

Transportation and Circulation

Introduction

This chapter presents a revised analysis of potential traffic and circulation impacts to Monterey County regional highways including Highway 1, 68 (between Monterey and Salinas), 101, and 156. Existing transportation conditions related to these impacts are provided at the end of the chapter. In addition, this chapter discusses a revised realignment to Stevenson Drive as part of the Proposed Golf Course. This analysis supplements the discussion of traffic and circulation impacts in Chapter 3.7, “Traffic and Circulation.”

The analysis of project impacts to Del Monte Forest internal roads, Holman Highway (Highway 68 between Highway 1 and Pacific Grove) or other local roadways is not revised in this document. Revisions to that analysis and/or responses to comments on the Draft EIR regarding that analysis will be provided in the Final EIR.

Revisions Since Draft EIR

The key changes in the analysis of traffic impacts are as follows:

- A new impact – Impact TC-B3 – has been added that analyzes the impacts of project traffic on regional Monterey County Highways, including Highways 1, 68, 101, and 156, which identifies new significant impacts.
- Mitigation for significant impacts to regional Monterey County highways is identified as fair-share contributions to proposed roadway improvements along Highways 1, 68, and 156 that would reduce the project’s direct impact to a less than significant level.
- The analysis in the Draft EIR of project impacts to Highway 1 from Pebble Beach south into Carmel has not been changed but is included in this document for ease of reference.
- The revised realignment of Stevenson Drive is briefly discussed but no new traffic or circulation impacts are identified for the revision.

The new traffic impact analysis and new discussions that are added to the DEIR Traffic section (Chapter 3.7) are summarized below.

PRDEIR Text	DEIR Text Affected by PRDEIR Text
Introduction	New Text
Revisions Since DEIR	New Text
Summary of Project Impacts	Adds new Impact TC-B3
Relevant Project Characteristics	Replaces text on page 3.7-4 (Lines 18-24) regarding proposed realignment of Stevenson Drive.
Impacts and Mitigation Measures <ul style="list-style-type: none"> Criteria for Determining Significance Traffic Impacts 	Revises Criteria B to include regional road segments. Adds new Impact TC-B3 and analysis regarding project traffic impacts upon County regional highways.
Environmental Setting	Adds new text regarding Bristol Curve and regional highways.

Summary of Project Impacts

The following table provides a summary of the project impacts on transportation and the significance conclusion. The impact analysis is presented later in this section.

IMPACT TOPIC	GC	EC	SBI	SBE	SBR	PBL	SUB	CY	RD	HWY
B. Traffic Increase to Existing Unacceptable Levels										
3. Project will contribute considerable traffic to certain regional Monterey County highway segments with deficient operations.	<p>⊙ – Applies to project as a whole.</p> <p>● = Significant Unavoidable Impact ⊙ = Significant Impact that can be Mitigated to Less-than-Significant ○ = Less than Significant Impact — = No Impact or Not Applicable to the development site</p> <p>GC – Golf Course; EC – Equestrian Center; SBI – Inn at Spanish Bay; SBE – Spanish Bay Employee Housing; SBR – Spanish Bay Driving Range; PBL – The Lodge at Pebble Beach; SUB – Residential Subdivisions; CY – Corporation Yard Employee Housing; HWY – Highway 1/Highway 68/17-Mile Drive Improvement; RD – Roadway Improvements</p>									

Relevant Project Characteristics

Revised Realignment of Stevenson Drive

Stevenson Drive would be realigned at Bristol Curve easterly to connect with Forest Lake Road. Bristol Curve would be mostly abandoned. Stevenson Drive and Spyglass Hill Road would be widened and improved at their intersection. There would be a single connection to the retained part of Bristol Curve to provide access to Bristol Lane and Silver Court. The proposed Stevenson Drive realignment is shown in Appendix F. This design is slightly different than that presented in the Draft EIR, in that there would be a single entrance to Bristol Lane and Silver Court from Stevenson Drive. This alignment was examined and no change in traffic impacts relative to that disclosed in the Draft EIR were identified for the revised alignment regarding traffic operations or circulation. Thus, no new discussion of traffic impacts relative to the revised realignment is presented in this document.

Impacts and Mitigation Measures

Criteria for Determining Significance

B. Traffic Increase to Existing Unacceptable Levels

Cause a 1% (0.01) increase or more in the critical movement's volume-to-capacity (v/c) ratio due to increased traffic where *intersections and regional roadways* are already at LOS D or E, or cause any increase (i.e., one vehicle) in the critical movement's v/c ratio where the intersection is already at F.

Traffic Impacts on Regional Monterey County Highways

The traffic impacts analysis in this section discusses baseline plus project conditions.

Impact TC-B3. Under baseline plus project conditions, the Proposed Project would add traffic to regional Monterey County highways that would substantially worsen deficient operations or contribute to failed operations. This is a significant impact that can be mitigated to a less-than-significant level with mitigation.

Methodology for analyzing impacts on regional highways other than Highway 1 south of Pebble Beach. Project trips would distribute to the regional highway system serving the areas in Monterey County including Highway 1

1 north and south of Pebble Beach, Highway 68 east, Highway 101 north of 156
2 and south of Salinas, and Highway 156. The Transportation Agency for
3 Monterey County (TAMC) traffic model used for the draft EIR traffic analysis
4 was utilized to develop the traffic distributions to the regional highway system,
5 except for Highway 1 south of Pebble Beach (Fehr & Peers 2004).

6 The PM peak hour was used for this analysis. The trips added to the regional
7 highways for the PM peak hour are shown in Table P4-1. The projected trips do
8 not take into account the provision of 60 employee housing units as part of the
9 project and thus likely overestimate the project peak hour trips as at least 60
10 Pebble Beach Company employees will have local commute that would not
11 affect regional highways. (NOTE: This is taken into account in the mitigation
12 calculations).

13 This analysis is focused on daily peak hour trips. Special event traffic associated
14 with large-scale events in the Del Monte Forest such as annual equestrian events,
15 AT&T Pro-Am and the Concours d'Elegance, or the occasional U.S. Open are
16 considered part of the existing conditions. The new facilities included with the
17 project are not considered to increase the frequency of these special events in the
18 Del Monte Forest. The application to Monterey County includes no mention of
19 additional or different special events than those that exist. Thus special events

20 **Methodology for analyzing impacts on Highway 1 south of Pebble Beach.**

21 The analysis in the DEIR was used to examine impacts on Highway 1 south of
22 Pebble Beach. The PM peak hour was used for this analysis. The projection of
23 trips for Highway 1 south of Pebble Beach was based on the traffic study
24 conducted in 2002 for this project (Fehr & Peers 2002). Analysis was done on
25 intersections along this segment of Highway 1.

26 The results of the analysis are presented in Table P4-1. More detailed
27 calculations are presented in Appendix B.5. The section below discusses the
28 direct impacts identified by highway and segment. Cumulative impacts are
29 discussed in Chapter P7.

30 **Impacts to Highway 1 south of Pebble Beach.** Segments along Highway 1
31 from Pebble Beach (Highway 68/17-mile Drive) to south of the Carmel River
32 Bridge currently have intersection with levels of service of LOS C and D. Project
33 direct impacts are *less than significant* because they would not cause a decline of
34 service or contribute greater than 1% to deficient operations.

35 **Impacts to Highway 1 North of Pebble Beach.** Segments of Highway 1 north
36 of Pebble Beach vary in their current level of service between LOS C and LOS F.
37 Project traffic would result in a 1.3% increase on Highway 1 between Munras
38 and Fremont (north of the Del Monte Forest), which currently operates at LOS E.
39 Project trips would increase along the following Highway 1 segments currently
40 operating at LOS F: from Highway 68/East Fremont to Casa Verde, from Del
41 Monte Ave to Fremont Boulevard, and north of Highway 156. Based on the
42 significance criteria, this is considered a *significant* impact. Mitigation is
43 identified below to make a fair share contribution to the Highway 1 Sand City

Table P4-1 Existing Conditions and Project Traffic Impact on Regional Monterey County Highways¹

Highway	Intersection	Type	LOS	V/C Ratio	LOS	V/C Ratio/LOS	Project Impact	Significant Impact? ⁹
			Standard	Baseline		w/project		
Highway 1	At Carpenter Road	Highway Intersection	C/D	1.032	D	1.035 (D)	0.3%	No
Highway 1	At Ocean Ave.	Highway Intersection	C/D	0.963	C	C	N/A	No
Highway 1	At Carmel Valley Road	Highway Intersection	C/D	0.933	C	C	N/A	No
Highway 1	At Rio Road	Highway Intersection	C/D	0.801	D	0.804 (D)	0.4%	No
Highway	Segment	Type	LOS	PM Peak	LOS	PM Peak ⁸	Project Impact	Significant Impact? ⁹
			Standard	Existing		Project		
Highway 1	Pebble Beach to Munras	5-Lane Highway	C/D	6,501	C	88	1.4%	No
Highway 1	Munras to Fremont St.	4-Lane Highway	C/D	3,627	E	46	1.3%	Yes
Highway 1	Highway 68 East/Fremont to Casa Verde	4-Lane Highway	C/D	3,525	F	19	0.5%	Yes
Highway 1	Del Monte Ave. to Fremont Bl.	4-Lane Highway	C/D	3,712	F	16	0.4%	Yes
Highway 1	Fremont Bl. to Imjin Pkwy.	6-Lane Highway	C/D	3,879	D	16	0.4%	No
Highway 1	North of Highway 156 ²	2-Lane Highway	C/D	2,869	F	1	0.0%	Yes
Highway 68	Near City of Monterey ³	2-Lane Highway	C/D	2,639	F	8	0.3%	Yes
Highway 68	East of Laguna Seca ⁴	2-Lane Highway	C/D	4,003	F	4	0.1%	Yes
Highway 101	South of Salinas ⁵	4-Lane Highway	C/D	3,613	E	0	0.0%	No
Highway 101	North of Highway 156 ⁶	4-Lane Expressway	C/D	2,369	D	9	0.4%	No
Highway 101/156	Interchange	Interchange	C/D	2,266	F	9	0.4%	Yes
Highway 156	Between Highway 1 and Highway 101 ⁷	2-Lane Highway						

Notes:

1. Existing traffic volumes from *Nexus Study for a Regional Development Impact Fee*, DKS Associates, May 14, 2004 except for SR 1/Carmel to Pebble Beach and Hwy1/Pebble Beach to Munras. Nexus study average daily traffic converted to PM peak hour volumes through assumption that PM peak hour volume is 10% of daily traffic. SR 1/Carmel analysis based on Fehr & Peers Transportation Analysis for the Del Monte Forest Preservation and Development Plan, December 2002. Existing volumes for the Hwy 1/Pebble Beach to Munras from *City of Monterey General Plan Update Traffic Study*, Higgins Associates, April 2004, LOS for this segment based upon daily volume.

2. Volume and level of service reflect conditions between Merritt Street (Hwy. 183) and Potrero Road.

3. Volume and level of service reflect conditions between Josselyn Canyon Road and Highway 218.

4. Volume and level of service reflect conditions between Laureles Grade Road and the Toro Park neighborhood.

5. Volume and level of service reflect conditions between Fifth Street and the Soledad Prison.

6. Volumes and level of service reflect conditions between Echo Valley Road and Monterey/San Benito County Line.

7. Volumes and level of service reflect conditions between Castroville Boulevard and Highway 101.

8. Project PM traffic volumes on segments from letter to D. Messenger, "Pebble Beach FEIR Comments", Fehr & Peers Transportation Consultants, August 9, 2004, plus additional e-mail correspondence with Fehr & Peers Traffic Consultants and Fehr & Peers *Transportation Analysis for the Del Monte Forest Preservation and Development Plan*, December 2002.

9. Significance analysis based upon Monterey County Thresholds of Significance, whereby the following would constitute a significant impact: The addition of 1 trip to a segment operating at LOS F or the addition of enough trips to cause a 1% change in the volume-to-capacity ratio of a segment operating at LOS D or E .

Widening and Interchange Improvements Project to reduce the impact of the project to *less than significant*.

Impacts to Highway 68 between Monterey and Salinas. Segments of Highway 68 between Monterey and Salinas vary in their current level of service with a number of segments with failed operations (LOS F). Project trips would increase along the following Highway 68 segments currently operating at LOS F: Josselyn Canyon Road to Highway 218, York Road to Laureles Grade Road, and Laureles Grade Road to the Toro Park Neighborhood. Mitigation is identified below to make a fair share contribution to a suite of improvements to Highway 68 between Monterey and Salinas. This suite of improvements is described further in tables in Appendix B.5. The fair-share contribution is considered to reduce the impact of the project to a *less than significant* level.

Impacts to Highway 101 south of Salinas. As shown in Table P4-1, when running the TAMC model, no trips were identified as contributed to Highway 101 south of Salinas. While the project will contribute daily trips to Highway 101 south of Salinas and there likely will be sporadic peak hour transit southward, due to the limited model results, it is considered that no critical contribution during peak hour would result. Although some of the southward segments of Highway 101 have deficient or failed operations, this is considered a *less than significant* direct impact.

Impacts to Highway 101 from Salinas to Highway 156. The project-generated regional traffic is most likely to head either northward via Highway 1 northward toward Santa Cruz, via Highway 1, Highway 156, and Highway 101 toward San Jose or southward via Highway 68 and Highway 101 toward San Luis Obispo County. The project may contribute some daily trips along Highway 101 between Salinas and Highway 156, but the peak hour contribution is considered to be minimal and sporadic. This is considered a *less than significant* direct impact.

Impacts to Highway 101 north of Highway 156. Segments along Highway 101 north of Highway 156 to the San Benito County line have deficient operations (LOS D). Project direct impacts are *less than significant* because they would not contribute greater than 1% to deficient operations.

Highway 101/156 Interchange and Highway 156. The Highway 101/Highway 156 interchange and portions of Highway 156 between Highway 101 and Highway 1 currently have failed operations (LOS F). Project direct impacts are *significant* because they would contribute to these failed operations. Mitigation is identified below to make a fair share contribution to the Highway 101/156 Interchange and Highway 156 Widening Project to reduce the project's impact to a *less than significant* level.

Mitigation

As a regional impact fee program has not been adopted, there is no singular program to collect impact fees for the regional impact of projects that contribute

regional traffic. The mitigation developed for this project was identified by determining the project's cumulative contributions (see Chapter P7) to regional highway traffic where deficient or failed operations exist or will exist in the future and where there are planned improvements to which fair-share contributions may be made. The cumulative contributions were used to determine the mitigation for both direct impacts and considerable project contributions to cumulative impacts because the cumulative mitigation required supercedes the amount of direct mitigation required.

Mitigation Measure TC-B3. The applicant shall be responsible for payment of a fair-share traffic impact fee for various improvements to Highway 1, Highway 68 (Salinas to Monterey), Highway 101, and Highway 156 or a regional traffic impact fee if one is later adopted by TAMC prior to construction of the Proposed Project. Proposed improvements along the highway corridors were identified from a review of Caltrans project study reports (Dokken Engineering 2001, Mark Thomas 2002), the Highway 68 Action Plan (Highway 68 Improvement Advisory Committee 2000), prior traffic studies (Higgins Associates 2004a and 2004b) and material from TAMC (DKS 2004). The total costs of identified improvements were derived from existing sources.

With the exception of Highway 1 south of Pebble Beach, the project's fair-share was estimated by dividing the project's PM peak hour trip contribution to deficient or failed operations by the total cumulative volume on the relevant portion of the highway corridor and then multiplying the resultant percentage times the total cost. Thus, for example, if the cumulative total PM peak volume were 1000 trips, the project contributed 10 trips, and the identified improvements cost \$1,000,000, then the project's fair share would be $10/1000 = 1\%$; $1\% \times \$1,000,000 = \$10,000$.

For Highway 1 south of Pebble Beach, Caltrans recently completed a draft Project Study Report/Project Development Support (PSR/PDS) for Highway 1 between the Carmel River bridge and the Highway 68/Holman Highway interchange (Dokken Engineering 2001). TAMC and Monterey County have since begun administering an impact fee on all projects adding vehicle trips to this section of Highway 1 to fund the PSR/PDS improvements. As of November 2002, this impact fee was \$2,033 per average daily trip and is adjusted monthly based upon the relative change in the Construction Cost Index published by the *Engineering News Record*. Approximately 5% of the total 2,918 daily trips generated by the project are added to Highway 1 in the greater Carmel area, or a total of 141 daily trips. The Proposed Project would therefore be responsible for a total Highway 1 PSR traffic impact fee of $141 \times \$2,033 = \$286,650$, based upon the November 2002 fee rate. This fee should be adjusted based upon the Construction Cost Index at the time of payment.

The fair-share mitigation fees identified in Table P4-2 shall be paid by the applicant to the responsible collecting agency for the specific improvements (such as Caltrans, Monterey County, or TAMC) prior to the construction of any element of the Proposed Project, except the proposed road improvements (including the Highway 1/68 improvements). The required fees shall be adjusted based upon the Construction Cost Index published by the *Engineering News*

Table P4-2 Fair-Share Contributions to Monterey County Highway Improvements

Improvement	Total Cost ¹	2030 Projected ²		Cost/Trip ³	Project Trips ⁴	Project Fees ⁵	Mitigates Project Contribution to
		(AADT)	(AADT)	(AADT)	(Daily)		
SR 1/Carmel Area Route 1 Widening	\$98,600,500	48,500		\$2,033	141	\$286,653	Highway 1/Carmel
Improvement	Total Cost ¹	2000 Existing ²	2025 Projected ²	Cost/Trip ³	Project Trips ⁴	Project Fees ⁵	Mitigates Project Contribution to
		(PM Pk Hr)	(PM Pk Hr)	(PM Pk Hr)	(PM Pk Hr)		
SR 1/Salinas Rd Interchange	\$36,025,786	2,995	3,608	\$9,985	1	\$9,985	Highway 1/NorthCounty
SR 1/Sand City Widening and Interchange Imp.	\$46,847,927	3,712	6,582	\$7,118	16	\$113,888	Highway 1/Seaside
SR 68 Operational Improvements ^{6,7}	\$11,997,000	4,003	4,762	\$2,519	8	\$20,152	Highway 68
SR 101 Prunedale Improvement Project (PIP)	\$193,699,000	5,657	10,864	\$17,829	9	\$160,461	Highway 101
SR 101/SR 156 Interchange & SR 156 Widening 4L	\$165,409,466	2,500	10,600	\$15,605	9	\$140,445	Highway 156
<i>Subtotal</i>						\$444,931	Other than SR1/Carmel
<i>Discount for employee housing 6%</i>						\$26,696	
<i>Revised Subtotal</i>						\$418,235	
TOTAL						\$704,888	

Notes:

1. Total Costs in 2003 dollars from *Nexus Study for a Regional Development Impact Fee*, DKS Associates, May 14, 2004 except Highway 68 and SR1/Carmel. Highway 68 costs estimated as noted in Note 7 below. SR1/Carmel cost from PSR, Alternative 2, Nov. 2002 dollars. Total Cost figures will be updated at the time fees are collected and the derived project fees will be correspondingly adjusted.

2. PM peak hour traffic volumes based upon volumes contained within *Nexus Study for a Regional Development Impact Fee*, DKS Associates, May 14, 2004 except for SR1/Carmel. PM peak hour volumes estimated at 10% of average daily traffic volume. Cumulative volumes for SR1/Carmel for 2030 area from Saavedra, Monterey County Public Works, July 25, 2002.

3. Cost per trip derived by dividing the total cost for the improvement by the projected future traffic volume for the segment, except SR1/Carmel which is based on identified fee amount in the PSR (Dokken, 2001).

4. Project PM traffic volumes on segments from letter to D. Messenger, "Pebble Beach FEIR Comments", Fehr & Peers Transportation Consultants, August 9, 2004, plus additional e-mail correspondence with Fehr & Peers Traffic Consultants. Highway 1/Carmel daily trips from Draft EIR.

5. Payment of these fees would be in lieu of the proposed TAMC Regional Impact Fee. If the regional fee is adopted prior to the approval of this project, the project applicant would instead be responsible for its share of the regional fee, instead of the above fees.

6. Hwy. 68 volumes are total PM peak hour at between Laureles Grade Road and the Toro Park neighborhood, per the TAMC Nexus study cited above.

7. Fee for Hwy. 68 is based using methodology for previous project outside of the Highway 68 corridor basing estimates on a discrete set of corridor improvements, most recommended in the SR 68 Action Plan. For new homes along Hwy 68 corridor, Monterey County has required an impact fee of about \$10,000 per unit. However, the DMF/PDP is not in the Hwy. 68 corridor. Thus the indirect effect of DMF/PDP is better estimated by estimating fair-share cost of the suite of Action Plan improvements to the corridor, rather than a flat fee per unit of homes. (See Table B.5-4 in Appendix B.5).

Record at the time of payment. If TAMC adopts a regional impact fee program prior to the construction of the Proposed Project, then the applicant shall be responsible for payment of a regional impact fee using the adopted methodology in lieu of the fees identified in Table P4-2.

Environmental Setting

Regional Highway Analysis Area

The analysis of regional highway impacts focused on the primary highways that allow for regional transit through Monterey County. These highways are:

- Highway 1, from the Santa Cruz County line to the San Luis Obispo County line.
- Highway 68, between Monterey and Salinas
- Highway 101, from the San Benito County line to the San Luis Obispo County line
- Highway 156, from Highway 1 to Highway 101

As noted above, project impacts on Holman Highway/68 from Highway 1 to Pacific Grove were analyzed in the Draft EIR and that analysis is not revised in this document. No additional environmental setting is thus added for the Holman Highway/68.

The regional highways are shown in Figure P4-1.

Other local highways such as Highway 146, 183, 218 were initially considered for this analysis. However, these highways in general do not provide direct distribution routes for regional traffic traveling to and from Pebble Beach. Thus while the project may contribute some occasional daily trips, the peak hour contributions are likely to be limited and sporadic and these highways were not carried forward into the impact analysis

Existing Traffic Conditions

The existing conditions for the regional highways used in this analysis are based on prior work conducted for TAMC in development of a proposal for a regional impact fee, Caltrans in the development of Project Study Reports for various improvements, Higgins & Associates for prior traffic analysis conducted within Monterey County, the traffic study conducted by Fehr & Peers for this project in 2002, and the sources cited in the Draft EIR. Data sources are identified in Table P4-1 presented in earlier in this Chapter and in the reference list in Chapter 7.

Traffic Level of Service Methodology

To measure and describe the operational status of a local roadway network, transportation engineers and planners utilize the level of service (LOS) methodology. The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of traffic. LOS “A”, “B”, and “C” are considered acceptable levels of service in Monterey County. LOS “D” and “E” are considered deficient levels of service. LOS “F” represents failed operations and an unacceptable level of service. LOS methodology is further described in Appendix B of the Draft EIR.

Existing Traffic Conditions for Monterey County Regional Highways

Existing volumes were identified from *The Nexus Study for a Regional Development Impact Fee* (DKS 2004) prepared for TAMC with the exceptions noted in Table P4-1. TAMC existing volumes are for the year 2000.

Planned Traffic Improvements

The planned traffic improvements included in the estimation of the fair-share mitigation fee are described in Appendix E.5 including a brief description of the improvements themselves, their cost estimates, their current status, and estimated date of completion.