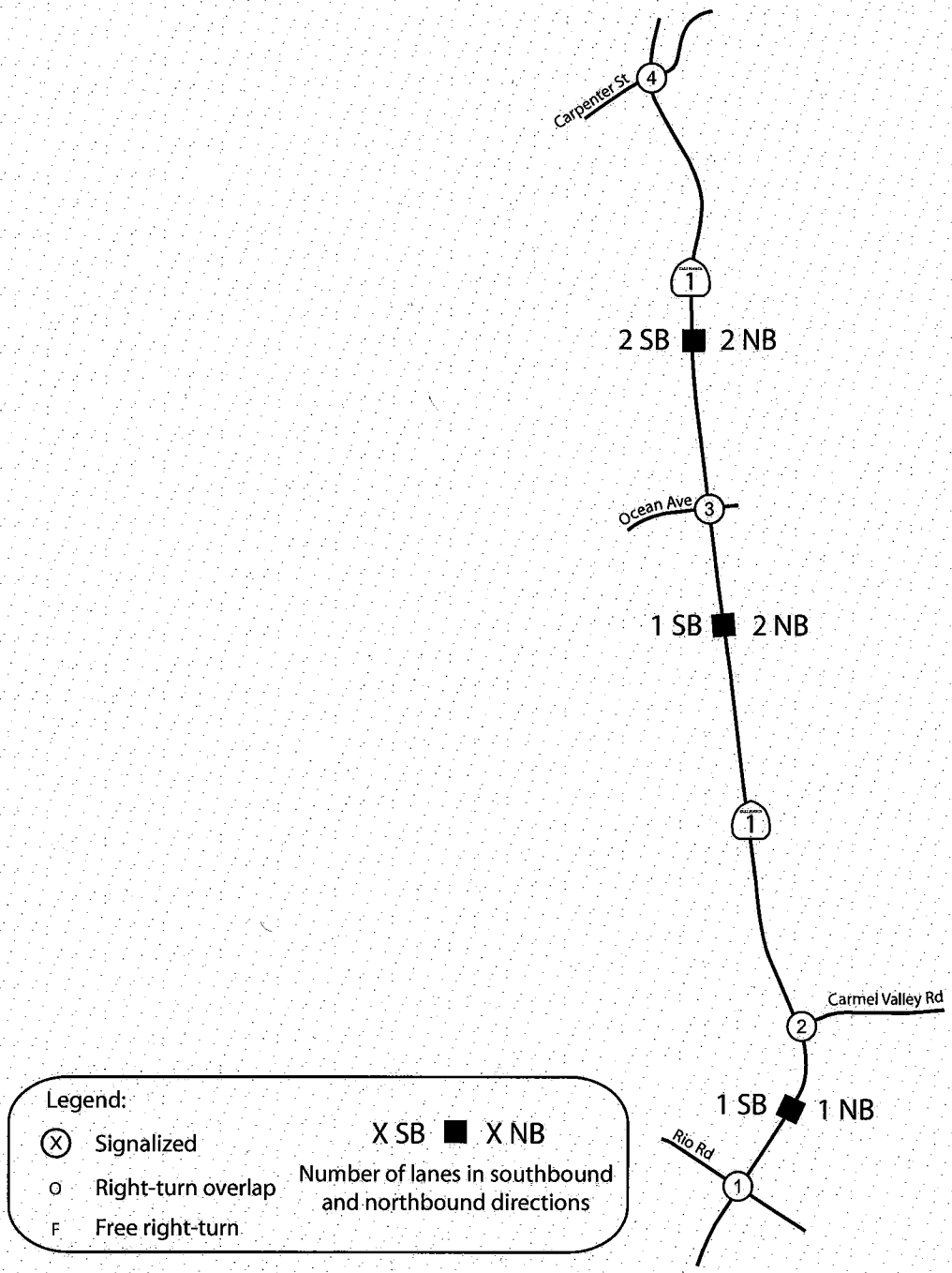
Traffic Volumes

The peak-hour intersection turning movements at all study area intersections and the Average Daily Traffic (ADT) volumes on the three roadway segments were counted in early June 2008 by National Data & Surveying Services. The existing traffic data is contained in **Appendix A**.

Volumes were counted during the morning and afternoon peak hours of roadway traffic at each study intersection. Carmel High School is located at the east leg of the SR-1 and Ocean Avenue intersection and school dismissal is prior to the period of peak traffic on SR-1. In order to represent worse case conditions for the SR-1 and Ocean Avenue intersection, traffic volumes for movements to/from the east leg for that intersection were obtained from the September Ranch Subdivision Project Traffic Impact Study, which analyzed conditions during school dismissal. While volumes on SR-1 were slightly lower during this period as opposed to the peak afternoon period, as a conservative approach, volumes during the peak hour of roadway traffic were utilized for all other movements.

Figure 3-2 illustrates the existing peak-hour traffic volumes at the study intersections and roadway segments.

Rio Rd/ SR - 1	Carmel Valley Rd/ SR - 1	Ocean Ave/ SR - 1	Carpenter St/ SR - 1
			



Carmel Valley Master Plan SR-1 Study

Int.	Cross Street	SR-1 Southbound (⇙ ⇩ ⇘)	Cross Street Westbound	Cross Street Eastbound	SR-1 Northbound (⇖ ⇧ ⇗)
1	Rio Rd	73 / 36, 243 / 158, 232 / 260	⇖ 112 / 300, ⇦ 229 / 333, ⇙ 92 / 138	⇗ 229 / 160, ⇨ 253 / 323, ⇘ 29 / 44	46 / 30, 121 / 355, 84 / 113
2	Carmel Valley Rd	505 / 432 (⇩), 963 / 738 (⇘)	⇖ 786 / 844		410 / 731 (⇧), 74 / 82 (⇗)
3	Ocean Ave	153 / 201, 1426 / 1153, 13 / 12	⇖ 54 / 116, ⇦ 51 / 84, ⇙ 97 / 170	⇗ 166 / 332, ⇨ 43 / 35, ⇘ 106 / 163	114 / 141, 966 / 1429, 90 / 64
4	Carpenter St	629 / 664, 1346 / 1423, 32 / 54	⇖ 43 / 36, ⇦ 16 / 16, ⇙ 33 / 17	⇗ 350 / 711, ⇨ 6 / 18, ⇘ 25 / 24	17 / 19, 1143 / 1794, 11 / 25

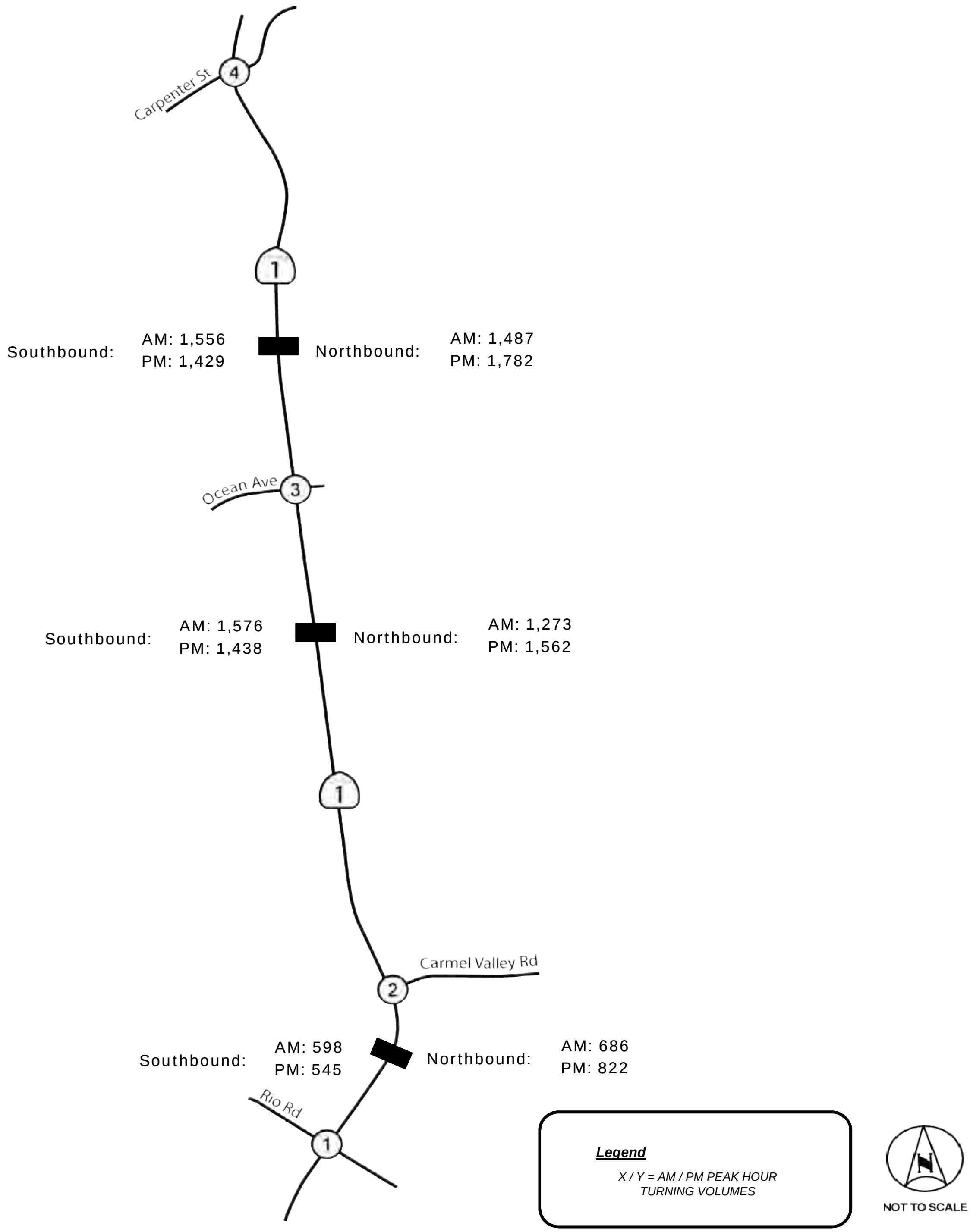


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FIGURE 3-2

Existing Peak-Hour Traffic Volumes

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Intersection Analysis

Table 3-1 displays the LOS analysis results for the study intersections under Existing Conditions. The four signalized intersections along the corridor operate at an acceptable level of service D or better in both peak hours.

Appendix B contains the LOS calculation worksheets.

The intersection of SR-1 and Ocean Avenue is shown to be operating at LOS D during both the a.m. and p.m. peak hours. Just south of that intersection, SR-1 in the southbound direction reduces from two lanes to one lane. As shown by the roadway analysis below, SR-1 southbound south of Ocean Avenue operates at LOS F. While extensive queuing currently develops in the southbound direction at the Ocean Avenue intersection, this queuing and the associated delays are primarily attributable to the roadway merge, not to the operations specifically at the intersection. Were the merge to be moved south on SR-1 or eliminated, the intersection would operate acceptably and no improvements would be required to the intersection under existing conditions.

Roadway Segment Analysis

Table 3-2 displays the roadway segments analysis under Existing Conditions. As shown in the table, the segment of SR-1 between Rio Road and Carmel Valley Road operates at LOS E in both peak hours and the segment between Carmel Valley Road and Ocean Avenue in the southbound direction operates at LOS F in both peak hours.

Analysis Summary

See **Figure 3-3** for a graphical depiction of intersection and roadway segment level of service under Existing Conditions.

TABLE 3-1

EXISTING CONDITIONS

PEAK-HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
1	Rio Rd & SR-1	Actuated-Uncoordinated Signal	AM	27.5	C
			PM	31.6	C
2	Carmel Valley Rd & SR-1	Actuated-Uncoordinated Signal	AM	10.3	B
			PM	24.1	C
3	Ocean Ave & SR-1	Actuated-Uncoordinated Signal	AM	35.9	D
			PM	48.8	D
4	Carpenter St & SR-1	Actuated-Uncoordinated Signal	AM	17.8	B
			PM	36.5	D

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0

K:\TPTO\095686001\Excel\[6860011N01.xlsm]Existing

TABLE 3-2
EXISTING CONDITIONS
ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

		AM PEAK HOUR				PM PEAK HOUR			
HIGHWAY 1	**DIRECTION**	**VOLUME (vph)**	**PERCENT TIME-SPENT-FOLLOWING**	**AVERAGE TRAVEL SPEED (mph)**	**LOS**	**VOLUME (vph)**	**PERCENT TIME-SPENT-FOLLOWING**	**AVERAGE TRAVEL SPEED (mph)**	**LOS**
between Rio Rd & Carmel Valley Rd (a)	BOTH	1,284	77.6%	29.9	**E**	1,367	79.6%	29.1	**E**
between Carmel Valley Rd & Ocean Ave (b)	SB	1,576	100.0%	16.8	**F**	1,438	100.0%	16.1	**F**
HIGHWAY 1	**DIRECTION**	**VOLUME (vph)**	**FLOW RATE (pcphpl)[(d)]**	**DENSITY (pc/mi/ln)**	**LOS**	**VOLUME (vph)**	**FLOW RATE (pcphpl)[(d)]**	**DENSITY (pc/mi/ln)**	**LOS**
between Carmel Valley Rd & Ocean Ave (b)	NB	1,273	818	18.2	C	1,562	983	21.8	C
between Ocean Ave & Carpenter St (c)	NB	1,487	984	21.9	C	1,782	1,082	24.0	C
	SB	1,556	955	21.2	C	1,429	859	19.1	C

Notes:
(a) Two-lane segment analyzed as a two-lane segment using HCS 5.21 software
(b) Three-lane segment analyzed as a four-lane segment on the northbound side and a directional two-lane segment on the southbound side using HCS 5.21 software
(c) Four-lane segment analyzed as a four-leg segment using HCS 5.21 software
(d) pcphpl = passenger cars per hour per lane

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Legend:

- Directional Roadway Level of Service (Same for both AM and PM Peak-Hours)
- X — AM/PM Peak-Hour Intersection Level of Service
  - LOS C or better
  - LOS D
  - LOS E
  - LOS F

NOT TO SCALE

4.0 CUMULATIVE CONDITIONS

This section provides a description of the forecast Cumulative Conditions on SR-1. Cumulative Conditions use Year 2030 as the horizon year for analysis.

Road Network

A Caltrans project is currently in the PA/ED stage to extend the northbound climbing lane from Carmel Valley Road down to Rio Road. In addition, the project will construct several associated improvements at the SR-1 & Rio Road intersection. These improvements include a second westbound right-turn lane, an exclusive southbound right-turn lane, and a conversion of the existing northbound right-turn lane into a shared thru/right-turn lane. With the additional northbound lane on SR-1, the SR-1 & Carmel Valley Road intersection would also be modified to convert the northbound right-turn lane into a shared thru/right-turn lane. Since this project is already programmed and is planned for construction in 2010, it is assumed to be completed prior to the Year 2030. **Figure 4-1** shows the Cumulative Conditions intersection and roadway geometrics.

Traffic Volumes

Cumulative Conditions traffic volumes were obtained from the Year 2030 AMBAG model provided by DKS. This is the same model utilized in the *Carmel Valley Master Plan Traffic Study* (July 2007). See Chapter 2 for further discussion on the methodology used to obtain forecast Year 2030 traffic volumes.

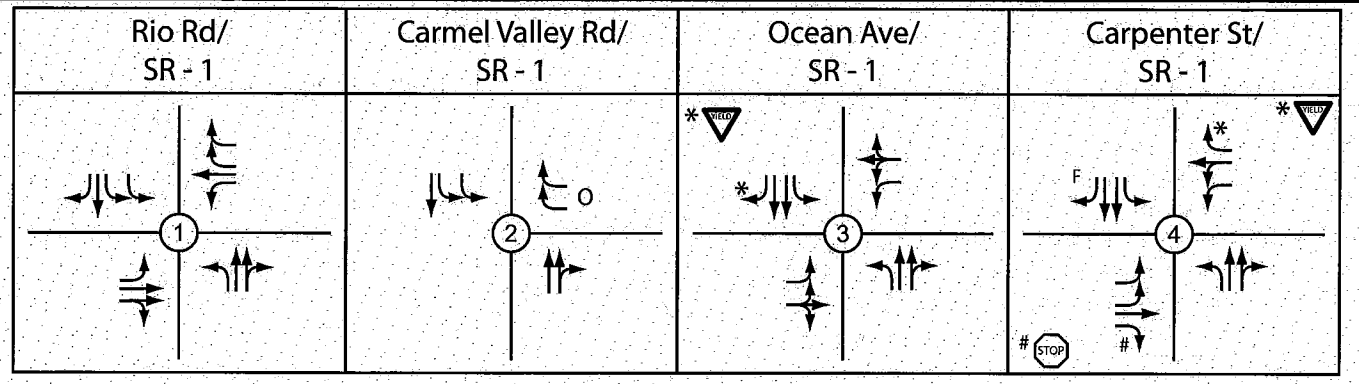
Figure 4-2 shows the Cumulative Conditions peak-hour intersection and roadway segment volumes.

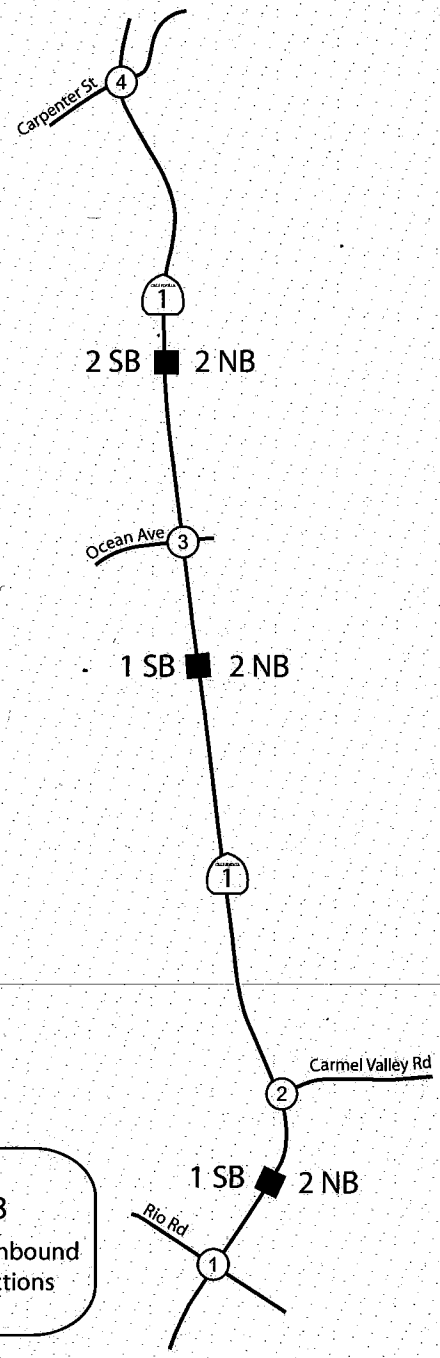
Intersection Analysis

Table 4-1 displays the LOS analysis results for the study intersections under Cumulative Conditions. All of the study intersections are forecast to operate at an acceptable level of service D or better in both peak hours, with the exception of the intersection of SR-1 and Ocean Avenue, which is projected to operate at LOS E during the p.m. peak-hour.

Appendix B contains the LOS calculation worksheets.

The intersection of SR-1 and Ocean Avenue is projected to be operating at LOS E during the p.m. peak hour. Just south of that intersection, SR-1 in the southbound direction reduces from two lanes to one lane. As shown by the roadway analysis below, SR-1 southbound south of Ocean Avenue operates at LOS F. While queuing currently develops in the southbound direction at the Ocean Avenue intersection and may worsen in the cumulative conditions scenario, this queuing and the associated delays are primarily attributable to the roadway merge, not to the operations specifically at the intersection.





Legend:

- (X) Signalized
- o Right-turn overlap
- F Free right-turn

X SB ■ X NB

Number of lanes in southbound and northbound directions

NOT TO SCALE

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FIGURE 4-1

Cumulative Conditions Intersection Geometrics

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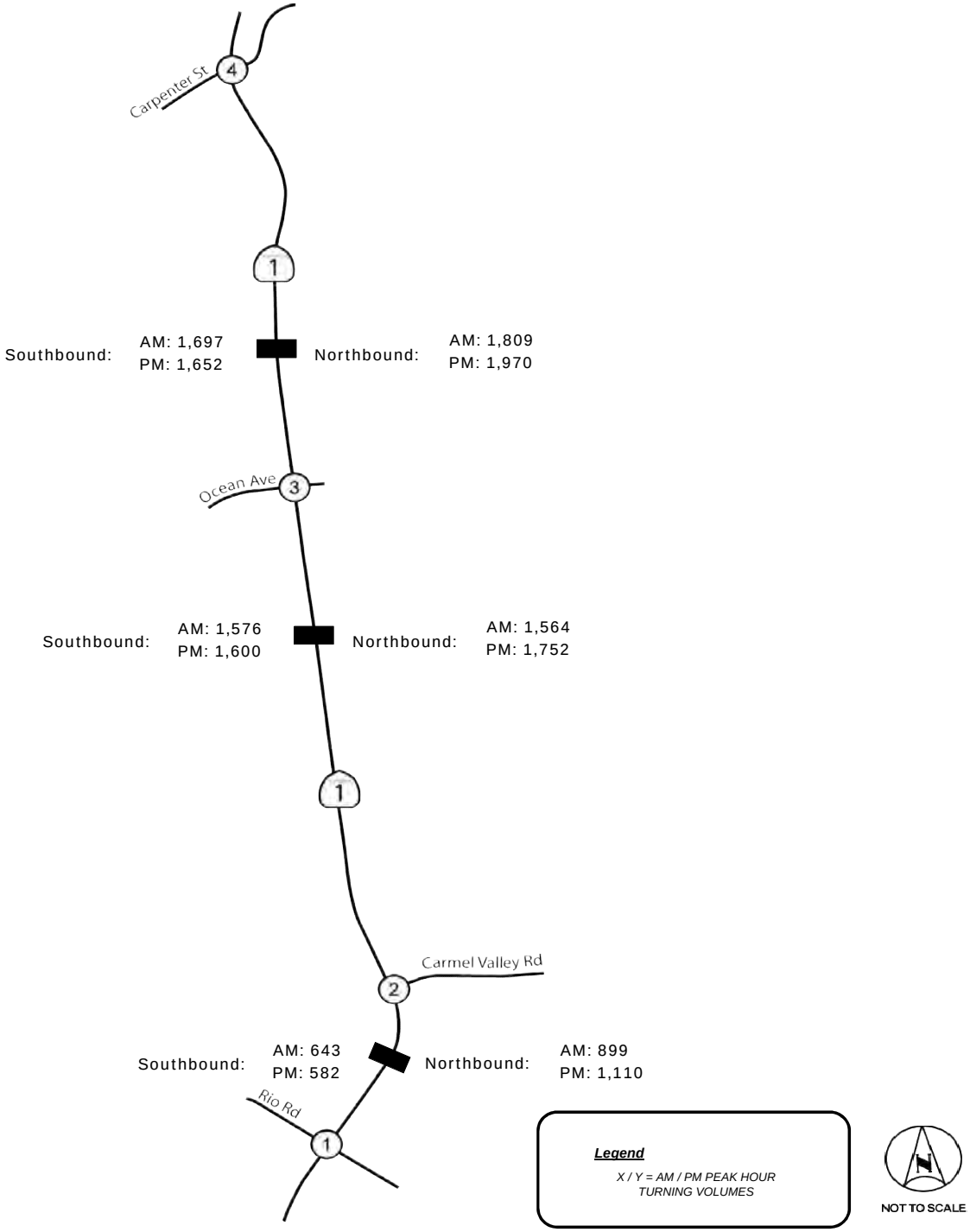
1				2			3			4		
79 / 38 261 / 169 250 / 277 **SR-1**	⇗ 190 / 505 ⇧ 389 / 560 ⇖ 156 / 232 **Rio Rd**		555 / 483 1059 / 826 **SR-1**	⇗ 943 / 870 **Carmel Valley Rd**		166 / 233 1547 / 1334 14 / 12 **SR-1**	⇗ 54 / 116 ⇧ 51 / 84 ⇖ 97 / 170 **Ocean Ave**		683 / 739 1461 / 1584 35 / 60 **SR-1**	⇗ 50 / 42 ⇧ 19 / 19 ⇖ 38 / 20 **Carpenter St**	
283 / 247 313 / 498 36 / 68	⇗ ⇧ ⇗ 52 / 31 137 / 370 95 / 118			⇧ ⇗ 537 / 987 97 / 111		216 / 351 56 / 35 138 / 172	⇗ ⇧ ⇗ 140 / 158 1187 / 1603 111 / 64		365 / 711 6 / 18 26 / 24	⇗ ⇧ ⇗ 21 / 21 1391 / 1983 13 / 28	



Kimley-Horn and Associates, Inc.

FIGURE 4-2

Cumulative Conditions Peak-Hour Traffic Volumes

TABLE 4-1

CUMULATIVE CONDITIONS

PEAK-HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	CUMULATIVE	
				DELAY (a)	LOS (b)
1	Rio Rd & SR-1	Actuated-Uncoordinated Signal	AM	34.4	C
			PM	41.1	D
2	Carmel Valley Rd & SR-1	Actuated-Uncoordinated Signal	AM	10.2	B
			PM	16.8	B
3	Ocean Ave & SR-1	Actuated-Uncoordinated Signal	AM	43.6	D
			PM	59.6	**E**
4	Carpenter St & SR-1	Actuated-Uncoordinated Signal	AM	20.7	C
			PM	47.7	D

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0

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Roadway Segment Analysis

Table 4-2 displays the roadway segments analysis under Cumulative Conditions. As shown in the table, the segment of southbound SR-1 between Rio Road and Carmel Valley Road is forecast to operate at LOS E in both peak hours and the segment of southbound SR-1 between Carmel Valley Road and Ocean Avenue is forecast to operate at LOS F in both peak hours. This represents the same deficient level of service for both segments as existing conditions without the addition of background and cumulative project traffic. The other roadway segments in the study area remain at an acceptable LOS D or better.

Analysis Summary

See **Figure 4-3** for a graphical depiction of intersection and roadway segment level of service under Existing Conditions.

TABLE 4-2
CUMULATIVE CONDITIONS
ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

		AM PEAK HOUR				PM PEAK HOUR			
HIGHWAY 1	**DIRECTION**	**VOLUME (vph)**	**PERCENT TIME-SPENT-FOLLOWING**	**AVERAGE TRAVEL SPEED (mph)**	**LOS**	**VOLUME (vph)**	**PERCENT TIME-SPENT-FOLLOWING**	**AVERAGE TRAVEL SPEED (mph)**	**LOS**
between Rio Rd & Carmel Valley Rd (a)	SB	643	75.0%	28.4	**E**	582	72.7%	26.9	**E**
between Carmel Valley Rd & Ocean Ave (a)	SB	1,576	95.6%	14.3	**F**	1,600	100.0%	13.1	**F**
HIGHWAY 1	**DIRECTION**	**VOLUME (vph)**	**FLOW RATE (pcphpl)[(c)]**	**DENSITY (pc/mi/ln)**	**LOS**	**VOLUME (vph)**	**FLOW RATE (pcphpl)[(c)]**	**DENSITY (pc/mi/ln)**	**LOS**
between Rio Rd & Carmel Valley Rd (a)	NB	899	546	12.1	B	1,110	688	15.3	B
between Carmel Valley Rd & Ocean Ave (a)	NB	1,564	1,005	22.3	C	1,752	988	22.0	C
between Ocean Ave & Carpenter St (b)	NB	1,809	1,198	26.6	D	1,970	1,197	26.6	D
	SB	1,697	1,042	23.2	C	1,652	993	22.1	C

Notes:
(a) Three-lane segment analyzed as a four-lane segment on the northbound side and a directional two-lane segment on the southbound side using HCS 5.21 software
(b) Four-lane segment analyzed as a four-leg segment using HCS 5.21 software
(c) pcphpl = passenger cars per hour per lane

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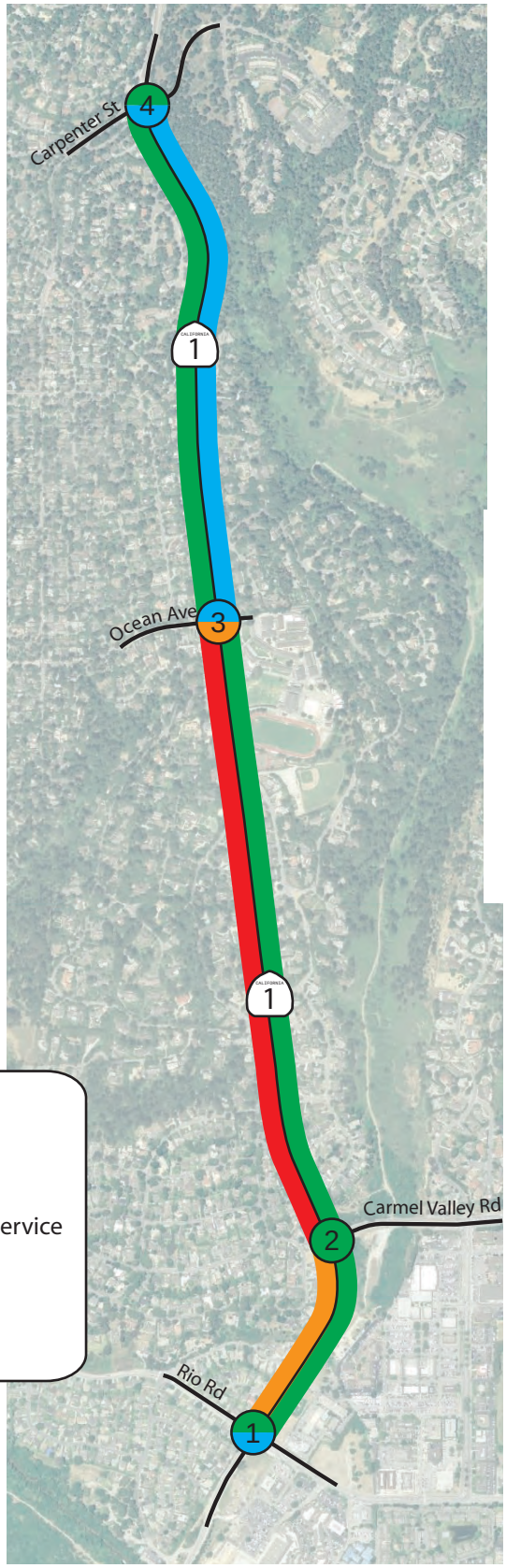


Legend:

Directional Roadway Level of Service
(Same for both AM and PM Peak-Hours)

X AM/PM Peak-Hour Intersection Level of Service

- LOS C or better
- LOS D
- LOS E
- LOS F

NOT TO SCALE

5.0 FINDINGS AND CONCLUSIONS

Summary of Analysis

Analysis of SR-1 in the vicinity of the Carmel Valley Master Plan indicated the following deficiencies in the study area roadway network:

- Existing Conditions
  - All intersections were determined to operate at an acceptable LOS in both peak periods.
  - The segment of SR-1 between Rio Road & Carmel Valley Road currently operates at LOS E in both peak periods. The segment of SR-1 between Carmel Valley Road & Ocean Avenue in the southbound direction currently operates at LOS F in both peak periods. All other segments operate at an acceptable LOS.
- Cumulative Conditions
  - Cumulative Conditions assume the construction of the Caltrans SR-1 project as outlined in the 2005 PSR, which includes the construction of a truck climbing lane from Rio Road to Carmel Valley Road and associated intersection improvements.
  - Three of the four study intersections were determined to operate at an acceptable LOS in both peak periods. The intersection of SR-1 and Ocean Avenue is projected to operate at LOS E during the p.m. peak-hour under cumulative conditions.
  - The segment of SR-1 between Rio Road & Carmel Valley Road in the southbound direction is forecast to operate at LOS E in both peak periods. The segment of SR-1 between Carmel Valley Road & Ocean Avenue in the southbound direction is forecast to operate at LOS F in both peak periods. All other segments operate at an acceptable LOS. While, the two deficient segments would experience slightly worsened conditions with the addition of cumulative project traffic, this represents the same level of service as existing conditions.

Improvement Options

In order to address the existing and forecast deficiencies on the southbound segments of SR-1 between Ocean Avenue and Rio Road, SR-1 would need to be widened to two lanes in the southbound direction. This improvement project would carry significant cost. This is a 1.13 mile segment. The climbing lane under design from Rio Road to Carmel Valley Road is projected to cost $3.548 Million, based on a PSR for the project prepared in 2005. This equates to a cost of approximately $11.7 Million per mile. Therefore, it is approximated that the widening of southbound SR-1 from Ocean Avenue to Rio Road would cost approximately $13.3 Million. This is a very rough calculation and is provided for informational purposes only. Approximately one-third of the projected northbound climbing lane cost is attributed to environmental mitigation. Without a full analysis of the environmental mitigation necessary for the widening from Ocean Avenue to Rio Road there is a substantial amount of uncertainty in the projected cost for the roadway improvement.

As an alternative improvement, the merge point for southbound SR-1 may be moved slightly to the south to increase its distance from the Ocean Avenue intersection. Currently, SR-1 merges from two southbound lanes to one southbound lane approximately 300 feet south of the SR-1 & Ocean Avenue intersection. Due to the proximity of the merge point to the Ocean Avenue intersection, vehicles queue back from the merge point into the intersection, affecting intersection operations. By moving the merge

point, additional capacity can be provided on SR-1 south of Ocean Avenue, improving intersection operations and slightly enhancing roadway capacity. This improvement would not result in an improved level of service for SR-1. Roadway widening to Carmel Valley Road or Rio Road is the only way to improve the existing and forecast deficiency to an acceptable level of service.

The distance that the merge point will be moved is the determining factor in the cost of the improvement. In order to avoid substantial tree removal and environmental mitigation, it is suggested to move the merge point no more than two hundred feet to the south. It is not anticipated that the improvement project would require additional right-of-way. Based on a preliminary estimate of probable cost, moving the merge point two hundred feet to the south is projected to roughly cost between $500,000 and $1 Million, including engineering and environmental costs. A more detailed opinion of probable cost based on a preliminary engineering design is necessary to narrow down that range and increase the confidence in that estimate.

Since the lack of sufficient capacity on SR-1 is an existing deficiency, the cost of a widening project cannot be applied solely to new development in Carmel Valley or in the county as a whole. Therefore, alternative funding sources would need to be identified to pay the fraction of the total improvement cost associated with existing traffic. Only 11% of the total forecast trips on SR-1 between Rio Road and Carmel Valley Road are new trips that are forecast to originate or end in the Carmel Valley Planning Area. And only 22% of the total forecast trips on this segment are attributable to future development anywhere in Monterey County or surrounding counties. For SR-1 between Carmel Valley Road and Ocean Avenue, only 4% of the total forecast trips are new trips that are forecast to originate or end in the Carmel Valley Planning Area. And only 7% of the total forecast trips on this segment are attributable to future development anywhere in Monterey County or surrounding counties. Therefore, the substantial majority of the project cost for SR-1 widening would need to be covered by means other than development impact fees. These improvements are not included in the TAMC Regional Traffic Impact Fee Program, nor in any Caltrans planning efforts. Therefore, only a small portion of the project financing can be identified at this time. Since neither improvement alternative on SR-1 between Ocean Avenue and Rio Road is currently considered financially feasible, the projects should not be added to the Carmel Valley Master Plan Traffic Impact Fee program.

The intersection of SR-1 and Ocean Avenue becomes deficient in the Cumulative Conditions scenario during the p.m. peak-hour. As identified by the September Ranch Subdivision Re-circulated EIR, the intersection would be improved to an acceptable level of service with the addition of a westbound right-turn lane. As stated in the paragraph above, only a small percentage of the trips traveling through the SR-1 and Ocean Avenue intersection are attributable to future development within the Carmel Valley Planning Area. Therefore, this improvement cannot be fully funded by the Carmel Valley Master Plan Traffic Impact Fee program and would require additional funding from other sources that have not been identified. As such, this improvement is considered infeasible and should not be added to the Carmel Valley Master Plan Traffic Impact Fee program.

APPENDICES

APPENDIX A

- Existing Traffic Volume Data

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Rio Rd DAY: WEDNESDAY PROJECT# 08-7384-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	2	.5	.5	1	1.5	.5	1	1	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	3	29	19	32	35	7	26	13	4	22	26	20	236
7:15 AM	6	31	23	37	39	9	37	22	3	27	37	23	294
7:30 AM	1	34	11	43	44	8	74	42	5	29	42	22	355
7:45 AM	6	27	17	47	36	15	55	51	8	24	76	22	384
8:00 AM	6	42	23	71	61	24	56	45	5	20	64	29	446
8:15 AM	12	27	13	56	77	20	52	64	8	17	51	29	426
8:30 AM	14	21	18	53	46	14	63	77	6	30	74	25	441
8:45 AM	14	31	30	52	59	15	58	67	10	25	40	29	430
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	62	242	154	391	397	112	421	381	49	194	410	199	3012

AM Peak Hr Begins at: 800 AM

PEAK VOLUMES =	46	121	84	232	243	73	229	253	29	92	229	112	1743
PEAK HR. FACTOR:		0.837			0.878			0.875			0.839		0.977

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Rio Rd DAY: WEDNESDAY PROJECT# 08-7384-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	2	.5	.5	1	1.5	.5	1	1	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	9	84	26	58	35	7	27	65	15	30	71	59	486
4:15 PM	5	83	22	77	43	5	55	83	10	23	98	70	574
4:30 PM	12	100	34	59	42	9	41	70	11	35	77	82	572
4:45 PM	4	87	31	65	37	8	28	87	13	41	78	71	550
5:00 PM	9	85	26	59	36	14	36	83	10	39	80	77	554
5:15 PM	10	82	21	41	38	16	38	71	9	49	82	73	530
5:30 PM	7	71	20	48	35	19	20	56	7	30	75	48	436
5:45 PM	4	73	29	45	36	14	31	55	9	36	67	63	462
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	60	665	209	452	302	92	276	570	84	283	628	543	4164

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	30	355	113	260	158	36	160	323	44	138	333	300	2250
PEAK HR. FACTOR:		0.853			0.908			0.890			0.983		0.980

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Carmel Valley Rd DAY: WEDNESDAY PROJECT# 08-7384-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	2	1	0	0	0	0	0	0	2	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM		52	15	169	69							103	408
7:15 AM		73	16	221	90							157	557
7:30 AM		102	26	255	92							261	736
7:45 AM		92	12	240	102							221	667
8:00 AM		110	17	243	149							141	660
8:15 AM		106	19	225	162							163	675
8:30 AM		86	21	211	104							147	569
8:45 AM		91	23	225	134							189	662
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	0	712	149	1789	902	0	0	0	0	0	0	1382	4934

AM Peak Hr Begins at: 730 AM

PEAK													
VOLUMES =	0	410	74	963	505	0	0	0	0	0	0	786	2738
PEAK HR. FACTOR:		0.945			0.936			0.000			0.753		0.930

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Carmel Valley Rd DAY: WEDNESDAY PROJECT# 08-7384-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	1	2	1	0	0	0	0	0	0	2	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM		158	21	154	106							201	640
4:15 PM		194	25	190	128							262	799
4:30 PM		220	15	179	110							225	749
4:45 PM		148	23	186	88							176	621
5:00 PM		169	19	183	106							181	658
5:15 PM		164	14	198	96							178	650
5:30 PM		131	16	215	104							183	649
5:45 PM		155	22	195	101							206	679
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1339	155	1500	839	0	0	0	0	0	0	1612	5445

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	731	82	738	432	0	0	0	0	0	0	844	2827
PEAK HR. FACTOR:		0.865			0.920			0.000			0.805		0.885

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Ocean Ave DAY: WEDNESDAY PROJECT# 08-7384-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1.5	.5	1	2	1	1.3	.3	.3	1.3	.3	.3	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	19	121	16	3	222	28	23	1	18	23	4	6	484
7:15 AM	22	147	28	5	278	36	26	10	26	36	9	12	635
7:30 AM	22	216	53	9	275	29	43	21	34	42	14	20	778
7:45 AM	30	276	19	1	325	38	32	13	24	27	17	15	817
8:00 AM	23	228	12	0	415	42	42	7	21	17	12	11	830
8:15 AM	39	246	6	3	411	44	49	2	27	11	8	8	854
8:30 AM	25	200	8	0	324	48	46	1	31	10	2	2	697
8:45 AM	35	248	11	0	372	38	60	3	34	8	5	1	815
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	215	1682	153	21	2622	303	321	58	215	174	71	75	5910

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	114	966	90	13	1426	153	166	43	106	97	51	54	3279
PEAK HR. FACTOR:		0.900			0.869			0.804			0.664		0.960

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Ocean Ave DAY: WEDNESDAY PROJECT# 08-7384-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1.5	.5	1	2	1	1.3	.3	.3	1.3	.3	.3	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	32	305	4	3	246	35	58	6	30	15	6	1	741
4:15 PM	43	407	0	0	292	30	76	1	40	12	1	2	904
4:30 PM	38	382	2	1	289	56	84	7	44	6	3	2	914
4:45 PM	31	314	1	0	270	52	82	2	41	7	3	2	805
5:00 PM	29	326	3	1	302	63	90	4	38	5	4	2	867
5:15 PM	42	311	2	0	313	55	83	1	46	4	4	1	862
5:30 PM	45	279	3	0	320	64	80	4	37	12	5	3	852
5:45 PM	35	321	1	5	294	61	64	5	35	6	8	6	841
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 295	NT 2645	NR 16	SL 10	ST 2326	SR 416	EL 617	ET 30	ER 311	WL 67	WT 34	WR 19	TOTAL 6786

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	141	1429	6	2	1153	201	332	14	163	30	11	8	3490
PEAK HR. FACTOR:		0.876			0.926			0.943			0.817		0.955

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Carpenter St DAY: WEDNESDAY PROJECT# 08-7384-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1.5	.5	1	2	1	2	.5	.5	1.5	.5	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	2	140	0	3	262	64	45	1	4	6	1	8	536
7:15 AM	4	171	2	5	325	74	51	0	11	10	1	6	660
7:30 AM	7	259	3	8	349	135	69	0	10	12	1	12	865
7:45 AM	5	321	2	5	360	205	93	1	4	9	6	7	1018
8:00 AM	4	268	4	6	320	147	107	1	5	4	1	10	877
8:15 AM	1	295	2	13	317	142	81	4	6	8	8	14	891
8:30 AM	3	248	1	7	334	123	80	2	2	9	3	9	821
8:45 AM	2	311	1	12	338	158	107	3	1	5	2	13	953
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	28	2013	15	59	2605	1048	633	12	43	63	23	79	6621

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	17	1143	11	32	1346	629	350	6	25	33	16	43	3651
PEAK HR. FACTOR:		0.893			0.880			0.843			0.767		0.897

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: SR-1 DATE: 06/11/2008 LOCATION: City of Carmel-by-the-Sea

E-W STREET: Carpenter St DAY: WEDNESDAY PROJECT# 08-7384-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1.5	.5	1	2	1	2	.5	.5	1.5	.5	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	7	388	5	19	301	155	184	8	4	3	3	11	1088
4:15 PM	2	457	5	21	341	155	181	5	3	5	7	5	1187
4:30 PM	7	472	7	15	360	179	165	1	5	4	2	7	1224
4:45 PM	1	429	10	9	367	156	185	5	6	4	3	10	1185
5:00 PM	9	436	3	9	355	174	180	7	10	4	4	14	1205
5:15 PM	4	413	8	5	367	167	149	5	9	6	2	13	1148
5:30 PM	3	367	2	7	378	135	130	3	4	8	1	9	1047
5:45 PM	7	384	4	17	350	118	116	12	3	5	4	5	1025
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 40	NT 3346	NR 44	SL 102	ST 2819	SR 1239	EL 1290	ET 46	ER 44	WL 39	WT 26	WR 74	TOTAL 9109

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	19	1794	25	54	1423	664	711	18	24	17	16	36	4801
PEAK HR. FACTOR:		0.945			0.966			0.956			0.784		0.981

CONTROL: Signalized

Prepared by NDS/ATD

Volumes for: Wednesday, June 11, 2008 **City:** Carmel-By-the-Sea **Project #:** 08-7387-001

Location: SR-1 btwn Rio Rd & Carmel Valley Rd

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	13		8					12:00	179		132				
00:15	6		9					12:15	160		147				
00:30	5		4					12:30	182		134				
00:45	8	32	7	28			60	12:45	170	691	132	545			1236
01:00	3		6					13:00	159		132				
01:15	2		1					13:15	179		128				
01:30	2		3					13:30	201		110				
01:45	2	9	1	11			20	13:45	198	737	111	481			1218
02:00	1		5					14:00	195		121				
02:15	1		4					14:15	166		123				
02:30	2		6					14:30	182		133				
02:45	1	5	2	17			22	14:45	171	714	138	515			1229
03:00	0		6					15:00	205		127				
03:15	2		4					15:15	194		112				
03:30	3		6					15:30	221		118				
03:45	5	10	8	24			34	15:45	194	814	123	480			1294
04:00	3		6					16:00	189		106				
04:15	2		1					16:15	200		114				
04:30	5		6					16:30	232		113				
04:45	8	18	6	19			37	16:45	178	799	122	455			1254
05:00	7		7					17:00	212		108				
05:15	9		11					17:15	186		104				
05:30	12		21					17:30	161		104				
05:45	16	44	18	57			101	17:45	160	719	90	406			1125
06:00	24		35					18:00	176		86				
06:15	33		46					18:15	170		82				
06:30	24		69					18:30	134		65				
06:45	42	123	101	251			374	18:45	136	616	80	313			929
07:00	49		78					19:00	112		81				
07:15	97		82					19:15	109		61				
07:30	122		94					19:30	106		67				
07:45	106	374	132	386			760	19:45	86	413	55	264			677
08:00	131		158					20:00	83		63				
08:15	116		156					20:15	74		42				
08:30	109		122					20:30	71		56				
08:45	134	490	143	579			1069	20:45	51	279	53	214			493
09:00	108		143					21:00	91		51				
09:15	102		145					21:15	66		40				
09:30	140		165					21:30	52		50				
09:45	149	499	145	598			1097	21:45	30	239	30	171			410
10:00	119		135					22:00	44		33				
10:15	132		140					22:15	41		27				
10:30	141		144					22:30	38		26				
10:45	146	538	156	575			1113	22:45	38	161	13	99			260
11:00	146		122					23:00	31		15				
11:15	172		142					23:15	13		13				
11:30	162		133					23:30	18		10				
11:45	165	645	160	557			1202	23:45	13	75	13	51			126
Total Vol.		2787		3102			**5889**			6257		3994			**10251**

Daily Totals

NB	SB		EB	WB
9044	7096	Combined		
		16140		

	AM			PM		
Split %	47.3%	52.7%	**36.5%**	61.0%	39.0%	**63.5%**
Peak Hour	11:45	09:00	**11:45**	16:15	12:00	**15:00**
Volume	686	598	**1259**	822	545	**1294**
P.H.F.	0.94	0.91	**0.97**	0.85	0.93	**0.95**

Prepared by NDS/ATD

Volumes for: Wednesday, June 11, 2008 **City:** Carmel-By-the-Sea **Project #:** 08-7387-002

Location: SR-1 btwn Carmel Valley Rd & Ocean Ave

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	30		14					12:00	321		312				
00:15	22		22					12:15	316		381				
00:30	8		9					12:30	332		359				
00:45	12	72	14	59			131	12:45	318	1287	372	1424			2711
01:00	5		11					13:00	309		326				
01:15	2		7					13:15	325		328				
01:30	5		4					13:30	331		298				
01:45	3	15	5	27			42	13:45	347	1312	304	1256			2568
02:00	2		6					14:00	336		321				
02:15	7		7					14:15	318		356				
02:30	1		8					14:30	342		324				
02:45	5	15	4	25			40	14:45	363	1359	351	1352			2711
03:00	1		10					15:00	412		333				
03:15	2		5					15:15	367		302				
03:30	6		7					15:30	399		337				
03:45	5	14	12	34			48	15:45	377	1555	361	1333			2888
04:00	0		6					16:00	389		331				
04:15	4		9					16:15	384		318				
04:30	8		27					16:30	412		335				
04:45	25	37	30	72			109	16:45	337	1522	363	1347			2869
05:00	15		19					17:00	399		320				
05:15	27		40					17:15	345		385				
05:30	37		50					17:30	315		370				
05:45	42	121	83	192			313	17:45	310	1369	302	1377			2746
06:00	52		100					18:00	300		271				
06:15	82		148					18:15	253		244				
06:30	97		180					18:30	260		189				
06:45	131	362	245	673			1035	18:45	228	1041	199	903			1944
07:00	154		251					19:00	238		203				
07:15	246		304					19:15	228		155				
07:30	360		357					19:30	174		166				
07:45	313	1073	409	1321			2394	19:45	159	799	128	652			1451
08:00	263		407					20:00	164		150				
08:15	246		403					20:15	144		131				
08:30	226		339					20:30	131		127				
08:45	300	1035	388	1537			2572	20:45	119	558	131	539			1097
09:00	231		368					21:00	151		126				
09:15	265		296					21:15	126		112				
09:30	295		317					21:30	112		122				
09:45	305	1096	328	1309			2405	21:45	74	463	108	468			931
10:00	285		297					22:00	89		78				
10:15	270		303					22:15	82		56				
10:30	288		314					22:30	72		59				
10:45	283	1126	315	1229			2355	22:45	64	307	54	247			554
11:00	273		299					23:00	62		37				
11:15	308		319					23:15	45		32				
11:30	292		313					23:30	27		30				
11:45	304	1177	384	1315			2492	23:45	30	164	35	134			298
Total Vol.		6143		7793			**13936**			11736		11032			**22768**

Daily Totals

NB	SB		EB	WB
17879	18825	Combined		
		36704		

	AM			PM		
Split %	44.1%	55.9%	**38.0%**	51.5%	48.5%	**62.0%**
Peak Hour	11:45	07:30	**07:30**	15:45	12:15	**15:45**
Volume	1273	1576	**2758**	1562	1438	**2907**
P.H.F.	0.96	0.96	**0.95**	0.99	0.94	**0.97**

Prepared by NDS/ATD

Volumes for: Wednesday, June 11, 2008 **City:** Carmel-By-the-Sea **Project #:** 08-7387-003

Location: SR-1 btwn Ocean Ave & Carpenter St

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	34		23					12:00	357		342				
00:15	23		20					12:15	351		335				
00:30	15		12					12:30	420		296				
00:45	7	79	10	65			144	12:45	377	1505	360	1333			2838
01:00	7		10					13:00	337		324				
01:15	2		6					13:15	391		342				
01:30	2		6					13:30	371		322				
01:45	3	14	5	27			41	13:45	409	1508	325	1313			2821
02:00	4		9					14:00	365		351				
02:15	5		2					14:15	346		360				
02:30	2		6					14:30	396		355				
02:45	6	17	8	25			42	14:45	413	1520	363	1429			2949
03:00	3		10					15:00	433		324				
03:15	5		4					15:15	425		315				
03:30	7		8					15:30	466		342				
03:45	8	23	11	33			56	15:45	408	1732	351	1332			3064
04:00	1		6					16:00	428		303				
04:15	4		13					16:15	423		335				
04:30	9		28					16:30	454		364				
04:45	20	34	30	77			111	16:45	462	1767	333	1335			3102
05:00	20		21					17:00	443		346				
05:15	27		50					17:15	392		375				
05:30	39		68					17:30	402		347				
05:45	42	128	79	218			346	17:45	363	1600	318	1386			2986
06:00	39		96					18:00	351		275				
06:15	72		155					18:15	305		249				
06:30	99		217					18:30	302		210				
06:45	128	338	253	721			1059	18:45	260	1218	221	955			2173
07:00	148		285					19:00	236		198				
07:15	194		394					19:15	249		174				
07:30	316		407					19:30	193		164				
07:45	316	974	379	1465			2439	19:45	186	864	141	677			1541
08:00	282		376					20:00	174		145				
08:15	282		368					20:15	170		154				
08:30	271		385					20:30	146		136				
08:45	328	1163	391	1520			2683	20:45	138	628	116	551			1179
09:00	273		328					21:00	174		117				
09:15	282		316					21:15	171		111				
09:30	298		313					21:30	138		133				
09:45	348	1201	346	1303			2504	21:45	103	586	103	464			1050
10:00	311		307					22:00	95		73				
10:15	312		325					22:15	82		62				
10:30	324		324					22:30	109		57				
10:45	309	1256	314	1270			2526	22:45	80	366	57	249			615
11:00	294		318					23:00	66		40				
11:15	346		341					23:15	52		30				
11:30	348		345					23:30	26		33				
11:45	359	1347	404	1408			2755	23:45	24	168	33	136			304
Total Vol.		6574		8132			**14706**			13462		11160			**24622**

Daily Totals

NB	SB	Combined	EB	WB
20036	19292	39328		

	AM			PM		
Split %	44.7%	55.3%	**37.4%**	54.7%	45.3%	**62.6%**
Peak Hour	11:45	07:15	**11:45**	16:15	14:00	**16:30**
Volume	1487	1556	**2864**	1782	1429	**3169**
P.H.F.	0.89	0.96	**0.94**	0.97	0.98	**0.97**

APPENDIX B

Intersection Level of Service Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3485		1770	1863	1583	1770	1863	1583	3433	1798	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3485		1770	1863	1583	1770	1863	1583	3433	1798	
Volume (vph)	229	253	29	92	229	112	46	121	84	232	243	73
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.84	0.84	0.84	0.88	0.88	0.88
Adj. Flow (vph)	260	288	33	110	273	133	55	144	100	264	276	83
RTOR Reduction (vph)	0	10	0	0	0	106	0	0	78	0	12	0
Lane Group Flow (vph)	260	311	0	110	273	27	55	144	22	264	347	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	15.7	22.8		7.5	14.6	14.6	3.0	15.8	15.8	9.3	22.1	
Effective Green, g (s)	15.7	22.8		7.5	14.6	14.6	3.0	15.8	15.8	9.3	22.1	
Actuated g/C Ratio	0.22	0.32		0.11	0.20	0.20	0.04	0.22	0.22	0.13	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	389	1113		186	381	324	74	412	350	447	557	
v/s Ratio Prot	c0.15	0.09		0.06	c0.15		0.03	0.08		c0.08	c0.20	
v/s Ratio Perm						0.08			0.06			
v/c Ratio	0.67	0.28		0.59	0.72	0.08	0.74	0.35	0.06	0.59	0.62	
Uniform Delay, d1	25.5	18.2		30.5	26.5	23.0	33.8	23.5	22.0	29.3	21.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	0.1		5.0	6.3	0.1	32.7	0.5	0.1	2.1	2.2	
Delay (s)	29.8	18.3		35.5	32.8	23.1	66.5	24.0	22.0	31.3	23.3	
Level of Service	C	B		D	C	C	E	C	C	C	C	
Approach Delay (s)		23.4			30.9			31.2			26.7	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM Average Control Delay	27.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	58.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.88	1.00	1.00	0.97	1.00
Frt		0.85	1.00	0.85	1.00	1.00
Flt Protected		1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		2787	1863	1583	3433	1863
Flt Permitted		1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		2787	1863	1583	3433	1863
Volume (vph)	0	786	410	74	963	505
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1048	446	80	1047	549
RTOR Reduction (vph)	0	0	0	45	0	0
Lane Group Flow (vph)	0	1048	446	35	1047	549
Turn Type		Over		Perm	Prot	
Protected Phases		1	2		1	6
Permitted Phases				2		
Actuated Green, G (s)		28.9	18.5	18.5	28.9	55.4
Effective Green, g (s)		28.9	18.5	18.5	28.9	55.4
Actuated g/C Ratio		0.52	0.33	0.33	0.52	1.00
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1454	622	529	1791	1863
v/s Ratio Prot		c0.38	c0.24		0.30	0.29
v/s Ratio Perm				0.05		
v/c Ratio		0.72	0.72	0.07	0.58	0.29
Uniform Delay, d1		10.2	16.2	12.6	9.1	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.8	3.9	0.1	0.5	0.1
Delay (s)		11.9	20.1	12.6	9.6	0.1
Level of Service		B	C	B	A	A
Approach Delay (s)	11.9		19.0			6.3
Approach LOS	B		B			A

Intersection Summary				
HCM Average Control Delay	10.3	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	55.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.90		1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1592		1681	1633		1770	3494		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1592		1681	1633		1770	3494		1770	3539	1583
Volume (vph)	166	43	106	97	51	54	114	966	90	13	1426	153
Peak-hour factor, PHF	0.80	0.80	0.80	0.66	0.66	0.66	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	208	54	132	147	77	82	127	1073	100	15	1639	176
RTOR Reduction (vph)	0	58	0	0	33	0	0	5	0	0	0	48
Lane Group Flow (vph)	188	148	0	147	126	0	127	1168	0	15	1639	128
Turn Type	Split			Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	17.3	17.3		13.5	13.5		11.6	64.0		1.9	54.3	54.3
Effective Green, g (s)	17.3	17.3		13.5	13.5		11.6	64.0		1.9	54.3	54.3
Actuated g/C Ratio	0.15	0.15		0.12	0.12		0.10	0.57		0.02	0.48	0.48
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	258	244		201	196		182	1984		30	1705	763
v/s Ratio Prot	0.11	c0.13		0.09	c0.10		0.07	c0.34		0.01	c0.46	
v/s Ratio Perm												0.11
v/c Ratio	0.73	0.61		0.73	0.65		0.70	0.59		0.50	0.96	0.17
Uniform Delay, d1	45.5	44.5		47.9	47.3		48.9	15.8		54.9	28.2	16.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.8	4.3		12.8	7.1		11.1	0.5		12.5	13.7	0.1
Delay (s)	55.3	48.8		60.7	54.4		59.9	16.3		67.4	41.9	16.6
Level of Service	E	D		E	D		E	B		E	D	B
Approach Delay (s)		51.9			57.4			20.5			39.7	
Approach LOS		D			E			C			D	

Intersection Summary				
HCM Average Control Delay	35.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	112.7	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	73.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1681	1738	1583	1770	3534		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1681	1738	1583	1770	3534		1770	3539	1583
Volume (vph)	350	6	25	33	16	43	17	1143	11	32	1346	629
Peak-hour factor, PHF	0.84	0.84	0.84	0.77	0.77	0.77	0.89	0.89	0.89	0.88	0.88	0.88
Adj. Flow (vph)	417	7	30	43	21	56	19	1284	12	36	1530	715
RTOR Reduction (vph)	0	0	24	0	0	54	0	0	0	0	0	225
Lane Group Flow (vph)	417	7	6	31	33	2	19	1296	0	36	1530	490
Turn Type	Split		Perm	Split		Perm	Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	13.8	13.8	13.8	2.9	2.9	2.9	1.3	38.1		2.1	38.9	38.9
Effective Green, g (s)	13.8	13.8	13.8	2.9	2.9	2.9	1.3	38.1		2.1	38.9	38.9
Actuated g/C Ratio	0.19	0.19	0.19	0.04	0.04	0.04	0.02	0.52		0.03	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	650	353	300	67	69	63	32	1847		51	1888	845
v/s Ratio Prot	c0.12	0.00		0.02	0.02		0.01	0.37		c0.02	0.43	
v/s Ratio Perm			0.02			0.04						0.45
v/c Ratio	0.64	0.02	0.02	0.46	0.48	0.04	0.59	0.70		0.71	0.81	0.58
Uniform Delay, d1	27.3	24.0	24.0	34.2	34.3	33.7	35.5	13.1		35.1	14.0	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.0	0.0	5.0	5.1	0.2	26.2	1.2		36.0	2.7	1.0
Delay (s)	29.4	24.1	24.1	39.2	39.4	33.9	61.7	14.3		71.1	16.7	12.4
Level of Service	C	C	C	D	D	C	E	B		E	B	B
Approach Delay (s)		29.0			36.8			15.0			16.2	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM Average Control Delay	17.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	60.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3476		1770	1863	1583	1770	1863	1583	3433	1811	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3476		1770	1863	1583	1770	1863	1583	3433	1811	
Volume (vph)	160	323	44	138	333	300	30	355	113	260	158	36
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	180	363	49	150	362	326	35	418	133	286	174	40
RTOR Reduction (vph)	0	11	0	0	0	235	0	0	92	0	8	0
Lane Group Flow (vph)	180	401	0	150	362	91	35	418	41	286	206	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	8.9	18.4		9.1	18.6	18.6	3.0	23.4	23.4	9.9	30.3	
Effective Green, g (s)	8.9	18.4		9.1	18.6	18.6	3.0	23.4	23.4	9.9	30.3	
Actuated g/C Ratio	0.12	0.24		0.12	0.24	0.24	0.04	0.30	0.30	0.13	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	833		210	451	383	69	568	482	443	714	
v/s Ratio Prot	c0.10	0.12		0.08	c0.19		0.02	c0.22		c0.08	0.11	
v/s Ratio Perm						0.06			0.03			
v/c Ratio	0.88	0.48		0.71	0.80	0.24	0.51	0.74	0.08	0.65	0.29	
Uniform Delay, d1	33.4	25.1		32.6	27.4	23.4	36.2	23.9	19.1	31.8	15.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	31.7	0.4		10.9	9.9	0.3	5.8	4.9	0.1	3.2	0.2	
Delay (s)	65.1	25.5		43.5	37.3	23.7	41.9	28.9	19.1	35.0	16.1	
Level of Service	E	C		D	D	C	D	C	B	D	B	
Approach Delay (s)		37.6			33.1			27.4			26.9	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM Average Control Delay	31.6	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	76.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.88	1.00	1.00	0.97	1.00
Frt		0.85	1.00	0.85	1.00	1.00
Flt Protected		1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)		2787	1863	1583	3433	1863
Flt Permitted		1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		2787	1863	1583	3433	1863
Volume (vph)	0	844	731	82	738	432
Peak-hour factor, PHF	0.81	0.81	0.86	0.86	0.92	0.92
Adj. Flow (vph)	0	1042	850	95	802	470
RTOR Reduction (vph)	0	0	0	28	0	0
Lane Group Flow (vph)	0	1042	850	67	802	470
Turn Type		Over		Perm	Prot	
Protected Phases		1	2		1	6
Permitted Phases				2		
Actuated Green, G (s)		27.8	32.7	32.7	27.8	68.5
Effective Green, g (s)		27.8	32.7	32.7	27.8	68.5
Actuated g/C Ratio		0.41	0.48	0.48	0.41	1.00
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1131	889	756	1393	1863
v/s Ratio Prot		c0.37	c0.46		0.23	0.25
v/s Ratio Perm				0.04		
v/c Ratio		0.92	0.96	0.09	0.58	0.25
Uniform Delay, d1		19.3	17.2	9.8	15.8	0.0
Progression Factor		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		12.1	20.1	0.1	0.6	0.1
Delay (s)		31.4	37.3	9.8	16.4	0.1
Level of Service		C	D	A	B	A
Approach Delay (s)	31.4		34.6			10.3
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	24.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1589		1681	1616		1770	3516		1770	3539	1583
Flt Permitted	0.95	0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1589		1681	1616		1770	3516		1770	3539	1583
Volume (vph)	332	35	163	170	84	116	141	1429	64	12	1153	201
Peak-hour factor, PHF	0.92	0.92	0.92	0.76	0.76	0.76	0.88	0.88	0.88	0.92	0.92	0.92
Adj. Flow (vph)	361	38	177	224	111	153	160	1624	73	13	1253	218
RTOR Reduction (vph)	0	51	0	0	45	0	0	3	0	0	0	93
Lane Group Flow (vph)	281	244	0	224	219	0	160	1694	0	13	1253	125
Turn Type	Split			Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	21.0	21.0		15.6	15.6		13.4	52.2		1.5	40.3	40.3
Effective Green, g (s)	21.0	21.0		15.6	15.6		13.4	52.2		1.5	40.3	40.3
Actuated g/C Ratio	0.20	0.20		0.15	0.15		0.13	0.49		0.01	0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	332	314		247	237		223	1727		25	1342	600
v/s Ratio Prot	c0.17	0.15		0.13	c0.14		0.09	c0.48		0.01	c0.35	
v/s Ratio Perm												0.08
v/c Ratio	0.85	0.78		0.91	0.92		0.72	0.98		0.52	0.93	0.21
Uniform Delay, d1	41.1	40.4		44.6	44.8		44.6	26.6		52.0	31.7	22.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	17.7	11.4		33.2	37.9		10.5	17.3		18.1	12.0	0.2
Delay (s)	58.8	51.8		77.9	82.7		55.1	43.9		70.2	43.7	22.4
Level of Service	E	D		E	F		E	D		E	D	C
Approach Delay (s)		55.2			80.5			44.8			40.8	
Approach LOS		E			F			D			D	

Intersection Summary				
HCM Average Control Delay	48.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	83.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1681	1770	1583	1770	3532		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1681	1770	1583	1770	3532		1770	3539	1583
Volume (vph)	711	18	24	17	16	36	19	1794	25	54	1423	664
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	773	20	26	22	21	46	21	1950	27	59	1547	722
RTOR Reduction (vph)	0	0	20	0	0	45	0	1	0	0	0	182
Lane Group Flow (vph)	773	20	6	22	21	1	21	1976	0	59	1547	540
Turn Type	Split		Perm	Split		Perm	Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	27.1	27.1	27.1	3.1	3.1	3.1	1.9	69.8		4.0	71.9	71.9
Effective Green, g (s)	27.1	27.1	27.1	3.1	3.1	3.1	1.9	69.8		4.0	71.9	71.9
Actuated g/C Ratio	0.23	0.23	0.23	0.03	0.03	0.03	0.02	0.58		0.03	0.60	0.60
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	775	421	357	43	46	41	28	2054		59	2120	948
v/s Ratio Prot	c0.23	0.01		c0.01	0.01		0.01	c0.56		c0.03	0.44	
v/s Ratio Perm			0.00			0.00						0.34
v/c Ratio	1.00	0.05	0.02	0.51	0.46	0.03	0.75	0.96		1.00	0.73	0.57
Uniform Delay, d1	46.4	36.4	36.1	57.7	57.6	57.0	58.8	23.8		58.0	17.1	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	31.5	0.0	0.0	9.9	7.0	0.3	71.8	12.2		117.2	1.3	0.8
Delay (s)	77.9	36.4	36.1	67.6	64.6	57.3	130.6	36.0		175.2	18.4	15.4
Level of Service	E	D	D	E	E	E	F	D		F	B	B
Approach Delay (s)		75.5			61.6			37.0			21.5	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM Average Control Delay	36.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	84.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.95		0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3484		1770	1863	2787	1770	3322		3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3484		1770	1863	2787	1770	3322		3433	1863	1583
Volume (vph)	283	313	36	156	389	190	52	137	95	250	261	79
Peak-hour factor, PHF	0.88	0.88	0.88	0.84	0.84	0.84	0.84	0.84	0.84	0.88	0.88	0.88
Adj. Flow (vph)	322	356	41	186	463	226	62	163	113	284	297	90
RTOR Reduction (vph)	0	10	0	0	0	164	0	90	0	0	0	68
Lane Group Flow (vph)	322	387	0	186	463	62	62	186	0	284	297	22
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.1	23.3		11.9	20.1	20.1	3.9	14.8		7.0	17.9	17.9
Effective Green, g (s)	15.1	23.3		11.9	20.1	20.1	3.9	14.8		7.0	17.9	17.9
Actuated g/C Ratio	0.21	0.32		0.16	0.28	0.28	0.05	0.20		0.10	0.25	0.25
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	366	1112		289	513	767	95	674		329	457	388
v/s Ratio Prot	c0.18	0.11		0.11	c0.25		0.04	0.06		c0.08	c0.16	
v/s Ratio Perm						0.02						0.01
v/c Ratio	0.88	0.35		0.64	0.90	0.08	0.65	0.28		0.86	0.65	0.06
Uniform Delay, d1	28.1	19.0		28.6	25.5	19.6	33.9	24.6		32.5	24.7	21.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.6	0.2		4.8	19.0	0.0	14.9	0.2		20.2	3.2	0.1
Delay (s)	48.7	19.2		33.4	44.5	19.7	48.8	24.8		52.7	27.9	21.2
Level of Service	D	B		C	D	B	D	C		D	C	C
Approach Delay (s)		32.4			35.7			29.2			37.5	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2787	3458		3433	1863
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2787	3458		3433	1863
Volume (vph)	0	943	537	97	1059	555
Peak-hour factor, PHF	0.75	0.75	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1257	571	103	1127	590
RTOR Reduction (vph)	0	0	21	0	0	0
Lane Group Flow (vph)	0	1257	653	0	1127	590
Turn Type		Over			Prot	
Protected Phases		1	2		1	6
Permitted Phases						
Actuated Green, G (s)		35.5	16.3		35.5	59.8
Effective Green, g (s)		35.5	16.3		35.5	59.8
Actuated g/C Ratio		0.59	0.27		0.59	1.00
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1654	943		2038	1863
v/s Ratio Prot		c0.45	c0.19		0.33	0.32
v/s Ratio Perm						
v/c Ratio		0.76	0.69		0.55	0.32
Uniform Delay, d1		9.0	19.5		7.4	0.0
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		2.1	2.2		0.3	0.1
Delay (s)		11.1	21.7		7.7	0.1
Level of Service		B	C		A	A
Approach Delay (s)	11.1		21.7			5.1
Approach LOS	B		C			A

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1718	1583	1681	1633		1770	3494		1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1718	1583	1681	1633		1770	3494		1770	3539	1583
Volume (vph)	216	56	138	97	51	54	140	1187	111	14	1547	166
Peak-hour factor, PHF	0.80	0.80	0.80	0.66	0.66	0.66	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	270	70	172	147	77	82	156	1319	123	16	1778	191
RTOR Reduction (vph)	0	0	147	0	33	0	0	5	0	0	0	48
Lane Group Flow (vph)	166	174	25	147	126	0	156	1437	0	16	1778	143
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	16.4	16.4	16.4	13.4	13.4		11.6	64.4		1.5	54.3	54.3
Effective Green, g (s)	16.4	16.4	16.4	13.4	13.4		11.6	64.4		1.5	54.3	54.3
Actuated g/C Ratio	0.15	0.15	0.15	0.12	0.12		0.10	0.58		0.01	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	247	252	232	202	196		184	2014		24	1720	770
v/s Ratio Prot	0.10	c0.10		c0.09	0.08		0.09	c0.41		0.01	c0.50	
v/s Ratio Perm			0.02									0.09
v/c Ratio	0.67	0.69	0.11	0.73	0.65		0.85	0.71		0.67	1.03	0.19
Uniform Delay, d1	45.1	45.2	41.3	47.4	46.9		49.2	17.0		54.9	28.7	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.0	7.9	0.2	12.3	7.1		28.6	1.2		52.8	30.9	0.1
Delay (s)	52.1	53.1	41.5	59.7	54.0		77.8	18.2		107.7	59.6	16.3
Level of Service	D	D	D	E	D		E	B		F	E	B
Approach Delay (s)		48.9			56.7			24.1			55.8	
Approach LOS		D			E			C			E	

Intersection Summary				
HCM Average Control Delay	43.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	111.7	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	74.6%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1681	1740	1583	1770	3534		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1681	1740	1583	1770	3534		1770	3539	1583
Volume (vph)	365	6	26	38	19	50	21	1391	13	35	1461	683
Peak-hour factor, PHF	0.84	0.84	0.84	0.77	0.77	0.77	0.89	0.89	0.89	0.88	0.88	0.88
Adj. Flow (vph)	435	7	31	49	25	65	24	1563	15	40	1660	776
RTOR Reduction (vph)	0	0	25	0	0	62	0	0	0	0	0	215
Lane Group Flow (vph)	435	7	6	36	38	3	24	1578	0	40	1660	561
Turn Type	Split		Perm	Split		Perm	Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	14.7	14.7	14.7	3.1	3.1	3.1	1.4	42.9		2.2	43.7	43.7
Effective Green, g (s)	14.7	14.7	14.7	3.1	3.1	3.1	1.4	42.9		2.2	43.7	43.7
Actuated g/C Ratio	0.19	0.19	0.19	0.04	0.04	0.04	0.02	0.54		0.03	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	640	347	295	66	68	62	31	1922		49	1960	877
v/s Ratio Prot	c0.13	0.00		0.02	c0.02		0.01	0.45		c0.02	c0.47	
v/s Ratio Perm			0.00			0.00						0.35
v/c Ratio	0.68	0.02	0.02	0.55	0.56	0.04	0.77	0.82		0.82	0.85	0.64
Uniform Delay, d1	29.9	26.2	26.2	37.2	37.2	36.5	38.6	14.8		38.1	14.8	12.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	0.0	0.0	8.9	9.6	0.3	73.6	2.9		64.0	3.6	1.5
Delay (s)	32.8	26.2	26.2	46.1	46.8	36.7	112.2	17.8		102.2	18.4	13.7
Level of Service	C	C	C	D	D	D	F	B		F	B	B
Approach Delay (s)		32.3			41.9			19.2			18.3	
Approach LOS		C			D			B			B	

Intersection Summary				
HCM Average Control Delay	20.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	64.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.95		0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3476		1770	1863	2787	1770	3411		3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3476		1770	1863	2787	1770	3411		3433	1863	1583
Volume (vph)	247	498	68	232	560	505	31	370	118	277	169	38
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.85	0.85	0.85	0.91	0.91	0.91
Adj. Flow (vph)	278	560	76	252	609	549	36	435	139	304	186	42
RTOR Reduction (vph)	0	11	0	0	0	284	0	34	0	0	0	30
Lane Group Flow (vph)	278	625	0	252	609	265	36	540	0	304	186	12
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.0	28.3		16.7	30.0	30.0	3.5	19.4		9.0	24.9	24.9
Effective Green, g (s)	15.0	28.3		16.7	30.0	30.0	3.5	19.4		9.0	24.9	24.9
Actuated g/C Ratio	0.17	0.32		0.19	0.34	0.34	0.04	0.22		0.10	0.28	0.28
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	297	1100		331	625	935	69	740		346	519	441
v/s Ratio Prot	c0.16	0.18		0.14	c0.33		0.02	c0.16		c0.09	0.10	
v/s Ratio Perm						0.09						0.01
v/c Ratio	0.94	0.57		0.76	0.97	0.28	0.52	0.73		0.88	0.36	0.03
Uniform Delay, d1	36.7	25.5		34.5	29.3	21.8	42.1	32.6		39.7	25.8	23.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	35.3	0.7		9.9	29.4	0.2	6.9	3.6		21.4	0.4	0.0
Delay (s)	72.1	26.1		44.4	58.7	22.0	49.1	36.2		61.1	26.3	23.5
Level of Service	E	C		D	E	C	D	D		E	C	C
Approach Delay (s)		40.1			41.8			36.9			45.9	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM Average Control Delay	41.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	0.98		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2787	3486		3433	1863
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2787	3486		3433	1863
Volume (vph)	0	870	987	111	826	483
Peak-hour factor, PHF	0.81	0.81	0.86	0.86	0.92	0.92
Adj. Flow (vph)	0	1074	1148	129	898	525
RTOR Reduction (vph)	0	0	12	0	0	0
Lane Group Flow (vph)	0	1074	1265	0	898	525
Turn Type		Over			Prot	
Protected Phases		1	2		1	6
Permitted Phases						
Actuated Green, G (s)		29.6	27.5		29.6	65.1
Effective Green, g (s)		29.6	27.5		29.6	65.1
Actuated g/C Ratio		0.45	0.42		0.45	1.00
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1267	1473		1561	1863
v/s Ratio Prot		c0.39	c0.36		0.26	0.28
v/s Ratio Perm						
v/c Ratio		0.85	0.86		0.58	0.28
Uniform Delay, d1		15.7	17.0		13.1	0.0
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		5.4	5.2		0.5	0.1
Delay (s)		21.2	22.3		13.6	0.1
Level of Service		C	C		B	A
Approach Delay (s)	21.2		22.3			8.6
Approach LOS	C		C			A

Intersection Summary				
HCM Average Control Delay	16.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	65.1	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	67.9%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Carmel Valley TIP
3: Ocean Ave & SR-1

2030 Conditions
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95		0.95	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1588		1681	1616		1770	3519		1770	3539	1583
Flt Permitted	0.95	0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1588		1681	1616		1770	3519		1770	3539	1583
Volume (vph)	351	35	172	170	84	116	158	1603	64	12	1334	233
Peak-hour factor, PHF	0.92	0.92	0.92	0.76	0.76	0.76	0.88	0.88	0.88	0.92	0.92	0.92
Adj. Flow (vph)	382	38	187	224	111	153	180	1822	73	13	1450	253
RTOR Reduction (vph)	0	39	0	0	35	0	0	2	0	0	0	75
Lane Group Flow (vph)	296	272	0	224	229	0	180	1893	0	13	1450	178
Turn Type	Split			Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	25.0	25.0		19.0	19.0		18.2	78.2		1.6	61.6	61.6
Effective Green, g (s)	25.0	25.0		19.0	19.0		18.2	78.2		1.6	61.6	61.6
Actuated g/C Ratio	0.18	0.18		0.14	0.14		0.13	0.56		0.01	0.44	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	301	284		228	220		230	1968		20	1559	698
v/s Ratio Prot	c0.18	0.17		0.13	c0.14		0.10	c0.54		0.01	c0.41	
v/s Ratio Perm												0.11
v/c Ratio	0.98	0.96		0.98	1.04		0.78	0.96		0.65	0.93	0.26
Uniform Delay, d1	57.2	56.9		60.2	60.4		58.9	29.4		68.8	37.1	24.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	47.0	41.8		54.3	71.2		15.8	12.5		56.6	10.3	0.2
Delay (s)	104.2	98.7		114.5	131.6		74.7	41.9		125.4	47.3	24.8
Level of Service	F	F		F	F		E	D		F	D	C
Approach Delay (s)		101.4			123.8			44.7			44.6	
Approach LOS		F			F			D			D	

Intersection Summary				
HCM Average Control Delay	59.6	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	139.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	89.4%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Carmel Valley TIP
4: Carpenter St & SR-1

2030 Conditions
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1681	1770	1583	1770	3532		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1681	1770	1583	1770	3532		1770	3539	1583
Volume (vph)	711	18	24	20	19	42	21	1983	28	60	1584	739
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.78	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	773	20	26	26	24	54	23	2155	30	65	1722	803
RTOR Reduction (vph)	0	0	21	0	0	49	0	1	0	0	0	186
Lane Group Flow (vph)	773	20	5	26	24	5	23	2184	0	65	1722	617
Turn Type	Split		Perm	Split		Perm	Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	25.0	25.0	25.0	3.2	3.2	3.2	2.4	71.7		5.0	74.3	74.3
Effective Green, g (s)	25.0	25.0	25.0	3.2	3.2	3.2	2.4	71.7		5.0	74.3	74.3
Actuated g/C Ratio	0.21	0.21	0.21	0.03	0.03	0.03	0.02	0.59		0.04	0.61	0.61
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	710	385	327	44	47	42	35	2095		73	2175	973
v/s Ratio Prot	c0.23	0.01		c0.02	0.01		0.01	c0.62		c0.04	c0.49	
v/s Ratio Perm			0.00			0.00						0.39
v/c Ratio	1.09	0.05	0.02	0.59	0.51	0.13	0.66	1.04		0.89	0.79	0.63
Uniform Delay, d1	48.0	38.4	38.2	58.2	58.1	57.5	58.8	24.6		57.7	17.5	14.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	60.5	0.1	0.0	19.5	9.1	1.4	36.6	31.8		68.9	2.1	1.4
Delay (s)	108.4	38.5	38.2	77.7	67.1	58.8	95.5	56.4		126.6	19.5	16.1
Level of Service	F	D	D	E	E	E	F	E		F	B	B
Approach Delay (s)		104.5			65.5			56.8			21.2	
Approach LOS		F			E			E			C	

Intersection Summary				
HCM Average Control Delay	47.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.9	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	89.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

APPENDIX C

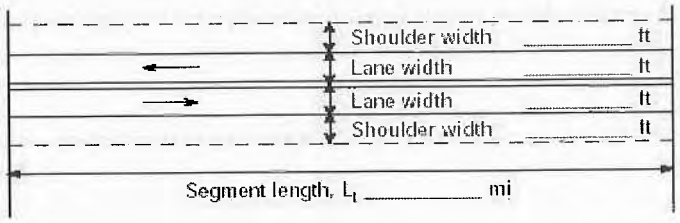
- Roadway Segment Level of Service Worksheets

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	BTJ	Highway	SR-1
Agency or Company	Kimley-Horn	From/To	Rio/Carmel Valley
Date Performed	7/8/2008	Jurisdiction	Monterey County
Analysis Time Period	AM	Analysis Year	Existing

Project Description: *Carmel Valley TIP*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	*1284* veh/h
Directional split	*53 / 47*
Peak-hour factor, PHF	*0.97*
No-passing zone	*100*
% Trucks and Buses , P_T	*8* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*0*

Average Travel Speed	
Grade adjustment factor, f_G (Exhibit 20-7)	*0.99*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1391*
v_p * highest directional split proportion[2] (pc/h)	*737*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*45.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*2.6 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*42.4 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*1.7*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*29.9*

Percent Time-Spent-Following	
Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1324*
v_p * highest directional split proportion[2] (pc/h)	*702*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*68.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*8.9*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*77.6*

Level of Service and Other Performance Measures	
Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*E*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.43*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*132*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V^*L_t	*514*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*4.4*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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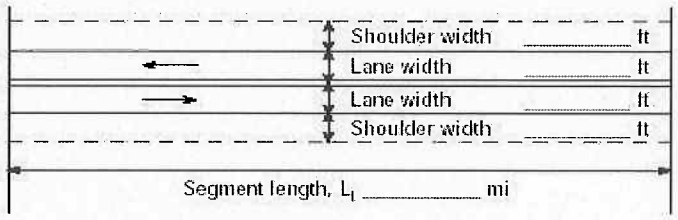
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*BTJ*	Highway	*SR-1*
Agency or Company	*Kimley-Horn*	From/To	*Rio/Carmel Valley*
Date Performed	*7/8/2008*	Jurisdiction	*Monterey County*
Analysis Time Period	*PM*	Analysis Year	*Existing*

Project Description: *Carmel Valley TIP*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Two-way hourly volume	*1367* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.95*
No-passing zone	*100*
% Trucks and Buses , P_T	*8* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*0*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*0.99*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1512*
v_p * highest directional split proportion[2] (pc/h)	*907*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*45.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*2.6 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*42.4 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*1.6*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*29.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1439*
v_p * highest directional split proportion[2] (pc/h)	*863*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*71.8*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*7.9*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*79.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*E*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.47*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*144*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*547*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*5.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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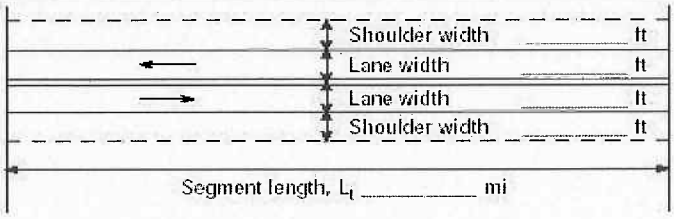
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*BTJ*	Highway / Direction of Travel	*SR-1*
Agency or Company	*Kimley-Horn*	From/To	*Carmel Valley/Ocean*
Date Performed	*7/8/2008*	Jurisdiction	*Monterey County*
Analysis Time Period	*AM*	Analysis Year	*Existing*

Project Description: *Carmel Valley TIP*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *100%*

% Trucks and Buses , P_T *8 %*

% Recreational vehicles, P_R *0%*

Access points/ *mi* *2*

Analysis direction vol., V_d *1576*veh/h

Opposing direction vol., V_o *1273*veh/h

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	*1.5*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*	*0.962*
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	*0.99*	*0.99*
Directional flow rate [2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	*1743*	*1408*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed [3], S_{FM}	*mi/h*	Base free-flow speed [3], $BFFS_{FM}$	*45.0 mi/h*
Observed volume [3], V_f	veh/h	Adj. for lane width and shoulder width, [3] f_{LS}(Exh 20-5)	*2.6 mi/h*
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points [3], f_A (Exhibit 20-5)	*0.5 mi/h*
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	*0.7 mi/h*	Free-flow speed, FFS_d $(FSS=BFFS-f_{LS}-f_A)$	*41.9 mi/h*
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	*16.8 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor [1], f_G (Exhibit 20-8 or 20-14)	*1.00*	*1.00*
Directional flow rate [2], v_i(pc/h)=$V_i/(PHF*f_{HV}*f_G)$	*1659*	*1340*
Base percent time-spent-following [4], $BPTSF(\%)=100(1-e^{av_d^b})$	*92.0*	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	*28.3*	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	*107.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	*F*
Volume to capacity ratio, $v/c=V_p/1{,}700$	*1.03*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)=$0.25L_t(V/PHF)$	*373*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1418*
Peak 15-min total travel time, TT_{15}(veh-h)=VMT_{15}/ATS	*22.3*

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

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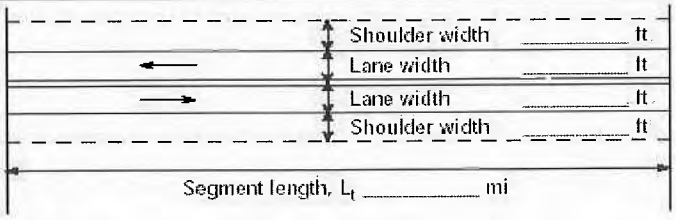
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	BTJ	Highway / Direction of Travel	SR-1
Agency or Company	Kimley-Horn	From/To	Carmel Valley/Ocean
Date Performed	7/8/2008	Jurisdiction	Monterey County
Analysis Time Period	PM	Analysis Year	Existing

Project Description: *Carmel Valley TIP*

Input Data



Analysis direction vol., V_d *1438*veh/h

Opposing direction vol., V_o *1562*veh/h

☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100%*

% Trucks and Buses , P_T *8 %*

% Recreational vehicles, P_R *0%*

Access points/ *mi* *2*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	*1.5*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*	*0.962*
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	*0.99*	*0.99*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	*1557*	*1692*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed[3], S_{FM}	*mi/h*	Base free-flow speed[3], $BFFS_{FM}$	*45.0 mi/h*
Observed volume[3], V_f	veh/h	Adj. for lane width and shoulder width,[3] f_{LS}(Exh 20-5)	*2.6 mi/h*
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points[3], f_A (Exhibit 20-5)	*0.5 mi/h*
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	*0.6 mi/h*	Free-flow speed, FFS_d $(FSS=BFFS-f_{LS}-f_A)$	*41.9 mi/h*
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	*16.1 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], f_G (Exhibit 20-8 or 20-14)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h)=$V_i/(PHF*f_{HV}*f_G)$	*1482*	*1610*
Base percent time-spent-following[4], $BPTSF(\%)=100(1-e^{av_d^b})$	*91.1*	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	*19.5*	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	*100.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	*F*
Volume to capacity ratio, $v/c=V_p/1{,}700$	*0.92*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)=$0.25L_t(V/PHF)$	*334*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1294*
Peak 15-min total travel time, TT_{15}(veh-h)=VMT_{15}/ATS	*20.8*

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

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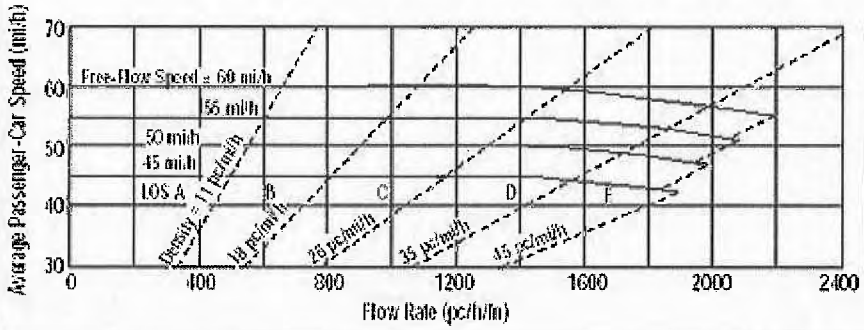
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1273	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	0.80
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	6.0
E_T	3.0	f_{HV}	0.862

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

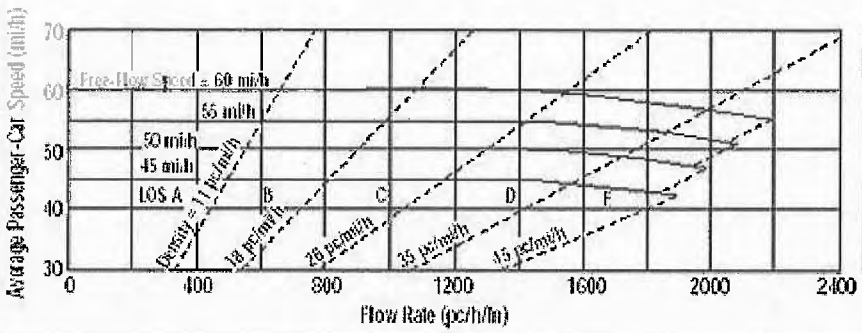
Flow Rate, v_p (pc/h/ln)	818
Speed, S (mi/h)	45.0
D (pc/mi/ln)	18.2
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1562	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	0.80
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	6.0
E_T	3.0	f_{HV}	0.862

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

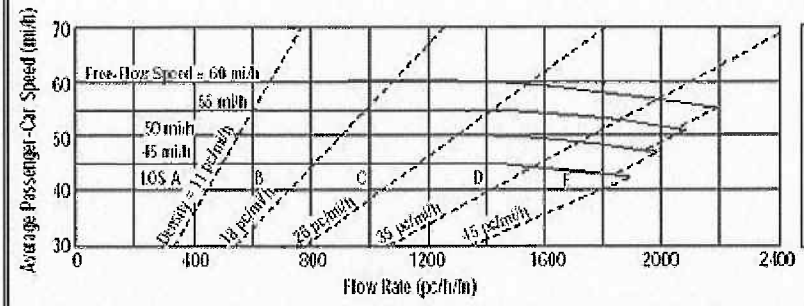
Flow Rate, v_p (pc/h/ln)	983
Speed, S (mi/h)	45.0
D (pc/mi/ln)	21.8
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1487	Peak-Hour Factor, PHF	0.89
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

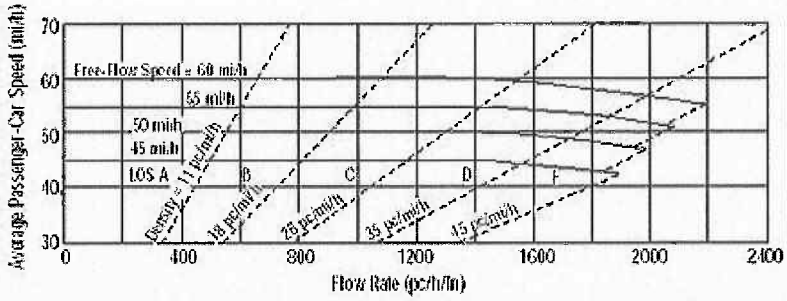
Flow Rate, v_p (pc/h/ln)	984
Speed, S (mi/h)	45.0
D (pc/mi/ln)	21.9
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1782	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)	
Flow Rate, v_p (pc/h/ln)	1082
Speed, S (mi/h)	45.0
D (pc/mi/ln)	24.0
LOS	C

Design

Design (N)
Required Number of Lanes, N
Flow Rate, v_p (pc/h)
Max Service Flow Rate (pc/h/ln)
Design LOS

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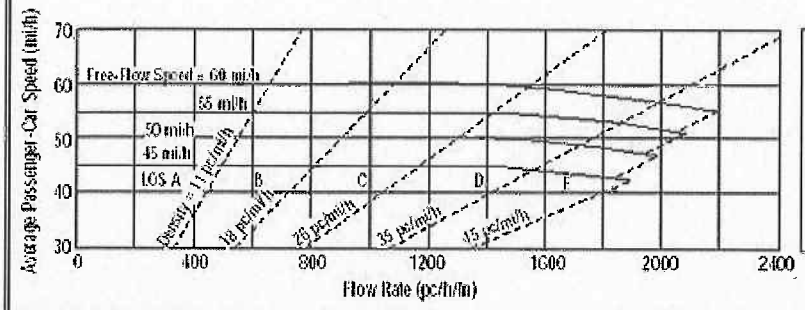
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1556	Peak-Hour Factor, PHF	0.96
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	4
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

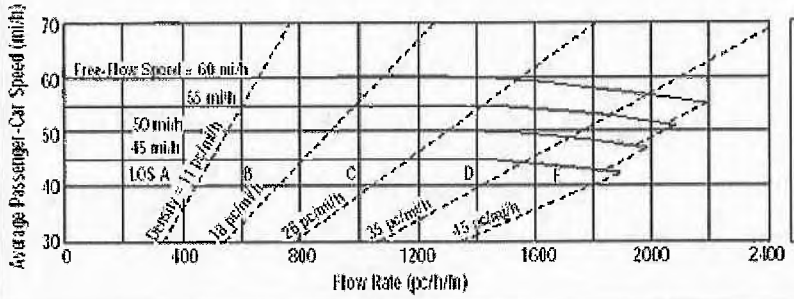
Flow Rate, v_p (pc/h/ln)	955
Speed, S (mi/h)	45.0
D (pc/mi/ln)	21.2
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	Existing

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1429	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	4
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	859
Speed, S (mi/h)	45.0
D (pc/mi/ln)	19.1
LOS	C

Design

Design (N)

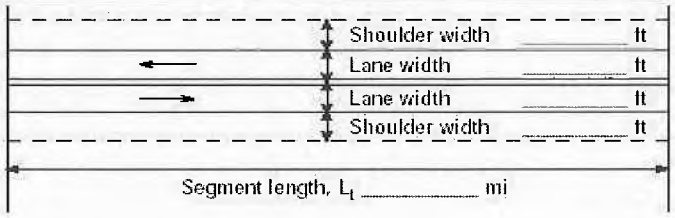
Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*BTJ*	Highway / Direction of Travel	*SR-1*
Agency or Company	*Kimley-Horn*	From/To	*Rio/Carmel Valley*
Date Performed	*7/8/2008*	Jurisdiction	*Monterey County*
Analysis Time Period	*AM*	Analysis Year	*2030*

Project Description: *Carmel Valley TIP*

Input Data



Analysis direction vol., V_d *643*veh/h

Opposing direction vol., V_o *889*veh/h

☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100%*

% Trucks and Buses , P_T *8 %*

% Recreational vehicles, P_R *0%*

Access points/ *mi* *0*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	*1.5*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*	*0.962*
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	*0.99*	*0.99*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	*696*	*963*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed[3], S_{FM}	*mi/h*	Base free-flow speed[3], $BFFS_{FM}$	*45.0 mi/h*
Observed volume[3], V_f	veh/h	Adj. for lane width and shoulder width,[3] f_{LS}(Exh 20-5)	*2.6 mi/h*
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points[3], f_A (Exhibit 20-5)	*0.0 mi/h*
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	*1.1 mi/h*	Free-flow speed, FFS_d $(FSS=BFFS-f_{LS}-f_A)$	*42.4 mi/h*
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	*28.4 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], f_G (Exhibit 20-8 or 20-14)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h)=$V_i/(PHF*f_{HV}*f_G)$	*663*	*916*
Base percent time-spent-following[4], $BPTSF(\%)=100(1-e^{av_d^b})$	*64.8*	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	*25.7*	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	*75.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	*E*
Volume to capacity ratio, $v/c=V_p/1{,}700$	*0.41*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)=$0.25L_t(V/PHF)$	*101*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*392*
Peak 15-min total travel time, TT_{15}(veh-h)=VMT_{15}/ATS	*3.6*

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

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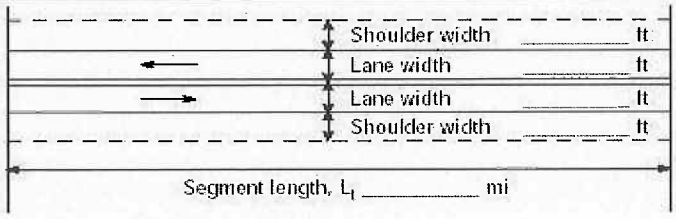
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	BTJ	Highway / Direction of Travel	SR-1
Agency or Company	Kimley-Horn	From/To	Rio/Carmel Valley
Date Performed	7/8/2008	Jurisdiction	Monterey County
Analysis Time Period	PM	Analysis Year	2030

Project Description: *Carmel Valley TIP*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.95*

No-passing zone *100%*

% Trucks and Buses , P_T *8 %*

% Recreational vehicles, P_R *0%*

Access points/ *mi* *0*

Analysis direction vol., V_d *582*veh/h

Opposing direction vol., V_o *1110*veh/h

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	*1.5*	*1.5*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.962*	*0.962*
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	*0.99*	*0.99*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	*644*	*1227*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed[3], S_{FM}	*mi/h*	Base free-flow speed[3], $BFFS_{FM}$	*45.0 mi/h*
Observed volume[3], V_f	veh/h	Adj. for lane width and shoulder width,[3] f_{LS}(Exh 20-5)	*2.6 mi/h*
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points[3], f_A (Exhibit 20-5)	*0.0 mi/h*
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	*1.0 mi/h*	Free-flow speed, FFS_d $(FSS=BFFS-f_{LS}-f_A)$	*42.4 mi/h*
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	*26.9 mi/h*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*	*1.000*
Grade adjustment factor[1], f_G (Exhibit 20-8 or 20-14)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h)$=V_i/(PHF*f_{HV}*f_G)$	*613*	*1168*
Base percent time-spent-following[4], $BPTSF(\%)=100(1-e^{av_d^b})$	*65.5*	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	*20.9*	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	*72.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	*E*
Volume to capacity ratio, $v/c=V_p/1{,}700$	*0.38*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)$=0.25L_t(V/PHF)$	*61*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)$=V*L_t$	*233*
Peak 15-min total travel time, TT_{15}(veh-h)$=VMT_{15}/ATS$	*2.3*

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

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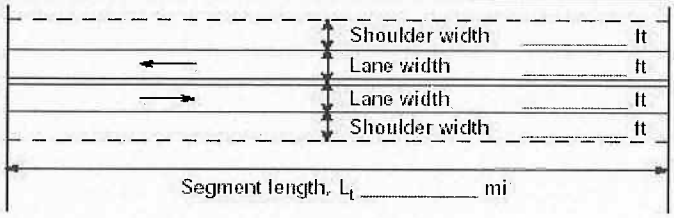
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	BTJ	Highway / Direction of Travel	SR-1
Agency or Company	Kimley-Horn	From/To	Carmel Valley/Ocean
Date Performed	7/8/2008	Jurisdiction	Monterey County
Analysis Time Period	AM	Analysis Year	2030

Project Description: Carmel Valley TIP

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.95

No-passing zone 100%

% Trucks and Buses , P_T 8 %

% Recreational vehicles, P_R 0%

Access points/ mi 2

Analysis direction vol., V_d 1576veh/h

Opposing direction vol., V_o 1564veh/h

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	1.5	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	1.1	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962	0.962
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	0.99	0.99
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	1743	1729

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed[3], S_{FM}	mi/h	Base free-flow speed[3], $BFFS_{FM}$	45.0 mi/h
Observed volume[3], V_f	veh/h	Adj. for lane width and shoulder width,[3] f_{LS}(Exh 20-5)	2.6 mi/h
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	mi/h	Adj. for access points[3], f_A (Exhibit 20-5)	0.5 mi/h
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	0.6 mi/h	Free-flow speed, FFS_d $(FSS=BFFS-f_{LS}-f_A)$	41.9 mi/h
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	14.4 mi/h

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	1.0	1.0
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	1.000	1.000
Grade adjustment factor[1], f_G (Exhibit 20-8 or 20-14)	1.00	1.00
Directional flow rate[2], v_i(pc/h)=$V_i/(PHF*f_{HV}*f_G)$	1659	1646
Base percent time-spent-following[4], $BPTSF(\%)=100(1-e^{av_d^b})$	92.9	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	5.4	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	95.6	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	F
Volume to capacity ratio, $v/c=V_p/1{,}700$	1.03
Peak 15-min veh-miles of travel, VMT_{15} (veh-*mi*)=$0.25L_t(V/PHF)$	373
Peak-hour vehicle-miles of travel, VMT_{60}(veh-*mi*)=$V*L_t$	1418
Peak 15-min total travel time, TT_{15}(veh-h)=VMT_{15}/ATS	26.0

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

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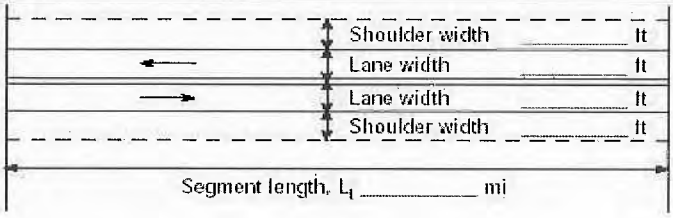
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	BTJ	Highway / Direction of Travel	SR-1
Agency or Company	Kimley-Horn	From/To	Carmel Valley/Ocean
Date Performed	7/8/2008	Jurisdiction	Monterey County
Analysis Time Period	PM	Analysis Year	2030

Project Description: Carmel Valley TIP

Input Data



Analysis direction vol., V_d 1600veh/h

Opposing direction vol., V_o 1752veh/h

☑ Class I highway ☐ Class II highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF 0.97

No-passing zone 100%

% Trucks and Buses , P_T 8 %

% Recreational vehicles, P_R 0%

Access points/ mi 2

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 20-9 or 20-15)	1.5	1.5
Passenger-car equivalents for RVs, E_R (Exhibit 20-9 or 20-17)	1.1	1.1
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	0.962	0.962
Grade adjustment factor [1], f_G (Exhibit 20-7 or 20-13)	0.99	0.99
Directional flow rate [2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV}*f_G)$	1733	1897

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field measured speed [3], S_{FM}	mi/h	Base free-flow speed [3], $BFFS_{FM}$	45.0 mi/h
Observed volume [3], V_f	veh/h	Adj. for lane width and shoulder width, [3] f_{LS}(Exh 20-5)	2.6 mi/h
Free-flow speed, FFS_d $FFS=S_{FM}+0.00776(V_f/f_{HV})$	mi/h	Adj. for access points [3], f_A (Exhibit 20-5)	0.5 mi/h
Adjustment for no-passing zones, f_{np} (Exhibit 20-19)	0.6 mi/h	Free-flow speed, FFS_d ($FSS=BFFS-f_{LS}-f_A$)	41.9 mi/h
		Average travel speed, $ATS=FFS-0.00776v_p-f_{np}$	13.1 mi/h

Percent Time-Spent-Following

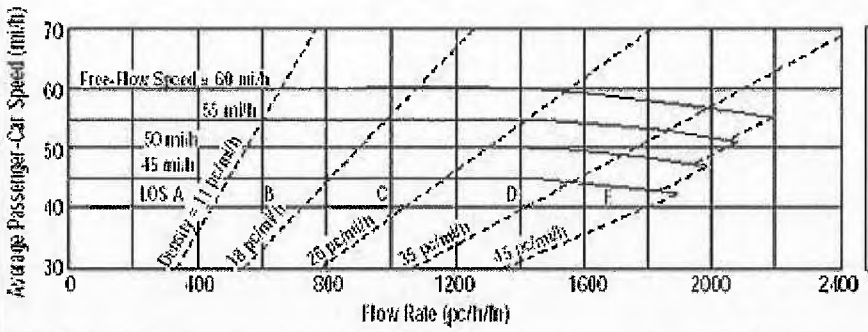
	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 20-10 or 20-16)	1.0	1.0
Passenger-car equivalents for RVs, E_R (Exhibit 20-10 or 20-16)	1.0	1.0
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	1.000	1.000
Grade adjustment factor [1], f_G (Exhibit 20-8 or 20-14)	1.00	1.00
Directional flow rate [2], v_i(pc/h)=$V_i/(PHF*f_{HV}*f_G)$	1649	1806
Base percent time-spent-following [4], $BPTSF(\%)=100(1-e^{av_d^b})$	92.8	
Adj. for no-passing zone, f_{np} (Exhibit. 20-20)	49.0	
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{np}$	116.2	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 or 20-4)	F
Volume to capacity ratio, $v/c=V_p/1{,}700$	1.02
Peak 15-min veh-miles of travel, VMT_{15} (veh-mi)=$0.25L_t(V/PHF)$	371
Peak-hour vehicle-miles of travel, VMT_{60}(veh-mi)=$V*L_t$	1440
Peak 15-min total travel time, TT_{15}(veh-h)=VMT_{15}/ATS	28.3

Notes
1. If the highway is extended segment (level) or rolling terrain, fG=1.0 .
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Rio
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	899	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.80
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

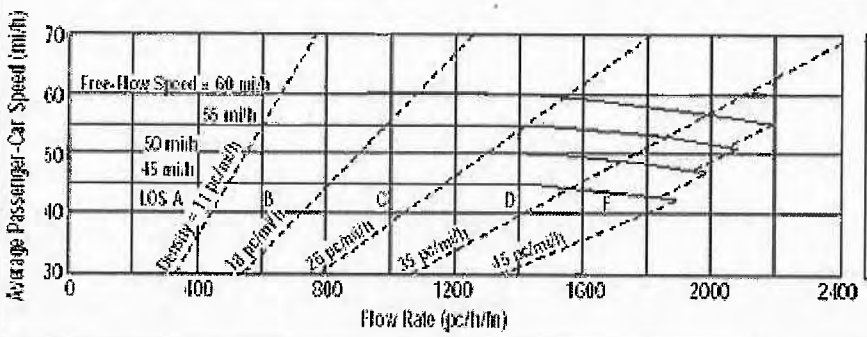
Flow Rate, v_p (pc/h/ln)	546
Speed, S (mi/h)	45.0
D (pc/mi/ln)	12.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Rio Rd
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1110	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

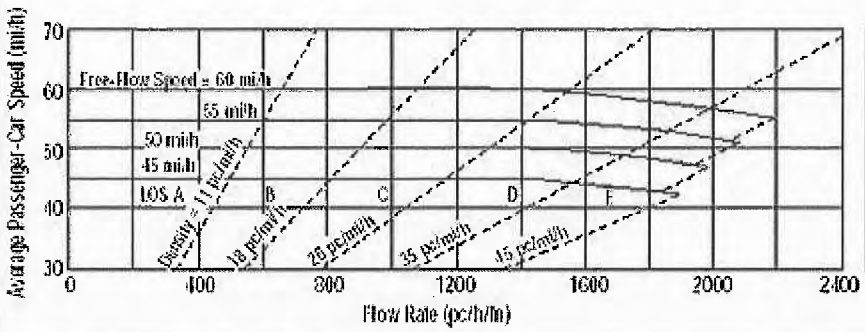
Flow Rate, v_p (pc/h/ln)	688
Speed, S (mi/h)	45.0
D (pc/mi/ln)	15.3
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1564	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	0.80
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	6.0
E_T	3.0	f_{HV}	0.862

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

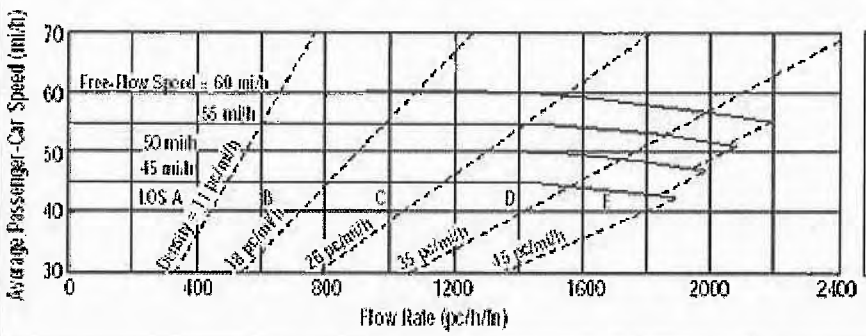
Flow Rate, v_p (pc/h/ln)	1005
Speed, S (mi/h)	45.0
D (pc/mi/ln)	22.3
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carmel Valley/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1752	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Grade
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	6.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	4.0
E_T	1.5	f_{HV}	0.962

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

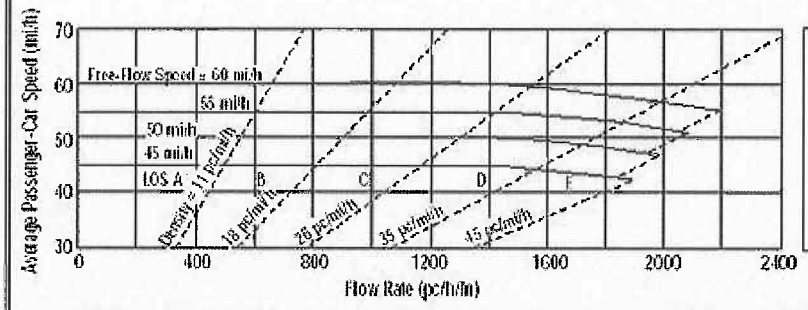
Flow Rate, v_p (pc/h/ln)	988
Speed, S (mi/h)	45.0
D (pc/mi/ln)	22.0
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1809	Peak-Hour Factor, PHF	0.89
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

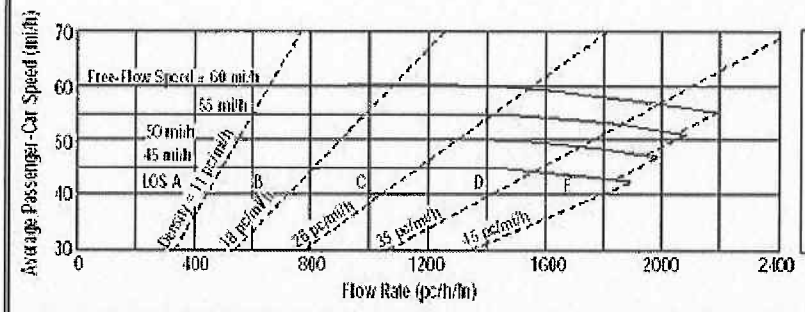
Flow Rate, v_p (pc/h/ln)	1198
Speed, S (mi/h)	45.0
D (pc/mi/ln)	26.6
LOS	D

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1970	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	1
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

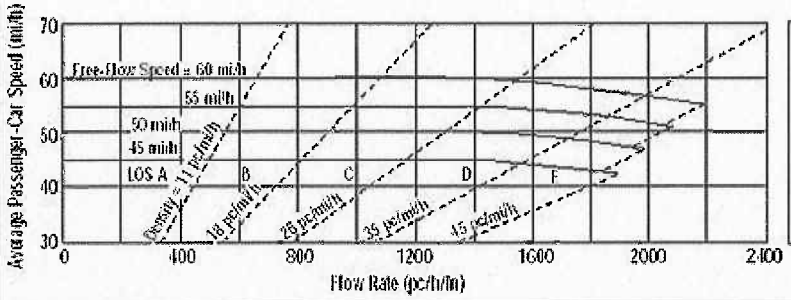
Flow Rate, v_p (pc/h/ln)	1197
Speed, S (mi/h)	45.0
D (pc/mi/ln)	26.6
LOS	D

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	AM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1697	Peak-Hour Factor, PHF	0.96
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	4
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

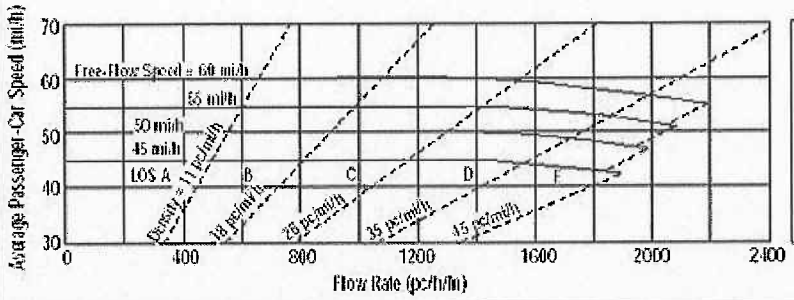
Flow Rate, v_p (pc/h/ln)	1042
Speed, S (mi/h)	45.0
D (pc/mi/ln)	23.2
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



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

General Information

Analyst	BTJ
Agency or Company	Kimley-Horn
Date Performed	7/7/2008
Analysis Time Period	PM

Site Information

Highway/Direction to Travel	SR-1
From/To	Carpenter St/Ocean Ave
Jurisdiction	Monterey County
Analysis Year	2030

Project Description Carmel Valley TIP

☑ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1652	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	8
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	0.95	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	0.95	E_R	2.0
E_T	2.5	f_{HV}	0.893

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	10.0
Access Points, A (A/mi)	4
Median Type, M	
FFS (measured)	45.0
Base Free-Flow Speed, BFFS	

Calc Speed Adj and FFS

f_{LW} (mi/h)	
f_{LC} (mi/h)	
f_A (mi/h)	
f_M (mi/h)	
FFS (mi/h)	45.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	993
Speed, S (mi/h)	45.0
D (pc/mi/ln)	22.1
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Appendix I

Monterey County Board of Supervisors Resolutions 99-379, 01-133, and 02-024

Before the Board of Supervisors of the
County of Monterey, State of California

RESOLUTION NO. 99-379

A Resolution of the Monterey County Board of)
Supervisors Providing Policy Direction to Staff)
and Guidance to the Planning Commission to)
Disapprove Residential Subdivisions Proposed)
in the Carmel Valley Master Plan Area . . . . .)

THE BOARD OF SUPERVISORS FINDS, DETERMINES AND DECLARES AS FOLLOWS:

1. Policy 39.1.6 of the Carmel Valley Master Plan provides for limiting development in the Plan area pending the commencement of construction of a capacity improvement to State Highway 1 known as the Hatton Canyon Freeway; and

2. On March 24, 1999, the Transportation Agency for Monterey County removed funding for the Hatton Canyon Freeway from the Regional Transportation Improvement Program, and on June 7, 1999, the California Transportation Commission similarly removed funding for that project from the State Transportation Improvement Program; and

3. At this time, the California Department of Transportation has not developed an alternative project to increase capacity on State Highway 1 in the area of Carmel-by -the Sea; and

4. Additional dwelling units resulting from residential subdivisions in the Carmel Valley Master Plan area would foreseeably increase daily traffic on already deficient segments of State Highway 1 and Carmel Valley Road; and

5. To avoid foreseeable adverse impacts to State Highway 1 capacity and to ensure compliance with Policy 39.1.6 of the Carmel Valley Master Plan, the Board of Supervisors desires to provide direction to staff and guidance to the Planning Commission regarding the creation of additional residential parcels in the Carmel Valley Master Plan area.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. It is the policy of the Board of Supervisors that residential subdivisions proposed in the Carmel Valley Master Plan Area be denied, pending the construction of left turn pockets on Segments 6 and 7 of Carmel Valley Road (from Robinson Canyon Road to Rancho San Carlos Road) and improvements to State Highway 1 between its intersections with Carmel Valley Road and Morse Drive.

2. Residential subdivision applications submitted before October 19, 1999 may proceed, so that they may be addressed on their merits with regard to potential traffic generation and all other impacts. Applications for subdivision of any property which has been designated as a Comprehensive Planned Use area for which a Comprehensive Development Plan has been accepted by the Board of Supervisors on or before October 19, 1999 may proceed, so that they may be addressed on their merits with regard to potential traffic generation and all other impacts.

3. To allow for the planning and implementation of the referenced improvements to Carmel Valley Road and State Highway 1, this policy is intended to remain in place until March 28, 2001, or as may be extended by future Board action.

4. This Resolution 99-379 shall supersede any previous expression of the foregoing policy adopted by resolution of the same number.

On motion of Supervisor Pennycook, seconded by Supervisor Salinas, the foregoing resolution is adopted this 16th day of May 2000, by the following vote:

AYES: Supervisor(s) Salinas, Pennycook, Calcagno, Johnsen and Potter.

NOES: None.

ABSENT: None.

I, SALLY R. REED, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original resolution of said Board of Supervisors duly made and entered in the minutes thereof at page -- of Minute Book 70, on May 16, 2000.

SALLY R. REED, Clerk of the Board of Supervisors,
County of Monterey, State of California

By Nancy Lukenbill
Deputy

Before the Board of Supervisors
County of Monterey, State of California

RESOLUTION NO. 01-133

A Resolution of the Monterey County Board of Supervisors Providing Policy Direction to Staff and Guidance to the Planning Commission to Disapprove Residential Subdivisions Proposed in the Carmel Valley Master Plan Area.

THE BOARD OF SUPERVISORS FIND, DETERMINES AND DECLARES AS FOLLOWS:

1) At this time, the California Department of Transportation has not developed an alternative project to increase the capacity on State Highway 1 in the area of Carmel-By-the-Sea; and

2) Additional dwelling units resulting from residential subdivisions in the Carmel Valley Master Plan area would foreseeably increase daily traffic on already deficient segments of State Highway 1 and Carmel Valley Road; and

3) To avoid foreseeable adverse impacts to State Highway 1 capacity and to ensure compliance with policy 39.1.6 of the Carmel Valley Master Plan, the Board of Supervisors desires to provide direction to staff and guidance to the Planning Commission regarding the creation of additional residential parcels in the Carmel Valley Master Plan area.

NOW THEREFORE, BE IT RESOLVED THAT:

1) It is the policy of the Board of Supervisors that residential subdivisions proposed in the Carmel Valley Master Plan area be denied, pending the construction of left-turn pockets on segments six and seven of Carmel Valley Road (from Robinson Canyon Road west to Rancho San Carlos Road) and improvements to Highway 1 between its intersections with Carmel Valley Road north to Morse Drive.

2) Residential subdivision applications submitted before October 19, 1999 may proceed so that they may be addressed on their merits with regard to potential traffic generation and all other impacts. Applications for subdivision of any property that has been designated as a Comprehensive Planned Use Area for which a Comprehensive Development Plan has been accepted by the Board of Supervisors on or before October 19, 1999 may proceed, so that they may be addressed on their merits with regard to potential traffic generation and all other impacts.

3) To allow for the planning and implementation of the referenced improvements to Carmel Valley Road and State Highway 1, this policy is intended to remain in place until March 28, 2002, or as may be extended by future Board action.

4) This resolution 01-133 shall supersede any previous expression of the foregoing policy adopted by resolution of the same number.

On motion of Supervisor Potter, seconded by Supervisor Pennycook, the foregoing resolution is adopted this 27th day of March 2001 by the following vote:

AYES: Supervisor(s) Armenta, Pennycook, Calcagno, Johnsen and Potter

NOES: None

ABSENT: None

I, SALLY R. REED, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original resolution of said Board of Supervisors duly made and entered in the minutes thereof at page -- of Minute Book 70, on March 27, 2001.

Sally R. Reed, Clerk of the Board of Supervisors,
County of Monterey, State of California

By Carolyn Hernandez
Deputy, Carolyn Hernandez

Before the Board of Supervisors of the County of Monterey, State of California

RESOLUTION NO. 02-024

A Resolution of the Monterey County Board of Supervisors Providing Policy Direction to Staff and Guidance to the Planning Commission to Disapprove Subdivisions Proposed in the Carmel Valley Master Plan Area . . . . .)

THE BOARD OF SUPERVISORS FINDS, DETERMINES AND DECLARES AS FOLLOWS:

A. Policy 39.1.6 of the Carmel Valley Master Plan provides for limiting development in the Plan area pending the commencement of construction of a capacity improvement to State Highway 1 known as the Hatton Canyon Freeway. On March 24, 1999, the Transportation Agency for Monterey County removed funding for the Hatton Canyon Freeway from the Regional Transportation Improvement Program, and on June 7, 1999, the California Transportation Commission similarly removed funding for that project from the State Transportation Improvement Program. At this time, the California Department of Transportation has not developed an alternative project to increase capacity on State Highway 1 in the area of Carmel-by -the Sea; and

B. Policy 39.3.2.1 of the Carmel Valley Master Plan calls for semiannual monitoring of traffic volumes on twelve segments of Carmel Valley Road. In the event that certain threshold volumes are reached in any of the twelve road segments, Policy 39.3.2.1 provides for the deferral of development having the potential for significant traffic impacts and effects on Level of Service, until appropriate measures to improve Level of Service are identified and studied. In a report to the Board of Supervisors on December 11, 2001, the Department of Public Works has indicated that critical traffic volume thresholds have been reached in Segments 3 (Ford Road to Laureles Grade Road) and 7 (Schulte Road to Rancho San Carlos Road) of Carmel Valley Road; and

C. Additional units resulting from new residential and commercial subdivisions in the Carmel Valley Master Plan area would foreseeably increase daily traffic on already deficient segments of State Highway 1 and Carmel Valley Road; and

D. To avoid foreseeable adverse impacts to Level of Service on State Highway 1 and Carmel Valley Road, and to ensure compliance with Policies 39.1.6 and 39.3.2.1 of the Carmel Valley Master Plan, the Board of Supervisors desires to provide direction to staff and guidance to the Planning Commission regarding the creation of additional parcels in the Carmel Valley Master Plan area.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. It is the policy of the Board of Supervisors that residential and commercial subdivisions proposed in the Carmel Valley Master Plan Area be denied, pending the construction of left turn pockets on Segments 6 and 7 of Carmel Valley Road (from Robinson Canyon Road to Rancho San Carlos Road), the construction of capacity-increasing improvements to State Highway 1 between its intersections with Carmel Valley Road and Morse Drive, and the adoption of updated General Plan/Master Plan policies relating to Level of Service on Carmel Valley Road. Residential subdivision applications submitted before October 19, 1999 may proceed, so that they may be addressed on their merits with regard to potential traffic generation and all other impacts. Applications for subdivision of any property which has been designated as a Comprehensive Planned Use area for which a Comprehensive Development Plan has been accepted by the Board of Supervisors on or before October 19, 1999 may proceed, so that they may be addressed on their merits with regard to potential traffic generation and all other impacts.

2. To allow for the planning and implementation of improvements to Carmel Valley Road and State Highway 1, and to allow for the development and consideration of new General Plan approaches to link growth with infrastructure, this policy is intended to remain in place until adoption of an updated General Plan for Monterey County, or such other period as may be extended by future Board action.

3. This Resolution extends and augments the existing policy of the Board of Supervisors as set forth in Resolutions 99-379 and 01-133. As a legislative act relating to the rejection or disapproval of projects, adoption of this Resolution is statutorily exempt from the California Environmental Quality Act pursuant to Public Resources Code section 21080(b)(5) and section 15270(a) of Title 14 of the California Code of Regulations (CEQA Guidelines).

On motion of Supervisor Pennycook, seconded by Supervisor Potter, the foregoing resolution is adopted this 22nd day of January 2002, by the following vote:

AYES: Supervisor(s) Armenta, Pennycook, Calcagno, Johnsen and Potter

NOES: None

ABSENT: None

I, SALLY R. REED, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original resolution of said Board of Supervisors duly made and entered in the minutes thereof at page XXXXX of Minute Book 71, on January 22, 2002

SALLY R. REED, Clerk of the Board of Supervisors,
County of Monterey, State of California

By _____
Deputy Barbara J. Grant