

Treasure Island Supplemental Information Report Addendum

Introduction

Purpose

The purpose of this Supplemental Information Report (SIR) Addendum is to determine if the current land use and development program being proposed by the Treasure Island Authority (TIDA), as described in the Draft Transportation Impact Study (Draft TIS) prepared for the San Francisco Planning Department's in-progress Treasure Island and Yerba Buena Island Redevelopment Plan Environment Impact Report ("Current Redevelopment Plan") constitutes a substantial change from the proposed action as documented in the Final Environmental Impact Statement (FEIS) dated June 2003 and approved in the Record of Decision (ROD) dated October 2005. This analysis also compares the traffic results with those documented in the 2008 SIR.

Study Scope

The SIR Addendum includes an updated traffic analysis using updated future traffic volumes on the San Francisco-Oakland Bay Bridge (SFOBB) and its six ramps. The analysis will reflect the changes in the proposed land use development program reflected in the Current Redevelopment Plan.

Summary of Issues/Impacts Addressed in the EIS/ROD

Potential transportation impacts resulting from disposal and reuse of Naval Station Treasure Island (NSTI) are characterized by the changes in vehicular traffic volumes on freeways, ramps, and intersections; changes in demand for transit services; and changes in delivery and loading operations (truck traffic), parking availability, and emergency access on and off the site. For the following analysis, however, the primary transportation issue relates to traffic or trip generation associated with the Current Redevelopment Plan and its potential impact on the movement of vehicles on the Bay Bridge and ramps on and off Treasure and Yerba Buena Islands. Other issues discussed in the EIS, such as transit service, parking, and emergency access, would either be the same or improved under the Current Redevelopment Plan and are not addressed further.

Methodology and Assumptions

This analysis includes updates of the freeway mainline and ramp analyses for the year 2025 on the Bay Bridge and six on- and off-ramps to and from Treasure Island/Yerba Buena Island. The methodology and assumptions used are consistent with those in the 2003 FEIS. The two major changes in the updated traffic modeling include incorporation of the new land use program developed for the Current Redevelopment Plan and the updated future year 2025 traffic volumes for the new land use program. The following is a brief description of the methodology and assumptions:

Land Use - The land use development program for the Current Redevelopment Plan was obtained from the Draft TIS prepared for the San Francisco Planning Department's in-progress

1 Treasure Island and Yerba Buena Island Redevelopment Plan Environment Impact Report (Fehr
2 & Peers 2010).

3
4 *Trip Generation, Trip Distribution, and Modal Split Assumptions* - The trip generation, trip
5 distribution, and modal split for the analysis were obtained from the Draft TIS, which include
6 transit improvements identified in the Treasure Island Transportation Plan of the 2006
7 Development Plan and Term Sheet that was endorsed by the TIDA Board and San Francisco
8 Board of Supervisors. The 2006 Transportation Plan includes a number of substantial
9 improvements both to transit infrastructure and services. However, some funding for the
10 transit service has not been fully programmed yet. Thus, the analysis in the Draft TIS was
11 conducted for both the project with only that portion for which full funding has been identified
12 (the Base Transit Scenario) and the project with the addition of the full set of transit
13 improvements proposed by the project's Transportation Plan and for which full funding is
14 likely, but not certain (the Expanded Transit Scenario). The traffic analyses for the SIR
15 Addendum were performed for both the Base Transit and the Expanded Transit Scenarios.

16
17 The methodology used to calculate trip generation in the FEIS differs from the methodology
18 used to calculate trip generation in the Draft TIS.

- 19 • The FEIS trip generation was based the *San Francisco Guidelines for Environmental Review:*
20 *Transportation Impacts, July 1991* (1991 SF Guidelines). The trip generation rates and
21 modal split percentages were based on a citywide travel behavior survey conducted in
22 1992. Assumptions on internal trips were made based on known data nationally.
- 23 • The Draft TIS used a state-of-the-practice trip generation forecasting method, commonly
24 referred to as the "4D" method.¹ This method generally accounts for the following
25 factors that may influence travel behavior: development scale, density of the project,
26 diversity of uses, and design of project.

27 This approach was determined to be appropriate by the San Francisco Planning Department
28 because the project is located in an isolated area within the city and is expected to
29 fundamentally change the character of the island.

30
31 Because of the unique location, mix of land uses, and transportation demand management
32 (TDM) measures, the overall process used to forecast the travel demands of the project is a
33 multi-step process. The steps are outlined below and discussed in more detail in the Draft TIS.

- 34
35 1. The total amount of person-trips generated by the project was estimated using vehicle
36 trip generation rates described in the Institute of Transportation Engineers' (ITE) *Trip*
37 *Generation* manual (and other sources, as necessary) and average vehicle occupancy
38 survey data from the *SF Guidelines* and national surveys.
- 39
40 2. Adjustments were made based on research conducted by Fehr & Peers and others to
41 account for the unique nature of the project, including the mix of uses, the density, and
42 the high quality of pedestrian and bicycle amenities proposed.

¹ This method was originally developed by Fehr & Peers and others for the U.S. Environmental Protection Agency (EPA) and has been endorsed for use in project-specific and planning-level analyses by a number of jurisdictions, including the California Department of Transportation (Caltrans).

3. The percentage of total trips expected to use transit based on the high level of transit service proposed by the project was forecasted based on survey data from San Francisco for similar locations.
4. The general origins and destinations of person-trips leaving the island were forecasted based on regional travel demand forecasting models and engineering judgment.
5. The person trips by auto, ferry, and bus forecasted to leave the island were assigned to specific routes, based on the mode choice identified in Step 3 and the trip distribution identified in Step 4.
6. The effects of implementing congestion pricing for residents entering and departing the Islands by auto were predicted based on recent studies regarding the sensitivity of drivers to factors such as time delay and cost increases, with the decrease in auto trips re-assigned to transit.
7. The effects of additional delay associated with implementing ramp metering at on-ramps to the SFOBB was predicted using similar methods to the congestion pricing analysis, with the decrease in auto trips re-assigned to transit.
8. Further adjustments to the forecasted transit trips were made to account for the fact that not all transit service proposed by the project is fully funded and cannot be assumed in the analysis. The lower amount of transit service would reduce transit ridership.

Existing Traffic Volumes – For consistency, the existing baseline weekday AM and PM peak hours and weekend midday hour traffic volumes used are 1994 volumes, which is the same as those used in the FEIS and SIR for both the Bay Bridge and its ramps.

Future Traffic Volumes – For consistency, the future baseline (2025 without project) weekday AM and PM peak hours and weekend midday hour traffic volumes remain the same as those used in the SIR for both the Bay Bridge and its ramps.

The methodology and assumptions used in the SIR Addendum are consistent with those in the FEIS as well as the SIR Traffic Analysis. In order to provide consistency between the current analysis methodologies and results with the original analyses in the FEIS and the SIR, the FREQ12 model, which was originally calibrated for the 1994 traffic condition, was used for the updates per the Navy’s direction.

Current Redevelopment Program

The Current Redevelopment Plan would convert approximately 364 acres on Treasure Island and approximately 95 acres on Yerba Buena Island into a mixed-use community with residential, commercial, retail, and recreational uses. The proposed land use program would include approximately 8,000 residential units, 500 hotel rooms, 100,000 square feet of office uses, 140,000 square feet of retail uses, 269,000 square feet of adaptive re-use of three existing buildings for commercial and retail uses, 273,500 square feet of institutional uses, and 300 acres

1 of recreational and open space. A 400-slip marina expansion project was previously analyzed
 2 as part of the *Transfer and Reuse of Naval Air Station Treasure Island FEIR* in June 2006 and is not a
 3 component of the Current Redevelopment Plan. Therefore, the travel demand associated with
 4 the additional berths was not included in the transportation analysis below nor was this
 5 included in the SIR. However, landside services for the marina are part of the Current
 6 Redevelopment Plan and the additional berths are included in the cumulative analysis. All of
 7 the above factors were taken into consideration for generating estimated trip volumes for the
 8 Traffic analysis.

9
 10 Table 1 presents a comparison of the land use development programs for the three alternatives
 11 presented in the FEIS for Treasure Island and Yerba Buena Island.
 12

13 **Table 1. Comparison of Land use Program**

Land Use		Current Redevelopment Plan (2010)	SIR (2008)	FEIS (2003)		
			DEVELOPMENT PLAN	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Residential		8,000 dwelling units (du)	6,000 du	2,840 du	250 du	1,065 du
Hotel		500 rooms	500 rooms	1,450 rooms	1,350 rooms	150 rooms
Retail	Neighborhood-Serving Retail	75,000 square feet (sf)	270,000 sf	10 acres	1 acre	2 acre
	Other Retail	95,000 sf				
	Restaurant	37,000 sf				
New Office		100,000 sf	-	11 acres	-	6 acres
Flex Space	Community-oriented Services/Offices	30,000 sf	-	120 acres	106 acres	106 acres
	Food Production/Manufacturing	22,000 sf	325,000 sf	-	-	-
	Recreation/Entertainment	150,000 sf	-	59 acres	74 acres	39 acres
School		105,000 sf	105,000 sf	9 acres	-	9 acres
Police/Fire		30,000 sf	30,000 sf	7 acres	4 acres	5 acres
Community Center		48,500 sf	-	-	-	-
Sailing Center		15,000 sf	-	24 acres	14 acres	29 acres
Museum/Cultural Use		75,000 sf	-	-	-	-
Open Space	General Open Space	260 acres	275 acres	118 acres	259 acres	142 acres
	Athletic Fields	40 acres	25 acres			
Marina		400 slips ¹	400 slips	400 slips & buoys	500-675 slips & buoys	-

14 *Notes:*

15 1 A 400-slip marina expansion project has already been analyzed as part of the *Transfer and Reuse of Naval Air Station*
 16 *Treasure Island FEIR* in June 2006 and is not a component of the Current Redevelopment Plan and is not included in the
 17 transportation analysis here.
 18

19
 20 The total build-out area for Alternative 1 is approximately 1,834,081 square feet with 2,560 new
 21 residential units. The total build-out area for Alternative 2 is approximately 1,007,282 square
 22 feet with 200 new residential units. The total build-out area for Alternative 3 is approximately

1 1,956,676 square feet with 70 new residential units. The land use development program
 2 presented in the SIR includes approximately 6,000 residential units, 500 hotel rooms, 270,000
 3 gross square feet of commercial and retail uses, 325,000 gross square feet of additional flex
 4 commercial space, 300 acres of recreational and open space, a reopened public grammar school,
 5 a joint police/fire station (30,000 gross square foot).

6
 7 **Existing Conditions**
 8

9 Treasure Island and Yerba Buena Island are accessed via Interstate-80 (I-80) from downtown
 10 San Francisco to the west and Oakland to the east. There are one eastbound and two
 11 westbound on-ramps and one westbound and two eastbound off-ramps to and from the
 12 SFOBB. Treasure Island Road provides access to the I-80 ramps on Yerba Buena Island and is
 13 the primary roadway that connects Yerba Buena Island and Treasure Island. Collector and local
 14 roads provide access for the residential, commercial, and industrial areas within Treasure
 15 Island.

16
 17 The existing conditions on the SFOBB mainline and the ramps were obtained from the FEIS,
 18 which is for year 1993/1994. For consistency, no update to the current year was made in this
 19 report. Table 2 presents the speed and level of service (LOS) on the SFOBB in 1994. Table 3
 20 provides the volumes and queue on the freeway ramps on Yerba Buena Island.
 21

22 **Table 2. Bay Bridge/Interstate-80 Operations Existing Conditions**

<i>Peak Hour/Direction</i>	<i>Existing Conditions (1994)</i>	
	SPEED (MILES PER HOUR)	LOS ¹
Weekday AM Peak Hour²		
Eastbound (east of Treasure Island Tunnel)	57	B
Westbound (west of Treasure Island Tunnel)	45	D
Weekday PM Peak Hour³		
Eastbound (east of Treasure Island Tunnel)	46	D
Westbound (west of Treasure Island Tunnel)	56	B
Weekend Midday Peak Hour⁴		
Eastbound (east of Treasure Island Tunnel)	57	B
Westbound (west of Treasure Island Tunnel)	57	B
<i>Notes:</i>		
1 LOS is based on mainline travel speeds, consistent with San Francisco Congestion Management LOS designations.		
2 The AM peak hour of 8:00 to 9:00 AM occurs within the AM peak period of 6:00 to 9:00 AM.		
3 The PM peak hour of 5:00 to 6:00 p.m. occurs within the PM peak period of 3:00 to 7:00 p.m.		
4 The midday peak hour of 12:00 to 1:00 p.m. occurs within the midday peak period of 10:00 a.m. to 1:00 p.m.		

23

**Table 3. Bay Bridge/Interstate-80 Yerba Buena Island Ramp
Demand Volumes and Maximum Queue**

<i>Peak Hour/Ramp</i>	<i>Existing Conditions (1993)</i>	
	VOLUME	QUEUE
Weekday AM Peak Hour		
Westbound on-ramp (east side)	40	--
Westbound on-ramp (west side)	90	--
Westbound off-ramp (east side)	190	--
Eastbound on-ramp (east side)	215	--
Eastbound off-ramp (west side)	120	--
Eastbound off-ramp (east side)	20	--
Total ramp volumes	675	
Weekday PM Peak Hour		
Westbound on-ramp (east side)	25	--
Westbound on-ramp (west side)	135	--
Westbound off-ramp (east side)	240	--
Eastbound on-ramp (east side)	250	--
Eastbound off-ramp (west side)	60	--
Eastbound off-ramp (east side)	20	--
Total ramp volumes	730	
Weekend Midday Peak Hour		
Westbound on-ramp (east side)	20	--
Westbound on-ramp (west side)	125	--
Westbound off-ramp (east side)	130	--
Eastbound on-ramp (east side)	155	--
Eastbound off-ramp (west side)	75	--
Eastbound off-ramp (east side)	20	--
Total ramp volumes	525	

Source: FEIS

2

3

4

Bay Bridge Traffic Analysis

5 Based on the trip generation analysis presented in the Draft TIS, Table 4 provides the inbound
6 and outbound vehicle trips generated by the Current Redevelopment Plan that would arrive
7 and leave Treasure Island and Yerba Buena Island during weekday daily, weekday AM and PM
8 peak hours, and weekend midday peak hour. This is a net increase in traffic that the Current
9 Redevelopment Plan would add to the SFOBB, excluding the existing buildings that would be
10 demolished and/or replaced. Under the Base Transit Scenario, the Current Redevelopment
11 Plan would generate approximately 1,613 AM peak hour, 2,458 PM peak hour, and 2,861
12 weekend midday peak hour vehicle trips. Under the Expanded Transit Scenario, the Current
13 Redevelopment Plan would generate approximately 1,228 AM peak hour, 1,983 PM peak hour,
14 and 2,437 weekend midday peak hour vehicle trips. The number of trips under both scenarios
15 is greater than the number of trips generated by land uses in the FEIS or the SIR. Table 4 shows
16 that there would be a substantial increase in net vehicle trips by the Current Redevelopment
17 Plan compared to the three alternatives analyzed in the FEIS and the Development plan
18 analyzed in the SIR during all time periods.

19

1

Table 4. Net New Vehicle-Trip Generation

Scenario	Current Redevelopment Plan (2010)		SIR (2008)	FEIS (2003)		
	BASE TRANSIT	EXPANDED TRANSIT	Development Plan	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Weekday AM Peak Hour						
Inbound	645	496	224	305	245	305
Outbound	986	732	891	655	140	305
Total	1,613	1,228	1,115	960	385	610
Weekday PM Peak Hour						
Inbound	1,467	1,187	1,012	965	285	370
Outbound	991	796	488	590	490	430
Total	2,458	1,983	1,500	1,555	775	800
Weekend Midday Peak Hour						
Inbound	1,520	1,302	396	320	270	150
Outbound	1,341	1,134	631	1,120	515	620
Total	2,861	2,437	1,027	1,440	785	770

2 Table 5 presents the results of the SFOBB traffic impact analysis during the weekday AM and
 3 PM peak hours and weekend midday. The number of vehicles traveling westbound from the
 4 East Bay to the SFOBB is controlled by metering lights beyond the toll plaza, and the capacity is
 5 restricted to approximately 10,500 vehicles per hour during the AM peak period and 9,000
 6 vehicles per hour during the PM peak period. The capacity of eastbound traffic would be
 7 restricted to 9,500 vehicles per hour during both the AM and PM peak periods due to the
 8 capacity and congestion of the downtown segments of I-80. These numbers are provided by
 9 Caltrans.

10
 11 *Weekday AM and PM Peak Hours, Eastbound Direction* - Under the Current Redevelopment Plan,
 12 travel speed on the SFOBB in 2025 would decrease marginally compared to the three land use
 13 alternatives analyzed in the FEIS. However, the LOS on the SFOBB under the Current
 14 Redevelopment Plan would stay the same as the LOS for the three alternatives presented in the
 15 FEIS and the previous development plan in the SIR during the AM peak hour. The LOS on the
 16 SFOBB would worsen in the PM peak hour from LOS D in the FEIS and the SIR to LOS E with
 17 the Current Redevelopment Plan. The degradation in LOS would be primarily due to
 18 forecasted substantial traffic volume increases in the Current Redevelopment Plan. Although
 19 implementing the Expanded Transit Scenario would reduce the project's overall contribution,
 20 impacts to the SFOBB mainline would remain significant and mitigable.

21
 22 *Weekday AM and PM Peak Hours, Westbound Direction* - Under the Current Redevelopment Plan,
 23 travel speed on the SFOBB in 2025 would increase marginally compared to the three land use
 24 alternatives analyzed in the FEIS, because the MTC travel forecasting model shows that year
 25 2025 SFOBB baseline traffic volumes would be lower than that presented in the FEIS, and the
 26 travel speed on the SFOBB would decrease marginally compared to the previous development
 27 plan analyzed in the SIR due to the increase of the forecasted traffic volume in the Current
 28 Redevelopment Plan. However, the LOS on the SFOBB under the Current Redevelopment Plan
 29 would stay the same as the LOS for the three alternatives presented in the FEIS and the previous

Table 5. Bay Bridge/Interstate-80 Operations Existing and Year 2025 Weekday and Weekend Peak Hour Conditions

Peak Hour/Direction	Existing (1994)		Current Redevelopment Plan (2010)				SIR (2008)		FEIS (2003)					
	(OPERATIONAL BASE)		BASE TRANSIT		EXPANDED TRANSIT		DEVELOPMENT PLAN		ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3	
	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴	SPEED ³	LOS ⁴
Weekday AM Peak Hour⁵														
Eastbound ¹	57	B	55 (55)	B (B)	55 (55)	B (B)	55	B	56	B	56	B	56	B
Westbound ²	45	D	21 (21)	F (F)	21 (21)	F (F)	25	F	20	F	21	F	21	F
Weekday PM Peak Hour⁶														
Eastbound ¹	46	D	39 (39)	E (E)	39 (39)	E (E)	41	D	43	D	44	D	44	D
Westbound ²	56	B	19 (18)	F (F)	19 (18)	F (F)	19	F	16	F	16	F	17	F
Weekend Midday Peak Hour⁷														
Eastbound ¹	57	B	55 (55)	B (B)	55 (55)	B (B)	55	B	56	B	56	B	56	B
Westbound ²	57	B	56 (56)	B (B)	56 (56)	B (B)	57	B	57	B	57	B	57	B

Note:

1. Eastbound Bay Bridge /Interstate-80 east of Yerba Buena Island tunnel.
2. Westbound Bay Bridge /Interstate-80 east of Yerba Buena Island tunnel.
3. Speed is expressed in miles per hour.
4. LOS is based on mainline travel speeds, consistent with San Francisco Congestion Management LOS designations.
5. The AM peak hour of 8:00 to 9:00 AM occurs within the AM peak period of 6:00 to 9:00 AM.
6. The PM peak hour of 5:00 to 6:00 PM occurs within the PM peak period of 3:00 to 7:00 PM.
7. The midday peak hour of 12:00 to 1:00 PM occurs within the midday peak period of 10:00 AM to 1:00 PM.

Degraded operating conditions on the Bay Bridge /Interstate-80 in 2010 (without reuse) would be attributable to regional growth. The additional vehicle-trips associated with each reuse alternative would contribute to increases in queues at the Bay Bridge toll plaza, congestion and queues in downtown San Francisco, and in the duration of the peak periods.

() represents speed and LOS with the proposed Yerba Buena Island ramp modifications.

1 development plan in the SIR. Since the SFOBB westbound traffic volumes are controlled by
2 metering lights west of the toll plaza, westbound traffic volumes on the bridge would not
3 change regardless of what level of development occurs at Treasure Island. Therefore, no
4 significant impacts would occur.

5
6 *Weekend Midday* - Under the Current Redevelopment Plan conditions, travel speed on the
7 SFOBB in both eastbound and westbound directions would stay the same or decrease
8 marginally compared to the three land use alternatives analyzed in the FEIS and the previous
9 development plan in the SIR. However, the LOS on the Bay Bridge under the Current
10 Redevelopment Plan would stay the same as the existing (1994) conditions, the alternatives
11 presented in the FEIS and the previous development plan in the SIR. Therefore, no significant
12 impacts would occur.

13 14 **Ramp Analysis**

15 Table 6 presents the observed SFOBB ramp volumes and queue in 1994 and the estimated ramp
16 volumes and queue under the Current Redevelopment Plan, the previous development plan in
17 the SIR and the three land use alternatives in the FEIS. The ramp analyses performed in this
18 section do not include ramp metering. Potential impacts of ramp metering are presented in the
19 section under *Transportation Impact Analysis for the Proposed Yerba Buena Island Ramp*
20 *Modifications*.

21
22 *Weekday AM Peak Hour* - Under the Base Transit Scenario of the Current Redevelopment Plan,
23 the length of the vehicle queuing on the westbound on-ramps on the east side of the tunnel and
24 on the west side of the tunnel would be 70 vehicles and 243 vehicles, respectively. This would
25 be a significant and mitigable impact. Under the Expanded Transit Scenario, the length of the
26 vehicle queuing would decrease to 153 vehicles on the westbound on-ramp on the west side of
27 the tunnel but vehicle queuing would not occur on the westbound on-ramp on the east side of
28 the tunnel. The queues on the westbound on-ramp on the west side of the tunnel would be
29 longer than those for the three land use alternatives analyzed in the FEIS but shorter than the
30 previous development plan analyzed in SIR. This would be a significant and mitigable impact.

31
32 *Weekday PM Peak Hour* - Under the Base Transit Scenario of the Current Redevelopment Plan,
33 the length of the vehicle queuing on the westbound on-ramps on the east side of the tunnel and
34 on the west side of the tunnel would be 76 vehicles and 218 vehicles, respectively. This would
35 be a significant and mitigable impact. Under the Expanded Transit Scenario, the length of the
36 vehicle queuing on the westbound on-ramp on the west side of the tunnel and on the east side
37 of the tunnel would decrease to one vehicle and 143 vehicles, respectively. These queues are
38 longer than those for the three land use alternatives in the FEIS and the previous development
39 plan in the SIR. The length of the vehicle queuing on the eastbound off-ramp on the west side
40 of the tunnel would be 400 vehicles under the Base Transit Scenario and 255 under the
41 Expanded Transit Scenario. These queues are longer than those for the three land use
42 alternatives in the FEIS and the previous development plan in the SIR. The increases in queue
43 length would be primarily due to forecasted substantial traffic volume increases under the
44 Current Redevelopment Plan. This would be a significant and mitigable impact.

Table 6. Bay Bridge /Interstate-80 Yerba Buena Island Ramp Volumes and Maximum Queue Existing and Year 2025 Weekday and Weekend Peak Hour Conditions

Peak Hour/Ramp ³	Existing (1994)		Current Redevelopment Plan (2010)				SIR (2008)		FEIS (2003)					
	(OPERATIONAL BASE)		BASE TRANSIT		EXPANDED TRANSIT		DEVELOPMENT PLAN		ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3	
	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴	VOLUME	QUEUE ⁴
Weekday AM Peak Hour														
Westbound on-ramp ¹ (east side)	40	--	400	70	310	--	115	--	145	--	40	--	75	--
Westbound on-ramp ² (west side)	90	--	573	243	483	153	670	340	335	7	90	--	170	--
Westbound off-ramp (east side)	190	--	313	--	277	--	252	--	160	--	145	--	160	--
Eastbound on-ramp (east side)	215	--	293	--	237	--	408	78	300	--	135	--	190	--
Eastbound off-ramp (west side)	120	--	444	--	367	--	275	--	235	--	205	--	235	--
Eastbound off-ramp (east side)	20	--	163	--	127	--	11	--	145	--	135	--	145	--
Total ramp volumes	675		2,186		1,801		1,731		1,320		750		975	
Weekday PM Peak Hour														
Westbound on-ramp (east side)	25	--	406	76	331	1	80	--	85	--	70	--	65	--
Westbound on-ramp (west side)	135	--	548	218	473	143	452	122	355	27	295	--	270	--
Westbound off-ramp (east side)	240	--	475	--	408	--	549	--	375	--	145	--	160	--
Eastbound on-ramp (east side)	250	--	374	--	327	--	29	--	300	--	275	--	250	--
Eastbound off-ramp (west side)	60	--	900	400	755	255	695	195	535	36	190	--	240	--
Eastbound off-ramp (east side)	20	--	366	--	298	--	42	--	145	--	45	--	60	--
Total ramp volumes	730		3,069		2,592		1,847		1,795		1,020		1,045	
Weekend Midday Peak Hour														
Westbound on-ramp (east side)	20	--	536	206	457	127	91	--	195	--	90	--	110	--
Westbound on-ramp (west side)	125	--	679	349	600	270	527	197	570	242	260	--	320	--
Westbound off-ramp (east side)	130	--	453	--	400	--	200	--	175	--	150	--	100	--
Eastbound on-ramp (east side)	155	--	384	--	334	--	270	--	480	--	295	--	320	--
Eastbound off-ramp (west side)	75	--	925	425	812	312	407	--	230	--	210	--	160	--
Eastbound off-ramp (east side)	20	--	378	--	325	--	24	--	60	--	50	--	30	--
Total ramp volumes	525		3,355		2,928		1,519		1,710		1,055		1,040	

Notes:

- 1 Ramp located east of Yerba Buena Island tunnel.
- 2 Ramp located west of Yerba Buena Island tunnel.
- 3 Maximum on-ramp capacity = 330 vehicles per hour per ramp, except the eastbound on-ramp on the east side of the tunnel = 900 vehicle; maximum eastbound off-ramp capacity (west of the tunnel) = 500 vehicles per ramp. Other off-ramps = 560 vehicles per ramp. Total on-ramp capacity = 1,560 vehicles per hour and total off-ramp capacity = 1,620 vehicles per hour.
- 4 Number of vehicles.

1 *Weekday Midday* - Under the Base Transit Scenario of the Current Redevelopment Plan,
2 the length of the vehicle queuing on the westbound on-ramps on the east side of the
3 tunnel and on the west side of the tunnel would be 206 vehicles and 349 vehicles,
4 respectively. The length of the vehicle queuing at the eastbound off-ramp on the west
5 side of the tunnel would be 425 vehicles. This would be a significant and mitigable
6 impact. Under the Expanded Transit Scenario, the length of the vehicle queuing on the
7 westbound on-ramps on the east side of the tunnel and on the west side of the tunnel
8 would decrease to 127 vehicles and 270 vehicles, respectively, and the length of the
9 vehicle queuing on the eastbound off-ramp on the west side of the tunnel would
10 decrease to 312 vehicles. These queues are longer than those for the three land use
11 alternatives in the FEIS and the previous development plan in the SIR. The increases in
12 queue length would be primarily due to forecasted substantial traffic volume increases
13 under the Current Redevelopment Plan. This would be a significant and mitigable
14 impact.

15 16 **Transportation Impact Analysis for the Proposed Yerba Buena Island Ramp** 17 **Modifications**

18 The San Francisco County Transportation Authority (SFCTA) and Caltrans are currently
19 evaluating alternatives proposed to reconstruct the westbound on- and off-ramps on the
20 east side of the tunnel. Caltrans, as part of the already-approved and under construction
21 replacement of the East Span of the SFOBB, will reconstruct the eastbound on-ramp and
22 make minor modifications to the eastbound off-ramp on the east side of the tunnel. Both
23 the improvements being constructed by Caltrans as part of the East Span project and the
24 SFCTA-proposed improvements to the westbound on- and off-ramps would tie-in with
25 the new East Span.

26
27 Neither ramp on the west side of the tunnel would be modified geometrically.
28 However, as part of the SFCTA-proposed improvements, the westbound on-ramp on the
29 west side of the tunnel would be restricted to transit and emergency vehicle-use only.
30 The westbound on-ramp on the east side of the tunnel would be controlled by ramp
31 metering to meter the flow of traffic onto the westbound SFOBB from the two Islands. A
32 separate bypass lane would be provided for high occupancy vehicles on this ramp.

33
34 Although the SFCTA's proposed reconstruction of the westbound on- and off-ramps is a
35 separate project from the Current Redevelopment Plan, it has implications for the
36 cumulative future traffic operations in 2025, assuming the ramp reconstruction project is
37 completed by this time. The Draft TIS therefore analyzed the Current Redevelopment
38 Plan both with and without implementation of the SFCTA's proposed ramp
39 improvements. Table 7 presents the SFOBB ramp volumes and queue with the
40 proposed Yerba Buena Island ramp modifications.

41
42 The proposed design alternatives would not significantly change the travel speed on the
43 SFOBB mainline operations compared to the travel speed with the existing ramp
44 configurations under the Current Redevelopment Plan. The travel speed on the SFOBB
45 mainline with the ramp modifications is presented in Table 5.
46

1 The length of vehicle queuing on the eastbound off-ramp on the east side of the tunnel
 2 would remain the same as that of the existing ramp configuration.

3
 4 The length of vehicle queuing on the westbound on-ramp on the east side of the tunnel
 5 would increase to 272 vehicles during the AM peak hour and 261 vehicles during the
 6 PM peak hour under the Base Transit Scenario of the Current Redevelopment Plan due
 7 to transit and emergency vehicle only use on the westbound on-ramp on the west side of
 8 the tunnel with the proposed ramp modifications. Under the Expanded Transit
 9 Scenario, the length of vehicle queuing on the westbound on-ramp on the east side of
 10 the tunnel would be 116 vehicles during the AM peak hour and 127 vehicles during the
 11 PM peak hour.

12
 13 **Table 7. Bay Bridge /Interstate-80 Yerba Buena Island Ramp Volumes and Maximum**
 14 **Queue with Ramp modifications Year 2025 Weekday and Weekend Peak Hour**
 15 **Conditions**

Peak Hour/Direction	Current Redevelopment Plan (2010)			
	BASE TRANSIT		EXPANDED TRANSIT	
	VOLUME	QUEUE ³	VOLUME	QUEUE ³
Weekday AM Peak Hour				
Westbound on-ramp ¹ (east side)	962	272	778	116
Westbound on-ramp ² (west side)	10	--	14	--
Westbound off-ramp (east side)	313	--	277	--
Eastbound on-ramp (east side)	293	--	237	--
Eastbound off-ramp (west side)	444	--	367	--
Eastbound off-ramp (east side)	163	--	127	--
Total ramp volumes	2,186		1,801	
Weekday PM Peak Hour				
Westbound on-ramp (east side)	944	261	787	127
Westbound on-ramp (west side)	10	--	17	--
Westbound off-ramp (east side)	475	--	408	--
Eastbound on-ramp (east side)	374	--	327	--
Eastbound off-ramp (west side)	900	400	755	255
Eastbound off-ramp (east side)	366	--	298	--
Total ramp volumes	3,069		2,592	
Weekend Midday Peak Hour				
Westbound on-ramp (east side)	1,205	--	1,047	--
Westbound on-ramp (west side)	10	--	10	--
Westbound off-ramp (east side)	453	--	400	--
Eastbound on-ramp (east side)	384	--	334	--
Eastbound off-ramp (west side)	925	425	812	312
Eastbound off-ramp (east side)	378	--	325	--
Total ramp volumes	3,355		2,928	

16 Notes:

- 17 1 Ramp meters were assumed to allow a peak of 550 vehicles per hour plus the volume HOVs that would use the
 18 bypass lane during weekday peak periods.
 19 2 Ramp converted to transit and emergency vehicle only.
 20 3 Number of vehicles.
 21

1 **Comparisons with Transportation Impact Analysis for the Treasure Island and Yerba**
2 **Buena Island Redevelopment Plan DEIR**

3 *Bay Bridge Traffic Analysis*
4

5 The Draft TIS for the City's in-progress draft EIR used a different methodology,
6 assuming the bridge's approaches meter the volumes on the SFOBB, and that the
7 impacts therefore would be on the approaches in San Francisco and Oakland, rather
8 than on the mainline as analyzed in this SIR Addendum.
9

10 *Westbound Approach* - The Draft TIS shows that the Base Transit Scenario under the
11 Current Redevelopment Plan would increase queues on the SFOBB in the East Bay
12 approach by 471 vehicles in the AM peak hour, and the Expanded Transit Scenario
13 under the Current Redevelopment Plan would increase queues on the SFOBB in the East
14 Bay approach by 442 vehicles in the AM peak hour.
15

16 *Eastbound Approach* - The Draft TIS shows that the Base Transit Scenario under the
17 Current Redevelopment Plan would increase queues on the SFOBB in Downtown San
18 Francisco approach by approximately 523 vehicles in the PM peak hour. Under the
19 Expanded Transit Scenario of the Current Redevelopment Plan would increase queues
20 on the SFOBB in Downtown San Francisco approach by approximately 412 vehicles in
21 the PM peak hour.
22

23 *Ramp Analysis*
24

25 Under the Base Transit Scenario, the Draft TIS shows queues associated with the
26 westbound on-ramp on the east side of the Islands would be approximately one half
27 mile from each of the two westbound on-ramps without the reconstruction of the ramps.
28 With reconstruction of the westbound ramps, queues would reach over one mile on
29 Treasure Island Road to Macalla Road. Under the Expanded Transit Scenario, the Draft
30 TIS shows queues associated with the westbound on-ramp on the east side of the Islands
31 would be approximately 400 feet from each of the two westbound on-ramps during the
32 AM and PM peak hours without the reconstruction of the ramps. With reconstruction of
33 the westbound ramps, queues would extend to a maximum of less than one mile. The
34 SIR Addendum identified that the queue on the westbound on-ramps on the east side of
35 the tunnel and on the west side of the tunnel would be approximately 0.3 mile and 0.9
36 mile, respectively without the reconstruction of the westbound ramps under the Base
37 Transit Scenario. With the reconstruction of the westbound ramps, queues would
38 extend to approximately one mile from the westbound on-ramp on the east side of the
39 tunnel during the AM and PM peak hours. Under the Expanded Transit Scenario, the
40 SIR Addendum shows that the queue on the westbound on-ramp on the west side of the
41 tunnel would be approximately one half mile during the AM and PM peak hours
42 without the reconstruction of the westbound ramps. With the reconstruction of the
43 westbound ramps, queues would be approximately less than one half mile on the
44 westbound on-ramp on the east side of the tunnel during the AM and PM peak hours.
45

1 The SIR Addendum shows that the Current Redevelopment Plan would result in vehicle
2 queues on the eastbound off-ramp on the west side of the tunnel during the PM and
3 weekend midday peak hours that may interfere with the SFOBB mainline traffic
4 circulation. The Draft TIS also shows that the eastbound off-ramp diverge area on the
5 west side of the tunnel would operate at LOS E in the PM and weekend midday peak
6 hours. Therefore, the Draft TIS and the SIR Addendum show generally consistent
7 results.

8
9 It should be noted that the Draft TIS used a different methodology to evaluate vehicle
10 queuing, and the length of vehicle queuing would therefore be slightly different from
11 those analyzed in the SIR Addendum. However, the conclusion is generally consistent.

12 **Conclusions**

14 The traffic analysis shows that traffic volumes and operating conditions on the SFOBB
15 mainlines in 2025 with the Current Redevelopment Plan would not change significantly
16 compared to the findings in the FEIS and the SIR during AM, PM, and weekend midday
17 peak hours, **except the eastbound mainline during the PM peak hour.** The LOS at the
18 eastbound mainline would be degraded from LOS D in the FEIS and the SIR to LOS E
19 during the PM peak hour.

20
21 The vehicle trips generated by the Current Redevelopment Plan would increase ramp
22 volumes and result in increases of the length of queue. However, the traffic analysis
23 would not change significantly compared to the findings in the FEIS and the SIR during
24 AM, PM, and weekend midday peak hours, **except for the westbound on-ramp on the
25 east side of the tunnel during AM, PM, and weekend midday peak hours, and
26 eastbound off-ramp on the west side of the tunnel during the weekend midday peak
27 hour.**

28
29 The SFCTA's proposed reconstruction of the SFOBB westbound ramps on the east side
30 of the Yerba Buena tunnel would not have significant impacts on traffic operations on
31 the Bay Bridge, but it would reduce vehicle queuing at its on- and off-ramps to and from
32 Treasure Island/Yerba Buena Island. This would alleviate some of the queuing issues
33 associated with the reuse of NSTI.

34 *New Significant and Mitigable Impacts Identified in the SIR Addendum*

35
36
37 Impact: The SFOBB eastbound mainline operations (Factor 1). The projected traffic
38 demands during the PM peak hour would cause the I-80 eastbound mainline LOS to
39 deteriorate from LOS D to LOS E. This would be a significant and mitigable impact.

40
41 Impact: Increased volumes and queuing on the SFOBB westbound on-ramp on the east
42 side of the tunnel (Factor 1). The Current Redevelopment Plan would result in traffic
43 volumes that exceed the capacity of the ramp during the AM, PM, and weekend midday
44 peak hours. This would be a significant and mitigable impact.

1 Impact: Increased volumes and queuing on the SFOBB eastbound off-ramp on the west
2 side of the tunnel (Factor 1). The Current Redevelopment Plan would result in traffic
3 volumes that exceed the capacity of the ramp during the weekend midday peak hour.
4 This would be a significant and mitigable impact.

5
6 *Mitigation*

7
8 As noted in the ROD (DoN 2005), DoN cannot exercise control over the property once
9 title has been transferred, and cannot be responsible for implementation of mitigation
10 identified in the FEIS. The following mitigation measure that was identified in the ROD
11 for possible implementation by the entity (or entities) acquiring the property would be
12 applicable for the newly identified significant impacts:

- 13
14 • Traffic volumes should be monitored at each phase of development. If it is
15 determined that traffic from the NSTI is constraining the capacity of the SFOBB,
16 either more aggressive TDM and transit improvements must be implemented or
17 additional developments should be delayed until such improvements are
18 implemented.