

Appendix B

Traffic

Appendix B.5

Traffic Data for Monterey County Highways and Project Contributions

Table B.5-1 Existing Conditions and Project Impact¹

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 SR1/Pebble Beach to Carmel 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. Analysis of SR1/Carmel from Draft EIR 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: a. 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.

Table B.5-2 Cumulative Conditions and Project Contribution¹

		Type	LOS	V/C Ratio	LOS	V/C Ratio/LOS	Cumulative Impact	Significant Impact? ⁹	Project Contribution		Considerable Contribution?
			Standard	Baseline		Cumul w/ Project					
Highway 1	At Carpenter Road	Highway Intersection	C/D	1.032	D	1.139 (E)	10%	Yes	0.3%		Yes
Highway 1	At Ocean Ave.	Highway Intersection	C/D	0.963	C	1.067 (D)	11%	Yes	0.7%		Yes
Highway 1	At Carmel Valley Road	Highway Intersection	C/D	0.933	C	1.029 (D)	10%	Yes	0.3%		Yes
Highway 1	At Rio Road	Highway Intersection	C/D	0.801	D	0.884 (D)	10%	Yes	0.4%		Yes
Road Segment		Type	LOS	PM Peak	LOS	Cumulative Increase	Cumulative Impact	Significant Impact? ⁹	PM Peak ⁸	Project Contribution	Considerable Contribution?
			Standard	Existing					Project		
Highway 1	Pebble Beach to Munras	5-Lane Highway	C/D	7,463	D	962	15%	Yes	88	1.4%	Yes
Highway 1	Munras to Fremont St.	4-Lane Highway	C/D	4,199	F	572	16%	Yes	46	1.3%	Yes
Highway 1	Highway 68 East/Fremont to Casa Verde	4-Lane Highway	C/D	4,659	F	1,134	32%	Yes	19	0.5%	Yes
Highway 1	Del Monte Ave. to Fremont Bl.	4-Lane Highway	C/D	6,582	F	2,870	77%	Yes	16	0.4%	Yes
Highway 1	Fremont Bl. to Imjin Pkwy.	6-Lane Highway	C/D	7,341	F	3,462	89%	Yes	16	0.4%	Yes
Highway 1	North of Highway 156 ²	2-Lane Highway	C/D	2,986	F	117	4%	Yes	1	0.0%	Yes
Highway 68	Near City of Monterey ³	2-Lane Highway	C/D	3,236	F	597	23%	Yes	8	0.3%	Yes
Highway 68	East of Laguna Seca ⁴	2-Lane Highway	C/D	4,762	F	759	19%	Yes	4	0.1%	Yes
Highway 101	South of Salinas ⁵	4-Lane Highway	C/D	4,228	F	615	17%	Yes	0	0.0%	No
Highway 101	North of Highway 156 ⁶	4-Lane Expressway	C/D	3,251	E	882	37%	Yes	9	0.4%	Yes
Highway 101/156	Interchange	Interchange	C/D	2,948	F	682	30%	Yes	9	0.4%	Yes
Highway 156	Between Highway 1 and Highway 101 ⁷	2-Lane Highway									

Notes:

1. Cumulative traffic volumes from Nexus Study for a Regional Development Impact Fee, DKS Associates, May 14, 2004 except for Highway 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. V/C Ratios and LOS for Hwy 1/Carmel to Pebble Beach from Fehr & Peers Transportation Analysis for the Del Monte Forest Preservation and Development Plan, December 2002. 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: a. 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.

Improvement	Total Cost ¹	2030 Projected ²		Cost/Trip ³	Project Trips ⁴	Project Fees ⁵	Mitigates Project Contribution to
		(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
Subtotal						\$444,931	Other than SR1/Carmel
Discount for employee housing 6%						\$26,696	
Revised Subtotal						\$418,235	
TOTAL						\$704,888	

1. Total Costs in 2003 dollars from <i>Nexus Study for a Regional Development Impact Fee</i> , DKS Associates, May 14, 2004 except Highway 68 and SR1/Carmel. Highway 68 costs estimated from Higgins 2004a. SR1/Carmel estimate from PSR Alternative 2, based on November 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 <i>Nexus Study for a Regional Development Impact Fee</i> , DKS Associates, May 14, 2004, except for SR1/Carmel. PM peak hour volumes estimated at 10% of average daily traffic volume. Volumes for SR1/Carmel from Saavedra, Monterey County Public Works, July 25, 2002.
3. Cost per trip derived by dividing the total cost for the improvement by the 2025 (or 2030) projected traffic volume for the segment.
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. Project volumes for SR1/Carmel are based on Fehr & Peers, 2002.
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 Lares 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 (Higgins 2004a). 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).

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. Volumes for SR1/Carmel from Saavedra, Monterey County Public Works, July 25, 2002.

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. Project volumes for SR1/Carmel are based on Fehr & Peers, 2002.

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 (Higgins 2004a). 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).

Table B.5-4 Highway 68 Corridor Improvements Included in Fee Determination				
#	Recommended Improvement	Remarks	Impacted Movements	Construction Cost (2004 dollars)
1	Restripe San Benancio northbound approach and Casa La Cumbre southbound approach to Highway 68 to provide a left turn/through lane and a right turn lane.	Implemented by Oaks Subdivision	NB & SB all movements	N/A
2	Install a right turn overlap phase at the traffic signal on northbound San Benancio at Highway 68.	Implemented by Oaks Subdivision	NB RT, EB through, WB LT	N/A
3	Build dual left turn lanes westbound Highway 68 at San Benancio	Hwy 68 Committee Priority 8	WB LT, NB LT, EB through	\$2,852,000
4	Install a right turn traffic signal overlap on northbound Corral de Tierra at Hwy 68.		NB RT, EB through	\$30,000
5	Build dual left turn lanes on westbound Highway 68 at Corral de Tierra	Hwy 68 Committee Priority 4a	WB LT, NB LT, EB through	\$755,000
6	Provide double left-turn lanes on westbound Highway 68 at the Laureles Grade intersection	Hwy 68 Committee Priority 2	WB LT, NB LT, EB through	\$1,360,000
7	Extend the eastbound right turn lane at Laureles Grade Road	Hwy 68 Committee Priority 6	EB through, EB RT	\$500,000
8	Modify westbound at Hwy 68/Pasadera Dr. to one through and one shared through/right lanes, modify the westbound acceleration lane to a receiving lane		WB through, WB RT, EB LT, SB LT, NB RT	\$500,000
9	Modify eastbound at Hwy 68/Laureles Grade to one through and one shared through/right lanes. Provide an eastbound receiving lane.		WB through, NB LT	\$3,000,000
10	Add a second westbound through at Highway 68/Highway 218 intersection		WB through, SB LT, EB LT	\$3,000,000
11	Widen Highway 68 from Highway 218 to Ragsdale Drive	Hwy 68 Committee Priority 7, funded	Volume between Ragsdale & Hwy 218	N/A
Total				\$11,997,000
Source: Cypress Community Church Preschool and Cemetery Traffic Impact Study (Final Draft Report) Higgins Associates, July 9, 2004 (Higgins 2004a)				
Improvements No. 3, 4, 6, and 7 are recommended by the Highway 68 Improvement Advisory Committee, July 2000.				
Cost estimates are obtained from the July 2000 report of the Advisory Committee, updated to 2004 dollars (January - March 2004 average).				
Construction cost for Improvement No. 4 is allowance and not based upon quantity estimates.				

Table B.5-5 Highway 68 Traffic Improvements Identified by the Advisory Committee

Priority	Project	Estimated Cost	Status
1	Install Opticom emergency vehicle preemption at the signal controlled intersections	\$110,000	
2	Dual left-turn lanes on westbound Highway 68 at the Laureles Grade Road intersection	\$1,360,000	
3	Provide improved access onto Highway 68 from Torero Drive	N/A	
4a (tie)	Dual left-turn lanes on westbound Highway 68 at the intersection of Corral de Tierra Road	\$755,000	
4b (tie)	Continuously maintain the existing shoulder along Highway 68 for safety reasons	Caltrans budget item	Caltrans budget item
6	Extend the eastbound right turn lane at Laureles Grade Road	\$500,000	
7	Widen Highway 68 to four lanes from State Route 218 to Ragsdale Drive	Funded	Complete by end of 2004
8	Dual left-turn lanes on westbound Highway 68 at the intersection with San Benancio Road	\$2,852,000	
9	South Fort Ord Bypass (Torero Drive to State Route 218)	\$179,000,000	
TOTAL		\$184,577,000	

Sources: County of Monterey Public Works Department, 2001. Caltrans District 5 Letter dated October 22, 2003. Highway 68 Improvement Advisory Committee July 2000.

Regional Highway Traffic Improvements Included in Fair-Share Impact Fee

Introduction

The regional traffic highway improvements included in the estimate of fair-share traffic mitigation fees are described briefly below.

SR1/ Carmel Area Route 1 Widening

This project includes operational improvements to intersections of Carpenter Street, Ocean Ave. and Carmel Valley Road. Project will also add southbound truck declaration lane from Ocean Ave. to Carmel Valley Road. A project study report (PSR) was completed for this project in 2001. The estimated cost of this project is \$112 million (\$2003). TAMC and Monterey County have been administering a fee program based on daily trips. Construction is estimated to be completed in 2011 (TAMC 2003a, Dokken Engineering 2001).

SR1/Salinas Road Interchange

This project will include a new interchange at Highway 1 and Salinas Road and will add frontage roads to address local circulation. Project will address safety, congestion, and reduce delays by removing turning movement conflicts. The estimated project cost is \$36.1 million (\$2003). The project is currently in the environmental review stage with construction estimated to be completed in 2010 (DKS 2004, TAMC 2004a, TAMC 2003b).

SR1/Sand City Widening and Interchange Improvement

This project will widen Highway 1 from Canyon Del Rey north to the Fremont Ave. Interchange. Project will also include interchange improvements at Canyon Del Rey and Fremont Ave. A PSR for the project was completed in 2002. The

estimated project cost is \$46.9 million (\$2003) and is estimated to be completed in 2017 (DKS 2004, Caltrans 2002, TAMC 2004a).

SR68 Operational Improvements

A series of improvements entitled the Highway 68 Action Plan was identified in 2000 (Highway 68 Improvement Advisory Committee 2000). These improvements were reviewed to identify their nexus to the traffic contributed by the Proposed Project and the following were found to be relevant:

- dual left-turn lanes on westbound Highway 68 at the Laureles Grade Road intersection (Item 2);
- dual left-turn lanes on westbound Highway 68 at the intersection of Corral de Tierra Road (Item 4a);
- extension of the eastbound right turn lane at Laureles Grade Road (Item 6);
- and dual left-turn lanes on westbound Highway 68 at the intersection with San Benancio Road (Item 8).

Based on a prior traffic study of another project that contributed traffic to the Highway 68 corridor (Higgins 2004a), four additional improvements were identified with nexus to the Proposed Project:

- install a right turn traffic signal overlap on northbound Corral de Tierra at Hwy 68;
- modify westbound at Hwy 68/Pasadera Dr. to one through and one shared through/right lanes and modify the westbound acceleration lane to a receiving lane;
- modify eastbound at Hwy 68/Laureles Grade to one through and one shared through/right lanes and provide an eastbound receiving lane;
- and add a second westbound through at Highway 68/Highway 218 intersection.

The total estimated cost in 2004 dollars of these projects is \$12 million. Monterey County is planning to commence construction of the SR68/Laureles Grade improvements (Action Plan Items 2, and 6) in 2005, the SR68 San Benancio Road improvements (Action Plan Item 8) in 2006, and the SR68/Corral de Tierra Road improvements (Action Plan Item 4a) in 2008 and is collecting traffic impact fees for these projects (County of Monterey Public Works 2004).

SR101 Prunedale Improvement Project (PIP)

With this project, left turn movements along Route 101 would be eliminated between Boronda and Echo Valley Roads by closing existing gaps in the median barrier and the existing San Miguel Interchange would be modified to improve traffic operations. A section of four-lane freeway on a new alignment would be

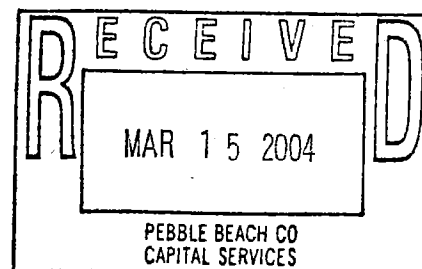
constructed between the Boronda Road Interchange and approximately Martines Road. An overcrossing would be constructed over Route 101 at Russell/Espinosa Road. A new interchange would be constructed at a new local road north of Russell/Espinosa Road. A new overcrossing would be constructed just south of Blackie Road and Reese Circle, over Route 101. To enhance local circulation, Pollock Lane would be extended from Pesante Road to Cross Road. A new interchange and overcrossing would be constructed at Crazy Horse Canyon/Echo Valley Roads. Echo Valley Road would be realigned to meet Crazy Horse Canyon Road. The project is currently in the environmental review stage. The estimated cost in \$2003 is \$193.7 million and the project is estimate to be completed in 2012 (DKS 2004, TAMC 2004a, TAMC 2004b).

SR101/156 Interchange and SR 156 Widening 4-Lanes

These projects would widen existing Highway 156 from Castroville Blvd to US 101 to 4 lanes, construct interchanges at Castroville Blvd and at Cathedral Oaks, and improve the 156/101 interchange. The estimated cost of these projects in \$2003 is \$165 million. The projects are currently in the environmental review stage and construction is estimated to be complete in 2014 (DKS 2004, TAMC 2004a, TAMC 2003c).

Appendix B.6

Revised Stevenson Realignment Traffic Volumes



MEMORANDUM

Date: March 11, 2004
To: Mark Stillwell
 Cheryl Burrell
Cc: Derinda Messenger
 Brian Foucht
From: Rob Rees
Subject: *Traffic Forecasts for Bristol Curve at Stevenson Drive*

951-850

As requested, Fehr & Peers assembled additional traffic forecasting information related to the Stevenson Drive / Bristol Curve area. The basis for this analysis was the draft environmental document for the Del Monte Forest Preservation and Development Plan (The Project).

Traffic data at the Stevenson Drive / Bristol Curve intersection was collected on March 2, 2004 between 3:00 and 4:00 PM. According to the environmental document this one hour period represents the typical peak one hour of traffic on roads within Del Monte Forest. Traffic volumes counted on Stevenson Drive were about 50 percent less than the traffic counts provided in the environmental document. The difference in traffic volumes can be attributed to the time of year the counts were taken. Data collected in March 2004 was increased to be consistent with the data provided in the environmental document.

The environmental document determined that general Del Monte Forest development, excluding The Project, would increase peak hour traffic about 8 percent on Stevenson Drive. No increases would be expected on Bristol Curve with general development. The Project would remove Stevenson Drive between Forest Lake Road and Bristol Curve, causing traffic to redistribute in the area. According to the environmental document the net impact of this roadway system change would be to remove 36 vehicles from the Stevenson Drive corridor. These vehicles would shift to the Forest Lake Road corridor as it provides the most direct north/south connection between the Spanish Bay and Lodge areas after completion of The Project. The following table illustrates the changing peak hour volume characteristics related to current conditions, expected growth in the Forest, and expected changes due to The Project.

	Two-Way Peak Hour Traffic Volume Forecasts (Derived from the environmental document for the Del Monte Forest Preservation and Development Plan)		
	Existing	Cumulative	Cumulative With Project
Stevenson Drive North of Bristol Curve	284	306	270
Stevenson Drive South of Bristol Curve	274	296	—
Bristol Curve	36	36	270
Note – Daily traffic generally represents 10 times the peak one hour of traffic.			