### TABLE VII.D.3

**ESTIMATED VEHICULAR EMISSIONS FROM VARIANT 3A TRAFFIC IN 2015**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Project (lb/day)</th>
<th>Variant 3A (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Organic Gases (ROG)</td>
<td>80/a/</td>
<td>865</td>
<td>860</td>
</tr>
<tr>
<td>Nitrogen Oxides (NOₓ)</td>
<td>80/a/</td>
<td>1,324</td>
<td>1,371</td>
</tr>
<tr>
<td>Particulate Matter (PM₁₀)</td>
<td>80/a/</td>
<td>1,968</td>
<td>1,958</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>550/b/</td>
<td>12,228</td>
<td>12,163</td>
</tr>
</tbody>
</table>

**Notes:**

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.

b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

**Source:** EIP Associates. Based on modeling using the California Air Resources Board’s URBEMIS version 5 model.

### TABLE VII.D.4

**ESTIMATED LOCAL CO CONCENTRATIONS AT SELECTED INTERSECTIONS IN 2015 FOR VARIANT 3A**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Proposed Project (ppm)/a/</th>
<th>Variant 3A (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-Hour</td>
<td>Eight-Hour</td>
</tr>
<tr>
<td>Third and 16th Streets</td>
<td>11.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Third and King Streets</td>
<td>13.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Fourth and Bryant Streets</td>
<td>8.3</td>
<td>5.3</td>
</tr>
</tbody>
</table>

**Notes:**

ppm = parts per million.

a. Refer to Table V.F.5 and associated text in “Criteria Air Pollutants” under Section V.F, Air Quality: Impacts.

**Source:** EIP Associates.
VII. Variants to the Proposed Project

D. Variant 3A

- In this variant, the decrease in overall traffic would slightly reduce toxic air contaminant emissions from mobile sources. As under the project, combined emissions of toxic air contaminants would be an unavoidable significant impact.

- Noise and Vibration

- A comparison of the traffic estimated for this variant with that for the proposed project shows that the variant would have traffic volumes similar to or less than the proposed project at all of the noise study locations. The noise levels for one-hour Leq and 24-hour L_t would be substantially the same at all of the locations studied. All other noise and vibration issues discussed in Section V.G, Noise: Impacts, would remain substantially the same with this variant as for the proposed project.

- Seismicity

- The Modified No Berry Street Crossing Variant would not alter the geologic, soils, or seismic conditions in the Project Area and would not, therefore, create associated seismic impacts. However, this variant could create minor emergency access issues because of the somewhat circuitous routes between existing police/fire stations and the mixed-use parcel west of I-280 in Mission Bay North (see discussion of emergency access issues under “Community Services and Utilities,” below). If the fire station is built in Mission Bay South (see Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54), the circuitous routes would still exist for responses from outside the Project Area, but would be eliminated for responses within the Project Area.

- Health and Safety

- There would be only minor changes in the built land use program under this variant. Therefore, no substantive difference in health and safety impacts would occur, except that by not constructing the at-grade crossing at Berry Street, emergency access response times to Mission Bay North could be longer than under the project but shorter than under Variant 3. Potentially, this could hinder responses to emergencies involving hazardous materials. See the discussion of emergency access under “Seismicity,” above, and “Community Services and Utilities,” below.
D. Variant 3A

Contaminated Soils and Groundwater

There would be no substantial differences in the effects of contaminated soils and groundwater in the Project Area under this variant, compared with effects described for the proposed project.

Hydrology and Water Quality

The decrease in sanitary sewage associated with the reduced retail space would reduce, somewhat proportionally, the discharge of treated wastewater to the Bay and the consequential pollutant mass loading attributable to the project. However, impacts and mitigation measures for this variant would be the same as those for the proposed project (see Section V.K, Hydrology and Water Quality: Impacts, and Section VI.K, Mitigation Measures: Hydrology and Water Quality).

Vegetation and Wildlife

This variant would not affect China Basin Channel differently than the proposed project.

Community Services and Utilities

The Modified No Berry Street Crossing Variant could create minor emergency access issues in comparison to the proposed project. Issues would arise from the circuitous routes that police and fire fighting vehicles would need to take, in the absence of the proposed project’s Berry Street crossing, between existing police/fire stations outside the Project Area and the mixed-use parcel west of I-280 in Mission Bay North. The routes under Variant 3A would require a combination turn at the proposed intersection of Seventh Street, Common Street and the Berry Street extension. However, such routes from existing fire stations would be less circuitous under Variant 3A than under Variant 3. The longer emergency response time under Variant 3A in comparison to the proposed project (shorter than under Variant 3) would not be a new significant impact because the Berry Street extension would provide sufficient access, in contrast to the absence of access under Variant 3. This is not considered a new significant impact because the proposed emergency access routes, although slightly circuitous, would not be subject to closure if the Third or Fourth Street Bridges were raised or rendered inoperative (which could cause major delays or eliminate access); therefore the mitigation measure described for Variant 3 under “Seismicity” on p. VII.27, would not be needed for Variant 3A. Further, the issue would be ameliorated if the project’s fire station were built (see Mitigation
Measure H.5 and M.6, pp. VI.38 and VI.54, respectively). The following discussion describes the circuitous nature of the routes and related access issues in more detail.

- As described for Variant 3 on pp. VII.26-VII.29, emergency vehicles would access the mixed-use parcel west of I-280 from the east via two routes: (1) from Fourth Street, and (2) from the south around the west end of China Basin Channel from Seventh and Common Streets. One access route would be from the east on Berry Street from Fourth Street along a pedestrian path. It would allow emergency vehicles to pass through to Fifth Street and onto the mixed-use parcel. Another access route to the mixed-use parcel would be from westbound King Street (no eastbound access is planned) to Berry Street, which would be a two-way through street west of Fifth Street.

- Under Variant 3A, access to and from Seventh Street would be from Common Street along a two-way extension of Berry Street adjacent to the Caltrain tracks. Similarly, access to the residential blocks west of Fifth Street would be limited, but also would be available from King Street by turning left on Fifth Street. No direct emergency access would be available from the north across the Caltrain tracks. Under Variant 3A, fire and ambulance emergency vehicles would negotiate a combination turn off Seventh Street onto Common Street, across a low raised median at the west end of Common Street, and onto the Berry Street extension. Police vehicles might not be able to cross the median, in which case they would need to drive along South Common Street to the roundabout and back along North Common Street to the proposed Berry Street extension. Because of the circuitous nature of the access route to the west end of Mission Bay North, the response time for all emergency vehicles destined for this part of the Project Area would be longer than the proposed project. Compared to the project, the restriction created by the combination turn or the trip through the roundabout could cause delays in emergency access to the mixed-use parcel west of I-280 or to the residential parcels west of Fifth Street. The return route from Berry Street to Seventh Street would be direct for all vehicles.

- First response fire service from Fire Station No. 8 at 36 Bluxome Street, ambulance service from Fire Station No.1 at 676 Howard Street, and police service from Southern Station at 850 Bryant Street would access the mixed-use parcel via Fourth Street (see Figure V.M.1 in Section V.M, Community Services and Utilities). Without alternate routes from the north or west, emergency vehicles would be delayed by any traffic backups on Fourth Street. If first-response fire service (Fire Station No. 8) were not able to respond to a call, the fire service to Mission Bay North would come from Fire Station No. 29 at 299 Vermont Street, located west of the Project Area. Fire trucks traveling from Fire Station No. 29 to the mixed-use parcel west of I-280 would need to travel along Townsend Street to Fourth Street and then west along King Street or the Berry Street emergency access route, or east
on 16th Street to Seventh Street, north to Common Street, across Common Street to the Berry Street extension, and north on the extension to the mixed-use parcel. These somewhat circuitous routes would delay the fire service response time compared to the proposed project.

- Secondary ambulance and police service would come from Fire Station No.17 and the Bayview Station, respectively, which are south of the Project Area. Emergency vehicles from these stations would use Third Street or Seventh Street to access the Project Area. This variant could reduce secondary response time under normal (i.e. non-disaster) emergency conditions by providing an alternate route to Mission Bay North around the west end of China Basin Channel, rather than across the Channel on the Third or Fourth Street Bridges. In the event of a severe earthquake that damaged the bridges crossing the Channel, all emergency access from the south, if it were to be provided by Fire Station No.17, would be along this west-of-Channel route.

- The Berry Street extension proposed in this variant, in contrast to Variant 3, would reduce the emergency access problem. It would improve secondary access when the typical routes along through-streets experience severe congestion. Also, it would provide a less circuitous route for fire trucks from Fire Station No. 29, avoiding the longer route along Townsend Street. Constructing a new fire station in Mission Bay South as proposed in Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54, would eliminate circuitous access routes and the access issues under this Variant 3A.

- Special emergency access issues arise in the aftermath of a damaging earthquake. Debris from older existing buildings nearby could block streets leading to northern access points along Townsend Street, thereby creating delays. The bridges across the Channel may not be passable immediately following a damaging earthquake. In such a situation, a new fire station sited in Mission Bay South to reduce the effects of limited emergency access south of the Channel could be hampered in providing primary or backup capability north of the Channel. The Berry Street extension could provide such access. Primary and backup response also would be available from fire stations at Bluxome Street and at Howard Street, north of the Project Area. The proposed low median near the intersection of Common Street with Berry Street would allow fire vehicles and ambulances sufficient room to make the combination turn from Seventh Street, across Common Street to the Berry Street extension.

- This variant’s reduction of city-serving retail space and increase in Commercial Industrial space would not be large enough to substantially alter demand for other community services analyzed for the project.
VII. Variants to the Proposed Project
D. Variant 3A

Growth Inducement

The small differences in Project Area employment under this variant compared with the proposed project would not result in material differences for cumulative citywide and regional growth.

SUMMARY OF MITIGATION MEASURES

All significant impacts identified for the project would also occur with this variant, and all mitigation measures in Chapter VI, Mitigation Measures, would apply, with the exception that the at-grade rail crossing at Berry Street would not be a feature of the project nor would Mitigation Measures E.20a, E.20b, and E.20c for the intersection of Seventh Street and Berry Street (see p. VI.12). Further, if Variant 3A were adopted, Mitigation Measure E.31b (p. VI.19) for Seventh and Berry Streets would be modified as follows to remove references to left and right turn lanes that would cross the tracks and add turn lanes to the part of Berry Street west of Seventh Street:

Restripe the northbound and southbound approaches to provide a shared left-through left-turn lane and a through lane, and restripe the southbound approach to provide a through lane and a shared right-through lane.

Mitigation Measures E32a and E.32b (p. VI.19) for the intersection of Seventh Street and The Common are proposed features of Variant 3A and therefore are included in the transportation analysis for this variant.

The mitigation measure for the intersection of Fourth and King Streets under this variant would be slightly different from that proposed for the project, in Mitigation Measure E.38 on p. VI.20. It would be the same as that proposed for Variant 3 on p. VII.24. This measure would include an exclusive left-turn lane, one exclusive through lane, a shared right turn/through lane, and an exclusive right-turn lane for the southbound approach to the intersection of Fourth Street. The project mitigation measure identifies one exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane for the southbound approach of Fourth Street at King Street. Implementation of the mitigation measure for the variant would require the same increase in street width as for the proposed project.

Variant 3A includes reconfiguration of Seventh Street at Common Streets, and, in effect, implements Mitigation Measure E.32 identified for the project. In contrast to Variant 3, the intersection of Fifth and King Streets would not be significantly impacted and would not require mitigation under Variant 3A. Other transportation mitigation measures would be the same as those identified for the project.
Because Variant 3A eliminates the significant emergency access impact found in Variant 3, the associated “Emergency Access” mitigation measure described on p. VII.31 would not be required.

E. VARIANT 4: MISSION BAY NORTH RETAIL VARIANT

DESCRIPTION

The Mission Bay North Retail Variant contemplates changing the mix of uses on the two blocks bounded by Townsend, Third, Berry, and Fourth Streets. The “Townsend Street” block is bounded by Townsend Street to the north and King Street to the south. The “King Street” block is bounded by King Street to the north and Berry Street to the south (see Figure III.B.3 for the locations of these blocks in the proposed land use plan). These blocks are in the Mission Bay North Retail land use designation. This variant to the project’s development program proposes that the land uses for these two blocks be reallocated so that the Townsend Street block would include less residential space and more commercial/retail space, and the King Street block would include more residential units and less commercial/retail space. Overall, the total amount of each land use would remain the same in Mission Bay North; each of the two blocks would contain more nearly the same amount of entertainment-oriented commercial and residential land uses. It is assumed that for purposes of analysis that parking for each use would be located in the same blocks as that use.

ENVIRONMENTAL ISSUES

As described below, the Mission Bay North Retail Variant would have the same significant impacts and require the same mitigation measures as identified for the proposed project.

Transportation

The Townsend Street block is more accessible to vehicular traffic than the King Street block because Townsend Street (on the north side of the Townsend Street block) has more capacity than Berry Street (on the south side of the King Street block). This makes the Townsend Street block a more appropriate location for land uses with higher vehicle-trip generation (e.g., retail/commercial land uses), as called for in this variant.
Because the total amount of development and types of land uses would remain the same on these two eastern blocks of Mission Bay North, the overall transportation analysis results for this variant would not be substantially different from those presented for the proposed project in Section V.E, Transportation: Impacts. Localized circulation patterns around the two blocks could change somewhat, depending on the locations and amounts of parking. Delays at Fourth and King Streets might increase slightly, although it is not expected that the LOS E assessed for the project under 2015 cumulative conditions would degrade to LOS F with the variant. Third and King Streets might improve slightly, although the LOS F analyzed for the project with 2015 cumulative traffic would not improve to LOS E under this variant. The precise delays at surrounding intersections would depend in part on the locations of parking garage entrances and exits on the two blocks and the precise amounts of parking provided on each block.

Other Topics

Impact analysis for all environmental topics except transportation is essentially the same for Variant 4 as for the proposed project.

Changes in the distribution of traffic resulting from this variant compared to the project would result in minor local changes in foreseeable noise levels and air emissions from mobile sources. However, the nature of the noise and air quality effects would be the same as for the project, and the total increase in air emissions also would be the same.

SUMMARY OF MITIGATION MEASURES

The significant impacts of this variant are the same as those of the project. No additional mitigation measures have been identified.
F. VARIANT 5: CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL/RETAIL VARIANT (CASTLE METALS BLOCK VARIANT)

DESCRIPTION

The Castle Metals Block Variant would change the proposed land use designation on the entire block bounded by 16th, Third, and Mariposa Streets, and the proposed Fourth Street. As shown in Figure III.B.3, p. III.9, and Figure V.A.6, p. V.A.30, the project proposes two land use designations on the Castle Metals Block: 1) Commercial Industrial in the area fronting 16th Street and the proposed Fourth Street alignment, and 2) Mission Bay South Retail in the other area fronting Third Street and Mariposa Streets. As shown in Figure VII.F.1, the Castle Metals Block Variant proposes one land use designation for the entire block: Commercial Industrial/Retail.

This variant also would change the allowable development program for the Castle Metals Block. The proposed project would permit up to 366,000 gross sq. ft. of Commercial Industrial, 310,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses on the block. The variant would permit up to 964,000 gross sq. ft. of Commercial Industrial, 50,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses on the block. The variant would not change the amount of allowable neighborhood-serving retail uses.

The variant assumes the following development program for the areas shown in Figure VII.F.1. For the area at 1900 Third Street bounded by Third Street and Mariposa Street, the project proposes 310,000 gross sq. ft. of city-serving retail while the variant assumes development of up to 560,000 gross sq. ft. of Commercial Industrial and 50,000 gross sq. ft. of city-serving retail. For the three parcels at the northeastern end of the block at the intersection of Third Street and 16th Street, this variant assumes development of up to 44,000 gross sq. ft. of Commercial Industrial uses. For the rest of the block (fronting the proposed Fourth Street) the project proposes 366,000 gross sq. ft. of Commercial Industrial uses and 3,200 gross sq. ft. of neighborhood-serving retail uses, and the variant proposes the same.
MISSION BAY SOUTH REDEVELOPMENT AREA

PROPOSED CHANGE IN LAND USE DESIGNATIONS

PROPOSED HEIGHT ZONES FOR VARIANT

NOTE: See Figure VII.F.1 for additional detail on height zones.
As with the proposed project, the principal land uses within the Commercial Industrial/Retail designation under the variant include light manufacturing, wholesaling, and offices, as well as retail and personal services. This variant assumes 50% of the commercial industrial uses within the Commercial Industrial/Retail land use designation would be light industrial or research and development, while 50% would be office, the same mix as under the project.

Under this variant, total Commercial Industrial development for the project as a whole would increase by about 11% (6,161,000 gross sq. ft. under the variant, compared to 5,557,000 gross sq. ft. under the project), while total city-serving retail development would decline 32% to 545,000 gross sq. ft., compared to 805,000 gross sq. ft. under the project.

In addition, this variant would create a new height zone as shown in Figure VII.F.1, for the area fronting on Third and Mariposa Streets. The new height zone would allow development of up to 90 feet in height on 90% of the area and a tower of up to 160 feet in height on 10% of the area. The rest of the block would remain in Height Zone 6. The creation of the new height zone would add one allowable new tower to Mission Bay South in comparison to the proposed project. The new height zone would be HZ-8; the height zone covering UCSF would be renumbered HZ-9.

The primary vehicular access to the Castle Metals block would be from the proposed Fourth Street. Secondary access would be from Mariposa and 16th Streets.

**ENVIRONMENTAL ISSUES**

As described below, the Castle Metals Block Variant would have the same significant impacts and require the same mitigation measures as the proposed project.

**Plans, Policies, and Permits**

This variant would expand the area to be designated Commercial Industrial/Retail and reduce the area to be designated Mission Bay South Retail in the proposed Mission Bay South Redevelopment Plan. All other implications regarding plans, policies, and permits would be substantially the same as the proposed project.
VII. Variants to the Proposed Project
F. Variant 5

Land Use

The variant would increase the amount of Commercial Industrial uses in Mission Bay South, but would not introduce any uses not already proposed for the project. This variant would increase the developable area of land uses proposed in the West Subarea of the Project Area, but would not change the type. As with the project, Commercial Industrial uses in this portion of the Project Area generally would be compatible with other proposed project uses and with existing uses in the adjoining areas. The decrease in the amount of city-serving retail space in this portion of the Project Area would not substantially affect other proposed project uses or existing uses in adjoining areas.

Business Activity, Employment, Housing, and Population

This variant would have more Commercial Industrial development and less city-serving retail development than the proposed project. Those differences in the types of building space in the West Subarea change estimates of Project Area employment. Compared to the proposed project, there would be about 750 fewer city-serving retail jobs, about 960 more office jobs, and about 700 more research and development or light industrial jobs. Overall, there would be about 910 more jobs in the Project Area under the Castle Metals variant. This would be 11% more jobs for the West Subarea and 3% more jobs for the Project Area overall.

The differences in building development and employment would not be large enough to make a difference in the conclusions made for the proposed project. Because there would be somewhat greater Project Area jobs and the same number of Project Area housing units, there would be more Project Area housing demand relative to supply with this variant than would be the case with the proposed project. Although relatively small, this variant's slight increase in the housing supply deficit could result in somewhat greater housing market impacts with the variant compared to the proposed project. As with the project, the variant housing demand would not be a significant effect under CEQA. However, the Mission Bay South Redevelopment Plan, Section 304.10, “Fees and Exactions: Parcels X2, X3 and X4,” stipulates that all standard city fees and exactions would apply to the private property other than properties owned by Catellus, except as provided in an owner participation agreement when the public benefits exceed those of the City’s standard fees or exactions. The City’s OAHPP, or a housing exaction of equivalent or greater benefit, would apply to office development on the non-Catellus owned property on the Castle Metals block. Therefore, some additional housing supply would be forthcoming.
With a lesser amount of city-serving retail development in the Project Area, it would be more likely that other city-serving retail space would be developed in suitable locations of Nearby Areas to the south and west. Because there would still be substantial retail development elsewhere in the Project Area, the difference in impacts on development patterns between the Castle Metals Variant and the proposed project would be relatively small.

Visual Quality and Urban Design

Under this variant, views of the Castle Metals block bounded by Third Street and Mariposa Street would change from the proposed project's views of retail uses to views of office, light industrial, or research and development land uses. In contrast to the proposed project's height limit of 90 feet on the Castle Metals site, the new height zone would permit buildings up to 90 feet in height for 90% of the developable area and up to 160 feet in height for 10% of the developable area, allowing one additional tower (see "Description," above). As a result of the variant's change in type and height of land uses, views could be of more intense development with the variant than with the project.

Figure VII.F.2 schematically illustrates existing and potential views under the proposed project looking northwest from Third Street at 18th Street toward the southern Project Area boundary, from the perspective of the motorist or pedestrian. Similarly, Figure VII.F.3 schematically illustrates the same existing and potential views under this variant. The view does not illustrate the proposed extension of MUNI Metro light rail vehicle service in the Third Street median. As shown in the figures, foreground and street-level views with the variant would be dominated by mid- to high-rise buildings (extending up to 160 feet at certain locations). Views of the area are local, with none of the downtown. Views of development would partially obscure views of open sky presently available at this view point, thereby focusing more attention on the proposed development. Although new development would alter the scale and character of the area, as with the proposed project, this variant would not create any significant visual impacts because important scenic views from public areas would not be substantially degraded or obstructed.

Transportation

The land uses in Variant 5 would generate approximately 1,320 fewer person trips than would the project during the p.m. peak hour, because city-serving retail generates a larger number of trips per unit area than the mix of uses proposed under this variant. In addition, a smaller portion of these
Top: Existing View Northwest from Third Street at 18th Street
Bottom: Potential View Northwest from Third Street at 18th Street with proposed project.

SOURCE: Square One Productions
NOTE: The visual simulation illustrates general height and massing permitted under the variant, but does not necessarily represent maximum development at any particular location nor specific architecture or urban design.
Top: Existing View Northwest from Third Street at 18th Street
Bottom: Potential View Northwest from Third Street at 18th Street with Variant 5.

SOURCE: Square One Productions
NOTE: The visual simulation illustrates general height and massing permitted under the variant, but does not necessarily represent maximum development at any particular location nor specific architecture or urban design.

MISSION BAY SUBSEQUENT EIR

*FIGURE VII.F.3* CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL/RETAIL VARIANT: EXISTING AND POTENTIAL NORTHWEST VIEWS FROM THIRD STREET AT 18TH STREET
person-trips would be made by automobile compared to the mode split of project land uses. Thus, Variant 5 would create about 570 fewer automobile trips during the p.m. peak hour. Table VII.F.1 compares the p.m. peak hour trip generation of Variant 5 to that of the project.

- The smaller number of automobiles in the Mission Bay street network suggests that traffic and parking conditions would be slightly better under the variant compared with the proposed project. The total parking demand for Mission Bay under Variant 5 would be approximately 580 fewer spaces, or approximately 2% less than that estimated for the project. Table VII.F.2 compares some key intersection levels of service (LOS) under the variant with those of the project in the vicinity of the 1900 Third Street site. Operation of four of the seven intersections near the 1900 Third Street site would improve to some extent, with one intersection experiencing an improvement in level of service. No intersections projected to operate at LOS E or LOS F would improve to an acceptable level of service under the variant. This variant does not reduce impacts identified under the project below the level of significance.

- The number of both inbound and outbound vehicle trips and inbound transit trips generated by the variant would be less than that created by the project, but the office, research and development, and city-serving retail uses would create approximately 50 more outbound total transit trips, 11 more inbound bicycle and pedestrian trips, and about 118 more outbound bicycle and pedestrian trips than the proposed project during the p.m. peak hour. The increase in non-automobile trips under this variant is far less than the relative decrease in automobile trips. The bicycle and pedestrian network would be able to accommodate the additional trips produced under this variant. The additional outbound transit trips created by these land uses represent less than a 1% increase compared to the total project. Some would use MUNI to travel to city locations, most would travel to the East Bay and South Bay; many of these additional transit riders would use MUNI to reach their primary transit carrier. Caltrain would have sufficient capacity to carry the individuals destined for the South Bay, and all of the additional East Bay passengers could be accommodated on BART with a less than 0.2% increase in the p.m. peak hour load factor compared with that for the project. The impact of the additional outbound transit trips would increase the load factor on Third Street light rail in the northbound direction in the vicinity of Mission Bay from 77% to 83%, but this would not be a significant impact. The load factor on Third Street light rail in the southbound direction would decrease slightly from 84% to 82%.

- Air Quality

- As described below, the Castle Metals Variant would have the same significant air quality impacts and require the same air quality mitigation measures as the proposed project. The change in land use
### TABLE VII.F.1
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
VARIANT 5 COMPARED WITH PROJECT

<table>
<thead>
<tr>
<th>Area</th>
<th>Variant 5</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>11,030</td>
<td>11,030</td>
<td>0</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>21,150</td>
<td>22,470</td>
<td>-1,320</td>
</tr>
<tr>
<td>Total</td>
<td>32,180</td>
<td>33,500</td>
<td>-1,320</td>
</tr>
</tbody>
</table>

*Source: Wilbur Smith Associates*

### TABLE VII.F.2
YEAR 2015 INTERSECTION LEVEL OF SERVICE COMPARISON
VARIANT 5 COMPARED WITH PROJECT

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Project</th>
<th>Variant 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delay (sec/veh)</td>
<td>LOS</td>
</tr>
<tr>
<td>16th and Seventh Streets</td>
<td>32.2</td>
<td>D</td>
</tr>
<tr>
<td>16th and Fourth Streets</td>
<td>29.2</td>
<td>D</td>
</tr>
<tr>
<td>16th and Third Streets</td>
<td>25.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa and I-280 on-ramp</td>
<td>16.6</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa and I-280 off-ramp/Owens Street</td>
<td>35.9</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa and Fourth Streets</td>
<td>13.6</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa and Third Streets</td>
<td>23.7</td>
<td>C</td>
</tr>
</tbody>
</table>

*Source: Wilbur Smith Associates*
under Variant 5 would slightly alter traffic patterns and the number of vehicle trips in and around the Project Area. Vehicular emissions would be reduced by 5%, compared with those of the proposed project. As shown in Table VII.F.3, vehicular emissions of ROG, NO\textsubscript{x}, and PM\textsubscript{10} would exceed the BAAQMD significance thresholds for regional air quality impacts. Trip reduction measures discussed in Mitigation Measure E.47 in Section VI.E, Transportation, would not reduce emissions of criteria pollutants below these BAAQMD significance thresholds. Therefore, as under the project, these vehicular emissions would be an unavoidable significant regional air quality impact.

- Due to the level of carbon monoxide emissions expected, three of the 13 intersections modeled for the proposed project were selected for analysis for this variant. The CO concentrations would be slightly lower for the variant than for the project (see Table VII.F.4).

- In this variant, the decrease in overall traffic would slightly reduce toxic air contaminant emissions from mobile sources. Toxic air contaminants, such as various organic solvents associated with research and development and light manufacturing operations, would increase. The variant might result in about 11% more emissions of toxic air contaminants from stationary sources than the proposed project, due to the increase in research and development and light industrial uses under the variant. As under the project, combined emissions of toxic air contaminants would be an unavoidable significant impact.

- **Noise and Vibration**

  - A comparison of the traffic estimated for this variant with that for the proposed project shows that the variant would have traffic volumes similar to or less than the proposed project at all of the noise study locations. The noise levels for one-hour L\textsub{eq} and 24-hour L\textsub{dn} would be substantially the same at all of the locations studied. All other noise and vibration issues discussed in Section V.G, Noise: Impacts, would remain substantially the same with this variant as for the proposed project.

- **Seismicity**

  - The modification of the land use on the Castle Metals site under this variant would not alter the geologic, soils, or seismic conditions in the Project Area. The seismic hazards and potential effects that would occur in Mission Bay South would be similar to those discussed for the proposed project. The concentration of employees in an area designated as seismically hazardous would be somewhat higher on this specific site under the variant than under the project as proposed, but would not result in any new significant impacts or require additional mitigation.
### TABLE VII.F.3

**ESTIMATED VEHICULAR EMISSIONS FROM VARIANT 5 TRAFFIC IN 2015**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Project (lb/day)</th>
<th>Variant 5 (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Organic Gases (ROG)/a/</td>
<td>80</td>
<td>865</td>
<td>830</td>
</tr>
<tr>
<td>Nitrogen Oxides (NOx)/a/</td>
<td>80</td>
<td>1,324</td>
<td>1,270</td>
</tr>
<tr>
<td>Particulate Matter (PM&lt;sub&gt;10&lt;/sub&gt;)&lt;sup&gt;a&lt;/sup&gt;/</td>
<td>80</td>
<td>1,968</td>
<td>1,889</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)/b/</td>
<td>550</td>
<td>12,228</td>
<td>11,738</td>
</tr>
</tbody>
</table>

**Notes:**

- **a.** The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
- **b.** For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis (see text).

**Source:** EIP Associates. Based on modeling using the California Air Resources Board’s URBEMIS model, version 5.

### TABLE VII.F.4

**ESTIMATED LOCAL CO CONCENTRATIONS AT SELECTED INTERSECTIONS IN 2015 FOR VARIANT 5**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Proposed Project (ppm)/a/</th>
<th>Variant 5 (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-Hour</td>
<td>Eight-Hour</td>
</tr>
<tr>
<td>Third and 16th Streets</td>
<td>11.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Third and King Streets</td>
<td>13.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Fourth and Bryant Streets</td>
<td>8.3</td>
<td>5.3</td>
</tr>
</tbody>
</table>

**Notes:**

- ppm = parts per million.
- **a.** Refer to Table V.F.5 and associated text in “Criteria Air Pollutants” under Section V.F, Air Quality: Impacts.

**Source:** EIP Associates.
VI. Variants to the Proposed Project

F. Variant 5

- **Health and Safety**

  This variant would increase the amount of Commercial Industrial space for the project as a whole by about 11%; therefore, hazardous materials quantities estimated for Commercial Industrial activities in “Estimated Hazardous Materials Quantities,” under “Hazardous Materials Use, Storage, and Disposal,” in Section V.I, Health and Safety: Impacts, would be about 11% greater. This could result in a roughly proportional increase in the magnitude of environmental impacts related to handling biohazardous materials, handling materials that pose substantial hazards of release or explosions, and generating hazardous wastes. With the reduction in retail space, there would be a reduction in hazardous waste associated with retail activities. The nature of these environmental impacts would be essentially the same as with the project, and, as with the project, would be reduced to a level of insignificance if the mitigation measures proposed for the project were implemented.

- **Contaminated Soils and Groundwater**

  The 1900 Third Street site is discussed in Section V.J, Contaminated Soils and Groundwater, on p. V.J.40. As noted there, three site assessments have been performed for the Castle Metals site. These assessments show that underground storage tanks have been removed from the site, that soil samples from the site show the presence of metals and petroleum hydrocarbons, and that no specific potential off-site sources of contamination were identified. The assessments recommended no immediate action with regard to potential soil contamination and noted that the provisions of Article 20 of the San Francisco Public Works Code would apply to any actions disturbing more than 50 cubic yards of soil.

  This variant would not change the results of the impacts analysis in Section V.J, Contaminated Soils and Groundwater in the SEIR, nor would it suggest that additional analysis should be carried out to account for the proposed change in use on the 1900 Third Street site. In summary, the analysis assumes that prior to development the property owner or developer for the 1900 Third Street site, as for all other sites in the Project Area, would prepare a Risk Management Plan or Plans (RMP) that would include measures to reduce any risks that might result from construction or from occupation and use of the sites. Various measures proposed to be included in the Risk Management Plan or Plans are listed in Section VI.J, Mitigation Measures: Contaminated Soils and Groundwater, on pp. VI.41-VI.45. Also, Article 20, Section 1000, et seq., of the San Francisco Public Works Code would apply to the 1900 Third Street site, as it would to the remainder of the Project Area (see p. V.J.51), and its implementation would be coordinated with implementation of the RMP.
VII. Variants to the Proposed Project

F. Variant

Hydrology and Water Quality

The additional Commercial Industrial floor area and reduced retail space under this variant would have minor effects on the range and degree of hydrology and water quality impacts described for the proposed project. The increase in Commercial Industrial space could increase the potential discharge of pollutants in wastewater associated with light industry, research and development, or similar activities. Similarly, the decrease in city-serving retail could decrease the discharge of pollutants associated with retail activities. The effects would be similar to those of the proposed project described in “Quality of Municipal Wastewater From the Project” and in “Evaluation of Potential Water Quality Impacts” in Section V.K, Hydrology and Water Quality: Impacts, and would require the same mitigation measures.

Vegetation and Wildlife

The changes in use on the Castle Metals site under the variant would not substantially alter the effects on the Channel or the Bay for the proposed project, as presented in Section V.L, China Basin Channel Vegetation and Wildlife: Impacts, and would require the same mitigation measures.

Community Services and Utilities

This variant would accommodate approximately 910 or 3% more jobs than the nearly 30,000 jobs forecast under the proposed project. An increase in projected employment of this size, and the changes in amount and type of use associated with this variant, would not cause an appreciable change in estimated project demand for community services or utilities or require additional mitigation.

Growth Inducement

The variant would create a small difference in potential development patterns for city-serving retail in Nearby Areas; more city-serving retail space would be expected to be developed in suitable locations of Nearby Areas to the south and west. Overall, the difference in Project Area jobs and in jobs/housing outcomes would not be substantial enough to result in different conclusions about the growth inducement implications of this variant compared with the proposed project. There would be no difference in cumulative citywide or regional growth.
SUMMARY OF MITIGATION MEASURES

- The significant impacts of this variant would be the same as those of the project. No additional mitigation measures have been identified.

G. COMBINATION OF VARIANTS CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS

INTRODUCTION

The project sponsors are considering a combination of variants to the proposed project. This combination evolved from responses to public comments and from refinements to the project made by the project sponsors since publication of the Draft SEIR. The project with the variants under consideration by the project sponsors would be similar to the proposed project without those variants. The purpose of this section is twofold: 1) to present in one place for ease of reference both the land use program currently under consideration by the project sponsors and the assessment of its environmental effects; and 2) to determine if there would be any new impacts and if additional mitigation measures would be required.

DESCRIPTION

The combination of variants currently under consideration by the project sponsors includes a variant from the SEIR, two modified SEIR variants, and a new variant, as follows:

- Variant 1: Terry A. François Boulevard Variant/Expanded Bayshore Open Space Proposal (see p. VII.2 regarding this variant).
- Variant 2: Esprit Commercial Industrial/Retail Variant (see p. VII.12).
- Variant 3A: Modified No Berry Street Crossing Variant (see p. VII.31).
- Variant 5: Castle Metals Block Commercial Industrial/Retail Variant (see p. VII.33).
In summary, this combination of variants would be the same as the proposed project except for the following elements:

- The Terry A. Francois Boulevard would be realigned to the west to allow development of open space to the east closer to the San Francisco Bay. This Project Area open space would be integrated with open space to be developed by Cater on 2 acres of adjacent port property outside the proposed Mission Bay South Redevelopment Area to create an expanded bayfront open space. A small commercial building would be permitted within the Project Area’s open space to the east of Terry A. Francois Boulevard. Its anticipated use is recreation-oriented retail services that could include some restaurant uses (Variant 1 noted above).

- There would be no roadway crossing of the railroad tracks at Berry Street. Berry Street would be extended south to Common Street, and the retail space in the northwestern-most block of the Project Area would be reduced by 50% (Variant 3A noted above).

- The Mission Bay South Retail land use designation would be eliminated. The land use designation proposed for the Esprit site and the Castle Metals block would be changed to Commercial Industrial/Retail (Variants 2 and 5 noted above).

Figure VII.G.1 presents a land use designation map for the proposed project incorporating this combination of variants as summarized in the following discussion. (This map is also shown on the inside front cover.) Under this combination of variants, the alignment of Terry A. Francois Boulevard would be moved west, away from the Bay, and the proposed Project Area open space would be shifted east. Further, the Project Area open space would be integrated with the development of 2 acres of open space outside of the Project Area on the adjacent port property to create an expanded bayshore open space. A small commercial building (15,000 gross sq. ft.) would be allowed within the Project Area’s open space to the east of Terry A. Francois Boulevard. Its anticipated use is recreation-oriented retail services that could involve restaurant use.

This combination of variants would eliminate the at-grade railroad crossing at Berry Street proposed in the project. To address the reduced access to the northwestern part of the Project Area, this combination of variants would add a new two-lane section of roadway extending Berry Street around the western end of China Basin Channel to connect with Common Street. The connection of Berry Street with Common Street would link east/west access to the northwestern section of the Project Area. However, the Berry Street extension would not fully compensate for the elimination of the Berry Street crossing of the railroad tracks. As a result, this combination of variants, compared to the project, would still reduce access to Mission Bay North from the west.

Due to the reduced access to the northwestern-most block fronting on Berry Street between Sixth and Seventh Streets, west of I-280 King Street ramps and east of the Caltrain tracks, the city-serving retail development anticipated for that block would be reduced 50%: from 222,000 gross sq. ft. under the proposed project to 111,000 gross sq. ft. under this combination of variants.
MISSION BAY SOUTH REDEVELOPMENT AREA

EXISTING CALTRAM RIGHT-OF-WAY

DIVISION

SIXTEENTH

SIXTEENTH

MISSION BAY OPEN SPACE

allows recreation-serving retail building east of Terry A. Francois Blvd.

MISSION BAY PUBLIC FACILITIES

ADDITIONAL BAYFRONT OPEN SPACE (PORT PROPERTY)

PROPOSED BOUNDARIES OF MISSION BAY REDEVELOPMENT AREAS

COMBINATION OF PROJECT FEATURES AND VARIANTS CURRENTLY UNDER CONSIDERATION

SOURCE San Francisco Redevelopment Agency

MISSION BAY SUBSEQUENT EIR

FIGURE VII.G.1 COMBINATION OF PROJECT FEATURES AND VARIANTS CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS
VII. Variants to the Proposed Project

G. Combination of Variants

- This combination of variants would eliminate the Mission Bay South Retail land use designation on the Esprit site and the Castle Metals block, and would change those areas so designated to Commercial Industrial/Retail.

- Finally, this combination of variants would create a new Height Zone for a portion of the block also containing 1900 Third Street fronting on Mariposa and Third Streets. The new Height Zone would allow development of up to 90 feet in height on 90% of the developable area and a tower of up to 160 feet in height on 10% of the developable area. The rest of the block would remain in Height Zone 6. The creation of the new Height Zone would add one more allowable new tower to Mission Bay South compared to the 16 towers allowed under the proposed project.

- Table VII.G.1 summarizes land use with the combination of variants and the resulting project totals. Table VII.G.2 summarizes the Redevelopment Plan land use designations with the project and the combination of variants. As shown in these tables, adoption of the project with this combination of variants would result in about 6,621,000 square feet of commercial industrial/office space, about 1,064,000 square feet more than the project; 239,000 square feet of city-serving retail space, about 566,000 square feet less than the project, and 47 acres of public open space, with the associated development of approximately 2 more acres on adjacent port property to create an expanded bayfront open space area. Other land use totals would not be different from the project.

- If the Combination of Variants (including Variant 2, regarding the Esprit parcel and Variant 5, for the Castle Metals block) were adopted, land use designations for Esprit and the Castle Metals block would be changed in the Redevelopment Plan for Mission Bay South and the land use program in Mission Bay North would be changed. Similarly, the objectives in the Redevelopment Plans for Mission Bay South and Mission Bay North would be expected to change to reflect the maximum development assuming the Combination of Variants Currently under Consideration by the Project Sponsors. Therefore, objective H listed on p. III.7 in “Project Sponsors and Their Objectives” would be revised to read:

   H. Strengthening the economic base of the Project Area and the community by strengthening retail and other commercial functions in the Project Area through the addition of approximately 1.5 million 941,000 gross sq. ft. of retail space, a major hotel, and about 5,557,000 6,621,000 gross sq. ft. of mixed office, research and development, and light manufacturing uses.

- ENVIRONMENTAL ISSUES

- The environmental effects of this combination of variants under consideration by the project sponsors would be similar to those of the proposed project (see the impacts subsection for each environmental topic in Chapter V, and the respective subsection for each topic in Chapter VI, Mitigation Measures). This combination of variants’ minor differences from the project’s effects are described in Chapter
### TABLE VII.G.1 ●
**SUMMARY OF PROPOSED DEVELOPMENT BY LAND USE /a/**
**PROJECT WITH COMBINATION OF VARIANTS**
**CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Mission Bay North Redevelopment Area</th>
<th>Mission Bay South Redevelopment Area</th>
<th>Grand Total /b/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (dwelling units)</td>
<td>3,000</td>
<td>3,090</td>
<td>6,090/c/</td>
</tr>
<tr>
<td>Commercial Industrial and Office (gross sq. ft.)</td>
<td>0</td>
<td>6,621,000</td>
<td>6,621,000</td>
</tr>
<tr>
<td>UCSF (gross sq. ft.)</td>
<td>0</td>
<td>2,650,000</td>
<td>2,650,000</td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entertainment-Oriented Retail (gross sq. ft.)</td>
<td>389,000</td>
<td>56,000</td>
<td>445,000</td>
</tr>
<tr>
<td>City-Serving Retail (gross sq. ft.)</td>
<td>111,000</td>
<td>128,000</td>
<td>239,000</td>
</tr>
<tr>
<td>Neighborhood-Serving Retail (gross sq. ft.)</td>
<td>56,000</td>
<td>201,000</td>
<td>257,000</td>
</tr>
<tr>
<td>Hotel (rooms)</td>
<td>0</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Public Open Space (acres)/d/</td>
<td>6</td>
<td>41/e/</td>
<td>47</td>
</tr>
<tr>
<td>Public Facilities (acres)</td>
<td>1.5 /f/</td>
<td>3.7/g/</td>
<td>5.2</td>
</tr>
</tbody>
</table>

**Notes:**

a. Parking is not included in the gross square footage totals given for each land use. Maximum parking allowances are outlined in this section under “Parking and Loading” under “Redevelopment Plans and Proposed Land Uses,” and are discussed in Table V.E.17 and “Parking Impacts” in Section V.E, Transportation: Impacts, pp. V.E.95-V.E.101.

b. The conceptual agreements between the City and Catellus do not cover those portions of the proposed Redevelopment Areas not owned by Catellus. The components of the proposed development program summarized in the Grand Total that are not on land owned by Catellus consist of 90 dwelling units along Third Street, 604,000 gross sq. ft. of commercial/industrial and 50,000 gross sq. ft. of City-serving retail on the Castle Metals site, and 460,000 gross sq. ft. of commercial/industrial/retail and 40,000 City-serving retail on the Esprit site.

The changes from the proposed project include the reduction of 111,000 gross sq. ft. of city-serving retail in Mission Bay North and 455,000 gross sq. ft. in Mission Bay South, for a total reduction of 566,000 gross sq. ft.; the addition of 1,064,000 gross sq. ft. of Commercial Industrial and Office space in Mission Bay South; and the addition of the 15,000-gross-sq.-ft. commercial building in the open space near Pier 64.

c. Of the 3,000 dwelling units north of the Channel, 20% would be affordable units. Of the 3,090 dwelling units south of the Channel, the Redevelopment Agency would seek non-profit developers to build approximately 1,100 affordable units, i.e., 37%.

d. Additionally, approximately 2 more acres of public open space would be developed by Catellus on adjacent port property outside of the Project Area as an expanded bayfront open space area.

e. The 41 acres of public open space in Mission Bay South includes about 8 acres of open space on the proposed UCSF site.

f. The existing Channel Pump Station in Mission Bay North is on about 1.5 acres; the site is not proposed for redevelopment.

g. In addition to the acreages shown in the tables, land under the I-280 elevated freeway that is not otherwise designated Public Open Space would be designated Public Facilities.

**Source:** Catellus Development Corporation and San Francisco Redevelopment Agency.
### TABLE VII.G.2

**PROJECT WITH COMBINATION OF VARIANTS**

<table>
<thead>
<tr>
<th>Land Use Designation</th>
<th>Mission Bay North Redevelopment Area</th>
<th>Mission Bay South Redevelopment Area</th>
<th>Grand Total/b/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mission Bay Residential</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dwelling Units/c/</td>
<td>1,920</td>
<td>3,090/b/</td>
<td>5,010</td>
</tr>
<tr>
<td>Neighborhood-serving Retail (gross sq. ft.)</td>
<td>56,000</td>
<td>111,000</td>
<td>167,000</td>
</tr>
<tr>
<td><strong>Mission Bay North Retail</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entertainment-oriented Commercial (gross sq. ft.)</td>
<td>389,000</td>
<td>0</td>
<td>389,000</td>
</tr>
<tr>
<td>City-serving Retail (gross sq. ft.)/d/</td>
<td>111,000</td>
<td>0</td>
<td>111,000</td>
</tr>
<tr>
<td>Dwelling Units /c/</td>
<td>1,080</td>
<td>0</td>
<td>1,080</td>
</tr>
<tr>
<td><strong>Hotel</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel (rooms)</td>
<td>0</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Entertainment-oriented Commercial (gross sq. ft.)</td>
<td>0</td>
<td>56,000</td>
<td>56,000</td>
</tr>
<tr>
<td><strong>UCSF Site/e/</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCSF uses (gross sq. ft.)</td>
<td>0</td>
<td>2,650,000</td>
<td>2,650,000</td>
</tr>
<tr>
<td>City School Site (acres)</td>
<td>0</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Open Space (acres)</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Commercial Industrial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Industrial (gross sq. ft.)</td>
<td>0</td>
<td>4,163,000</td>
<td>4,163,000</td>
</tr>
<tr>
<td>Neighborhood-serving Retail (gross sq. ft.)</td>
<td>0</td>
<td>58,400</td>
<td>58,400</td>
</tr>
<tr>
<td><strong>Commercial Industrial / Retail</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Industrial (gross sq. ft.)/d/</td>
<td>0</td>
<td>2,458,000</td>
<td>2,458,000</td>
</tr>
<tr>
<td>Neighborhood-serving Retail (gross sq. ft.)</td>
<td>0</td>
<td>31,600</td>
<td>31,600</td>
</tr>
<tr>
<td>City-serving Retail (gross sq. ft.)/d/</td>
<td>0</td>
<td>128,000</td>
<td>128,000</td>
</tr>
<tr>
<td><strong>Mission Bay South Retail /d/</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City-serving Retail (gross sq. ft.)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Public Facilities (acres, excluding City school site) /g/</strong></td>
<td>1.5 /fi</td>
<td>1.5</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Public Open Space (acres, excluding UCSF)/h/</strong></td>
<td>6</td>
<td>33</td>
<td>39</td>
</tr>
</tbody>
</table>

**Notes:**

- **a.** The locations of the proposed land use designations are shown in Figure VII.G.1. Parking is not included in the gross square footage totals given for each land use. Maximum parking allowances are outlined in this section in “Parking and Loading,” under “Redevelopment Plans and Proposed Land Uses,” and are discussed in Table V.E.17 and “Parking Impacts” in Section V.E, Transportation: Impacts.
- **b.** The conceptual agreements between the City and Catellus do not cover portions of the proposed Redevelopment Areas not owned by Catellus. The components of the proposed development program summarized in the Grand Total that are not on land owned by Catellus consist of 90 dwelling units along Third Street, 560,000 gross sq. ft. of Commercial Industrial and 50,000 gross sq. ft. of city-serving retail on the Castle Metals site, 44,000 gross sq. ft. of Commercial Industrial on the three small parcels at the northeastern corner of the Castle Metals site, and 460,000 gross sq. ft. of Commercial Industrial and 40,000 gross sq. ft. of city-serving retail on the Esprit site.
- **c.** Of the 3,000 dwelling units north of the Channel, 20% would be affordable units. Of the 3,090 dwelling units south of the Channel, the Redevelopment Agency would select developers to build approximately 1,100 affordable units.
- **d.** The changes from the project in gross floor area would be as follows: a reduction of 111,000 gross sq. ft. in Mission Bay North City Serving Retail; the addition of 1,169,000 gross sq. ft. of Commercial Industrial/Retail, of which 1,064,000 gross sq. ft. would be Commercial Industrial and 105,000 gross sq. ft. would be Retail; and the reduction of 560,000 gross sq. ft. of Mission Bay South Retail (thereby eliminating that land use designation).
- **e.** Refer to Table III.B.1 for details on the UCSF development program.
- **f.** The existing Channel Pump Station, on 1.5 acres of city-owned land, is not proposed for development.
- **g.** In addition to the acreages shown in the tables, land under I-280 that is not otherwise designated Public Open Space would be designated Public Facilities.
- **h.** Approximately 2 more acres of public open space would be developed on adjacent port property outside of the Project Area as an expanded bayfront open space area.

**Source:** Catellus Development Corporation and San Francisco Redevelopment Agency.
VII. Variants to the Proposed Project
G. Combination of Variants

This combination of variants currently under consideration by project sponsors would not create significant impacts beyond those already identified in the Draft SEIR based on the environmental assessment of the variants individually. In one case, the combination of variants would create a new significant transportation intersection impact in comparison to the proposed project. The impact, along with mitigation measures that would reduce it to a less-than-significant level, is identified in the assessment of Variant 3, No Berry Street Crossing (Chapter VII, pp. VII.23-VII.24).

As stated on p. VII.1a, each variant is available for selection by the project sponsors, and any combination of variants could be approved.

Even if all variants were to be adopted, the following assessment confirms that no new significant impacts other than those identified above for each individual variant (i.e., Variants 1, 2, 3A, and 5) would occur. The following assessment summarizes minor differences in environmental effects resulting from this combination of variants, as compared to those of the proposed project.

Plans, Policies, and Permits

The plans, policies, and permits issues of the combination of variants would be substantially the same as those of the proposed project. Development of the expanded bayfront open space between Piers 54 and 64 under this combination of variants would require additional amendments to the Waterfront Land Use Plan to reflect the proposed open space use. In the Mission Bay South Redevelopment Plan, the Mission Bay South Retail land use designation would be eliminated on the Castle Metals block and the Esprit site, and the area to be designated Commercial Industrial/Retail would expand. A new height zone would also be added to reflect the Castle Metals variant. These changes would not raise new plan, policy, or permitting issues.

As with the proposed project, this combination of variants would require the Peninsula Corridor Joint Powers Board (JPB) support and the California Public Utilities Commission (CPUC) approval of the formal closing of the King and Seventh Street at-grade crossing and of the proposed construction of an at-grade crossing at The Common and Seventh Street. In contrast to the proposed project, this combination of variants would require the associated JPB support and CPUC approval of the removal of two sets of Caltrain tracks to widen the right-of-way along both sides of Caltrain, thus providing space for the extension of Berry Street to Common Street.
Land Use

In summary, this combination of variants would reduce city-serving retail space, increase commercial/industrial space, and develop an expanded bayfront open space area outside of the Project Area. A small commercial building would be permitted in the open space within the Project Area near Pier 64. This combination of variants would not have land use impacts substantially different from those of the proposed project. The realignment of Terry A. Francois Boulevard and the integrated development of the Project Area open space with the additional 2 acres of adjacent port property would create an expanded bayfront open space area. Until the existing buildings were demolished for the development of open space on the port-owned 2 acres, this variant would limit access to the existing maritime service uses—the boat storage yard and the small-boat repair use south of Pier 54—by realigning the roadway that now provides direct vehicular access for these uses. As currently contemplated by the project sponsors, these uses would have indirect access via a driveway through the parking lot proposed at the north end of the public open space to a roadway extending south. Future users of these port properties could not be assured of direct vehicular access for employees, patrons, or deliveries, which, under the project, would continue to be provided by Terry A. François Boulevard. The Port would consider whether alternative access and parking arrangements are required, depending on existing and proposed uses, in its assessment of the potential for disturbance and/or displacement of such uses. Once the port property was developed as open space, the access issues would no longer exist because the affected buildings would be demolished.

In the Project Area’s northeastern-most block, city-serving retail development would be reduced 50% (111,000 gross sq. ft.) due to the somewhat reduced access to that block without the Berry Street at grade railroad track crossing proposed by the project. The proposed Mission Bay South Retail land use designation on the Esprit site and the Castle Metals Block would be changed to Commercial Industrial/Retail. This change would eliminate the Mission Bay South Retail land use designation and would intensify uses on those sites, but it would not introduce new land uses compared to the proposed project. Commercial Industrial uses would increase by 1,064,000 gross sq. ft. and retail uses would decrease by 455,000 gross sq. ft.

The reduction in city-serving retail would change retail development patterns in the Project Area and Nearby Areas for this combination of variants in comparison to the proposed project. Without the larger amount of city-serving retail development in Mission Bay under this combination of variants, it would be more likely that other city-serving retail space would be developed in suitable locations in Nearby Areas. Mission Bay residents, businesses, and employees would do more of their retail
VII. Variants to the Proposed Project
G. Combination of Variants

Business Activity, Employment, Housing, and Population

This combination of variants would reduce city-serving retail development and increase Commercial Industrial development compared to the proposed project. Those land use differences would change related employment estimates for the Project Area. Overall, there would be 1,313 more jobs in the Project Area, about 4% more employment than expected under the proposed project. There would be 1,617 fewer city-serving retail jobs, 1,690 more office jobs, and 1,240 more research and development or light industrial jobs. The net difference in employment between this variant and the proposed project would be 310 fewer jobs in Mission Bay North and approximately 1,003 more jobs in Mission Bay South. The additional non-residential development would create minor changes in four aspects of the business activity, employment, housing, and population assessment in comparison to that for the proposed project: 1) jobs/housing balance conclusions; 2) housing market impacts; 3) development patterns in Nearby Areas (see “Growth Inducement” below); and 4) the buildout period.

Compared to the proposed project, housing demand in San Francisco associated with Project Area employment growth would be higher with this combination of variants while the housing supply of 6,090 units would be the same as under the proposed project. Consequently, this combination of variants housing demand in San Francisco associated with Project Area employment growth would exceed housing supply in the Project Area by about 4,100 units in contrast to the 3,700 units under the project (including UCSF employment-related demand). As a result, housing market impacts would be somewhat higher than those identified for the proposed project (but these would be socioeconomic effects, not significant impacts under CEQA). However, since the City’s OAHPP Ordinance (or an exaction of equivalent or greater benefit) would apply to non-Catellus owned private property on the Castle Metals block and the Esprit site, some additional housing supply related to office development would occur under this combination of variants if office uses were developed on those sites./9/

The variant would accommodate about 19% more Commercial Industrial development than would the proposed project. The most likely consequences of the higher commercial industrial development under this combination of variants is that it would take the market longer to absorb the additional development (i.e., build and occupy) than would be the case for the smaller amount of space proposed for the project. It would be expected that there would be little difference in Mission Bay...
employment and total San Francisco employment in 2015 compared to the proposed project; but all Commercial Industrial development in the Project Area would not be built and occupied by 2015 under this combination of variants as it would under the proposed project.

Another possible consequence of the higher amount of commercial industrial development is that Mission Bay would attract more demand from businesses that would otherwise locate elsewhere in the City. Total employment growth in San Francisco would not be different but more of it would be concentrated in the Project Area by 2015. As a result, there would be less demand for new development and renovated warehouse and industrial space in Nearby Areas such as parts of the downtown near the Transbay Terminal, South of Market, North Potrero, Inner Mission, and the Central Waterfront and, therefore, more options in those areas for lower-rent-paying businesses.

Overall for the Project Area, city-serving retail under this combination of variants would be about 28% of the amount associated with the proposed project (72% less). Without the larger amount of city-serving retail development in the Project Area, it would be more likely that city-serving retail space would be developed in suitable locations in Nearby Areas such as the western South of Market, Inner Mission, North Potrero, Central Waterfront, and South Bayshore. Mission Bay residents, businesses, and employees would do more of their retail shopping outside the Project Area, and Mission Bay would not attract as much retail spending from other San Francisco residents as would be the case under the proposed project.

Visual Quality and Urban Design

This combination of variants would not change the overall visual effect of the proposed project. The realignment of Terry François Boulevard would accentuate the project’s eastern edge with the Boulevard relocated next to the developed areas, and would open up views of the bay from the expanded bayfront open space development. Views of the Esprit site and the Castle Metals block would be of office, light industrial, or research buildings instead of lower retail buildings under the proposed project.

There would be a new Height Zone on a portion of the Castle Metals block fronting Third and Mariposa Streets. The allowable 160-foot tower in the new Height Zone would be in addition to the 16 permitted under the project in Mission Bay South, and would be in addition to the two 160-foot towers permitted under the project’s Height Zone 6 on the Castle Metals block bounded by 16th, Third, Mariposa, and Owens Streets. One additional building of this height would not be substantially different from that of the
The reduced retail development associated with no Berry Street crossing would reduce building massing on the northeastern-most block of the Project Area.

**Transportation**

Roadway modifications under this combination of variants include the realignment of Terry A. François Boulevard to the west to provide open space closer to the waterfront. There would be no at-grade rail crossing at Berry Street, and Berry Street would be extended around the end of China Basin Channel to intersect with The Common immediately east of the Caltrain tracks. These roadway modifications would provide emergency access from Seventh Street by crossing the median between South and North Common Streets. They would provide direct egress from Mission Bay North’s west end to Seventh Street. They would also provide fairly direct access from Mission Bay South to Mission Bay North that would not be dependent on bridges. Pertinent land use changes are discussed above under “Description.”

In summary, these land use changes would change p.m. peak hour trip generation as follows: 2,765 fewer person trips; 1,150 fewer vehicle trips (in- and outbound); fewer inbound transit trips but 40 more outbound transit trips; 10 more inbound and 200 more outbound bicycle and pedestrian trips. The 2,765 fewer p.m. peak hour person trips under this combination of variants would be a reduction of approximately 8% in comparison to the proposed project. Table VII.G.3 compares the p.m. peak hour person trip generation from this combination with that of the project.

<table>
<thead>
<tr>
<th>Area</th>
<th>Project</th>
<th>Combination of Variants</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>11,030</td>
<td>10,710</td>
<td>-320</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>22,470</td>
<td>20,025</td>
<td>-2,445</td>
</tr>
<tr>
<td>Total</td>
<td>33,500</td>
<td>30,735</td>
<td>-2,765</td>
</tr>
</tbody>
</table>

*Source: Wilbur Smith Associates*
The increase in non-automobile trips under this variant would be substantially less than the decrease in automobile trips. This is caused by the different trip generation rates of commercial industrial land use compared to retail land use. The bicycle and pedestrian network proposed for the project would be able to accommodate the additional trips produced under this combination of variants under consideration by project sponsors.

The additional outbound transit trips created by these land uses represent an increase of less than 1% compared to the total project. They would be distributed primarily to the East Bay and South Bay. Caltrain would have sufficient capacity to carry the individuals destined for the South Bay, and all of the additional East Bay passengers could be accommodated on BART with an approximate increase of 0.4% in the p.m. peak hour load factor compared to the project. The additional outbound transit trips would increase the Third Street light rail northbound load factor in the vicinity of Mission Bay from 77% to 85%. The load factor would decrease from 84% to 80% for Third Street light rail in the southbound direction in the vicinity of Mission Bay.

The reduction of automobiles in the Mission Bay street network suggests that overall traffic and parking conditions in 2015 would improve slightly under this combination of variants compared with the proposed project, particularly in Mission Bay South. The total parking demand for this combination of variants would be approximately 1,630 spaces, or 6% less than the total parking demand for the project. Parking supply would be about 1,135 fewer spaces than that calculated for the project (shown in Table V.E.17, p. V.E.97). The resulting deficit would be a total of about 4,300 spaces, or about 430 spaces less than the project parking deficit. The less direct access to the western portion of Mission Bay North would likely slightly increase traffic congestion at Third and Fourth Street intersections in and near the Project Area, and would cause the intersection of Seventh Street and The Common to carry more traffic than under the project.

Table VII.G.4 compares some key intersection levels of service (LOS) under this combination of variants with those of the project. Average delays at all but four of these intersections would improve to some extent, with three intersections experiencing improvements in levels of service. The intersection of Seventh Street and The Common would improve from an unacceptable level of service to LOS D, due to the improved lane geometry proposed as part of Variant 3A, even with the greater number of vehicles. The intersections of Fourth and Townsend Streets, Fourth and 16th Streets, Third and King Streets, and Fourth and King Streets would experience an approximately 7% to 26% increase in average vehicle delay, with the intersection of Fourth and King Streets operating at an unacceptable LOS E under the project and an unacceptable level of service F under this combination of variants.
TABLE VII.G.4
YEAR 2015 INTERSECTION LEVEL OF SERVICE COMPARISON
COMBINATION OF VARIANTS COMPARED WITH PROJECT

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Project</th>
<th>Combination of Variants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delay (sec/veh)</td>
<td>LOS</td>
</tr>
<tr>
<td>Fourth and Townsend Streets</td>
<td>14.4</td>
<td>B</td>
</tr>
<tr>
<td>Third and Townsend Streets</td>
<td>79.7</td>
<td>F</td>
</tr>
<tr>
<td>Fifth and King Streets</td>
<td>28.4</td>
<td>D</td>
</tr>
<tr>
<td>Fourth and King Streets</td>
<td>52.1</td>
<td>E</td>
</tr>
<tr>
<td>Third and King Streets</td>
<td>99.1</td>
<td>F</td>
</tr>
<tr>
<td>16th and Seventh Streets</td>
<td>32.2</td>
<td>D</td>
</tr>
<tr>
<td>16th and Fourth Streets</td>
<td>29.2</td>
<td>D</td>
</tr>
<tr>
<td>16th and Third Streets</td>
<td>25.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa Street/I-280 on-ramp</td>
<td>16.6</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa and I-280 off-ramp/Owens Street</td>
<td>35.9</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa and Fourth Streets</td>
<td>13.6</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa and Third Streets</td>
<td>23.7</td>
<td>C</td>
</tr>
<tr>
<td>Seventh Street and The Common</td>
<td>42.3</td>
<td>E</td>
</tr>
</tbody>
</table>

Source: Wilbur Smith Associates

- This significant impact at Fourth and King Streets would be similar to that described for Variant 3, in Table VII.C.2 and accompanying text. Thus, this combination of variants would cause significant traffic impacts at the same intersections as the project and would reduce significant traffic impacts at one intersection, compared to the project. The same mitigation measures proposed for the intersections of Fourth and King Streets, Third and Townsend Streets, and Third and King Streets for the project would also mitigate the operation of the intersections to acceptable levels of service under this combination of variants.

- Under this variant, the intersection of Seventh and Berry Streets would not require project features E.20a, E.20b, and E.20c, as described on p. VI.12, which include a traffic signal, opening the rail crossing, and providing rail crossing warning devices. Mitigation measure E.31b, noted on p. VI.19, which involves restriping the northbound and southbound approaches to this intersection, would need
to be modified to include restriping the northbound approach to provide a left-through lane and a through lane, and the southbound approach to provide a right-through lane and a through lane, relating to the portion of Berry Street west of Seventh Street.

**Air Quality**

As described below, this combination of variants would have the same significant air quality impacts and require the same mitigation measures as the proposed project. The change in land use under this combination of variants would slightly alter traffic patterns and the number of vehicle trips in and around the Project Area. Vehicular emissions would be reduced by 8.5% compared with those of the proposed project. As shown in Table VII.G.5, vehicular emissions of ROG, NO\(_x\), and PM\(_{10}\) would exceed the BAAQMD significance thresholds for regional air quality impacts, as would emissions under the project. Trip reduction measures discussed in Mitigation Measure E.47 in Section VI.E, Mitigation Measures: Transportation, would not reduce emissions of criteria pollutants below BAAQMD significance thresholds. Therefore, as under the project, these vehicular emissions would pose an unavoidable significant regional air quality impact.

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Vehicular Emissions (lb/day)</th>
<th>Project</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Organic Gases (ROG)</td>
<td>80/a/</td>
<td></td>
<td>865</td>
<td>791</td>
</tr>
<tr>
<td>Nitrogen Oxides (NO(_x))</td>
<td>80/a/</td>
<td></td>
<td>1,324</td>
<td>1,211</td>
</tr>
<tr>
<td>Particulate Matter (PM(_{10}))</td>
<td>80/a/</td>
<td></td>
<td>1,968</td>
<td>1,801</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>550/b/</td>
<td></td>
<td>12,228</td>
<td>11,187</td>
</tr>
</tbody>
</table>

**Notes:**

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.

b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

**Source:** EIP Associates. Based on modeling using the California Air Resources Board’s URBEMIS Model, Version 5.
Due to the level of carbon monoxide emissions expected for the project overall as shown in Table VII.G.5, four of the 13 intersections modeled for the proposed project were selected for further micro-level analysis for this combination of variants. No exceedances of federal or state one-hour or eight-hour standards would occur at any of the four intersections modeled as a result of traffic emissions associated with this combination of variants. These results, provided in Table VII.G.6, are similar to those for the proposed project.

The decrease in overall traffic under this combination of variants would reduce toxic air contaminant emissions from mobile sources by about 8.5%. The significance of health risks from toxic air contaminants is unknown, but assumed to be at least potentially significant, as for the project. Toxic air contaminants from stationary sources, such as various organic solvents associated with research and development and light manufacturing operations, would increase. This combination of variants could result in about 19% more emissions of toxic air contaminants from stationary sources than the proposed project, due to the increase in research and development and light industrial uses under the variant. As under the project, combined emissions of toxic air contaminants from stationary sources would be a potentially significant impact under this combination of variants.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>CO Concentrations (ppm)</th>
<th>Proposed Project/a/</th>
<th>Combination of Variants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>One Hour/b/</td>
<td>Eight Hour/c/</td>
</tr>
<tr>
<td>Third and 16th</td>
<td></td>
<td>11.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Third and King</td>
<td></td>
<td>13.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Fourth and Bryant</td>
<td></td>
<td>8.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Eighth and Townsend</td>
<td></td>
<td>9.9</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Notes:

ppm = Parts per million.
a. Refer to Table V.F.5 and associated text in Section V.F, Air Quality.
b. The state one-hour standard is 20 ppm; the federal one-hour standard is 35 ppm.
c. The state and federal eight-hour standards are 9 ppm.

Source: EIP Associates.
VII. Variants to the Proposed Project
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- **Noise and Vibration**

Due to reductions in future traffic volumes projected for intersection links compared with the project, this combination of variants would generate noise levels lower than those projected for the project at the study locations of Potrero Avenue south of 16th Street; Berry Street west of Fourth Street; Fourth/Minnesota Streets, south of Mariposa Street; and Mariposa Street, west of DeHaro. At the intersections of Pennsylvania Street south of Mariposa Street, The Common south of Owens Street, and Third Street south of Mission Rock Street noise levels, would remain essentially unchanged under this combination of variants conditions compared to noise levels shown for the project because projected traffic volumes on these links would remain unchanged. Terry A. François Boulevard would not be realigned close enough to residential buildings for associated traffic noise to affect sensitive receptors.

- **Vibration effects** from the MUNI Third Street light rail vehicles along Third and Fourth Streets and from freight rail along 16th Street would be similar to the effects described for the project and would not be expected to be significant. Freight rail tracks would remain near the water’s edge, as they are now, and would not be in the realigned Terry A. François Boulevard right-of-way adjacent to commercial industrial land uses. Therefore, vibration effects would be the same as those described for the project.

- **Seismicity**

This combination of variants would not alter the geologic, soils, or seismic conditions in the Project Area, and would not, therefore increase associated seismic impacts. The increase in the additional Commercial/Industrial/Retail space would increase the daytime employment population in an area designated as seismically hazardous. The absence of a crossing of the railroad tracks at Berry Street and the extension of Berry Street south to Common Street would make emergency access more difficult in comparison to the proposed project (see discussion under “Community Services and Utilities”).

- **Health and Safety**

The nature of the combination of variants’ health and safety impacts would be essentially the same as with the project. As with the project, impacts would be reduced to a less-than-significant level with the mitigation measure proposed for the project. This combination of variants would increase the amount of Commercial Industrial space for the project as a whole by about 19%; therefore, hazardous
VII. Variants to the Proposed Project
G. Combination of Variants

materials quantities estimated for Commercial Industrial activities in “Estimated Hazardous Materials Quantities,” in Section V.I, Health and Safety: Impacts, would be about 19% greater. This could result in a roughly proportional increase in the magnitude of environmental impacts related to handling biohazardous materials, handling materials that pose substantial hazards of release or explosions, and generating hazardous wastes. With the reduction in retail space, there would be an associated reduction in hazardous waste generated by retail activities.

- **Contaminated Soils and Groundwater**

- The impacts of chemicals in the soil and groundwater of the Project Area for this combination of variants would be similar to those described for the project (see information about existing chemicals in soil and groundwater in the Project Area, including the petroleum free product plume in the southeastern part of Mission Bay South, remains as described in Section V.J, Contaminated Soils and Groundwater: Setting, pp. V.J.1 - V.J.57). As with the open space in the Project Area, the adjacent public open space on port property would be subject to an RMP. Users of the public open space proposed to be located along the Bay shore adjacent to Terry A. François Boulevard in this variant would not be exposed to chemicals under the existing paved roadway, because the RMP would require that the open space be covered with horticultural-quality fill or other approved materials or with landscaped paved areas (see description in Variant 1: Terry François Boulevard Variant, pp. VII.8-VII.10). The soil and groundwater affected by hydrocarbons in the southeast portion of the Project Area under 16th Street, a portion of Terry A. François Boulevard, and the Esprit site, will be addressed independently of the proposed project as required by the Regional Water Quality Control Board under its cleanup order. The increase in Commercial Industrial/Retail use and decrease in Retail space on the Castle Metals block or the Esprit site would not alter the project’s analysis for these sites.

- The assumptions, results, and mitigation measures for the project would be applicable to this combination of variants. They would reduce to a level of insignificance any risks that might result from construction and occupancy of proposed sites in the Project Area and from use of public open space proposed to be located in the existing alignment of Terry A. François Boulevard and on adjacent port property in the future.

- **Hydrology and Water Quality**

- The hydrology and water quality effects of this combination of variants would be similar to those of the proposed project (see “Quality of Municipal Wastewater from the Project” and “Evaluation of

Realigning Terry François Boulevard and developing the expanded bayshore open space area would add a minor potential filtering function for runoff flowing from the rerouted part of Terry A. François Boulevard to the Bay if the open space is landscaped as proposed by Catellus (i.e., soils and plants), but not if it is paved (i.e., with asphalt or paved athletic areas) (see p. VII.10). The increase in research and development and light industrial space would have minor effects on the range and degree of hydrology and water quality impacts described for the proposed project.

- **Vegetation and Wildlife**

  The land use changes under this combination of variants and the extension of Berry Street would not substantially alter the effects on the Channel or the Bay from those of the proposed project. If the expanded bayfront open space proposal were to include design features that would be constructed along the shoreline or in the bay, such activities would be subject to a range of agency permitting requirements. Other aspects of this combination of variants would be the same as the project.

- **Community Services and Utilities**

  The effects of this combination of variants on community services and utilities would be similar to those described for the proposed project (see Section V.M, Community Services and Utilities, pp. V.M.1-V.M.66). The expanded bayshore open space proposal would provide an additional 2 acres of integrated bayfront open space outside the Project Area. Employment would increase by about 4% compared to the proposed project. This would not cause an appreciable change in estimated project demand for community services or utilities. This combination of variants would make fire, ambulance, and police access to the mixed-use parcel west of I-280 more difficult than for the project, but not so difficult as to constitute a significant impact as would be the case under Variant 3, p. VII.29. Fire and ambulance emergency vehicles would negotiate a combination turn off Seventh Street onto Common Street, across a low raised median at the west end of Common Street, and onto the Berry Street extension. Police vehicles might not be able to cross the median, in which case they would need to drive along South Common Street to the roundabout and back along North Common Street to the proposed Berry Street extension. The restriction created by the combination turn or the trip through the roundabout could cause delays in emergency access to the mixed-use parcel west of I-280 or to the residential parcels west of Fifth Street. This would not be considered a new significant impact because the proposed emergency access routes, although slightly circuitous, would be available if the Third or Fourth Street Bridges were raised or rendered inoperational (which could cause major delays or eliminate access). The restriction would be ameliorated if the fire station for Mission Bay South were to be built (see Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54).
Growth Inducement

The larger amount of Commercial Industrial Retail development under the variant has the potential to result in slightly more total employment growth in San Francisco (by attracting more new businesses to the City than would be the case under the proposed project), or to slightly change development patterns in the City (by attracting businesses that would otherwise locate in Nearby Areas). The most likely outcome, given the magnitude of the change, is that there would be little difference in Mission Bay development and employment growth by 2015, and therefore little difference in cumulative citywide and regional employment growth and in the growth inducement impact assessment for the proposed project. Although neither the pace of development at Mission Bay nor of economic growth city- and region-wide would change under this combination of variants, the larger amount of Commercial Industrial development would take longer to be built and occupied.

SUMMARY OF MITIGATION MEASURES

All significant impacts identified for the project would also occur with this variant. Correspondingly, all mitigation measures in Chapter VI, Mitigation Measures, would apply, with the exception that the at-grade rail crossing at Berry Street would not be a feature of the project, and therefore Mitigation Measures E.20a, E.20b, and E.20c for the intersection of Seventh Street and Berry Street (see p. VI.12) would not be applicable. Further, Mitigation Measure E.31b (p. VI.19) for Seventh and Berry Streets would be modified as follows if this combination of variants were adopted, to remove references to left and right turn lanes that would cross the railroad track and add turn lanes to the portion of Berry Street west of Seventh Street:

Restripe the northbound and southbound approaches to provide a shared left-through left-turn lane and a through lane, and restripe the southbound approach to provide a through lane and a shared right-through lane.

The mitigation measure for the intersection of Fourth and King Streets differs slightly from that proposed for the project as Mitigation Measure E.38 on p. VI.20. It would be the same as that proposed for Variant 3 on p. VII.24. The project mitigation measure identifies one exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane for the southbound approach of Fourth Street at King Street. The measure identified for the combination of variants would include an exclusive left-turn lane, one exclusive through lane, a shared right-through lane, and an exclusive right-turn lane for the southbound approach to the intersection of Fourth Street. Implementation of the mitigation measure for the variant would require the same increase in street width as for the proposed project.
This combination of variants includes reconfiguration of Seventh Street at Common Streets, and, in effect, implements Mitigation Measure E.32 identified for the project.

Other transportation mitigation measures would be the same as those identified for the project.

NOTES: Variants to the Proposed Project

1. These tracks permit freight trains to travel east on 16th Street from the main line, north on Terry A. François Boulevard, and reverse direction to head south along Illinois Street to Pier 80. The project would slightly realign the existing tracks at the main line and in 16th Street and would follow the existing track alignment in Terry A. François Boulevard.


3. The employment estimate for Commercial Industrial development under this variant assumes 50% of the Commercial Industrial space would be occupied by office activities and 50% would be occupied by research and development and light industrial activities, consistent with the assumptions of the project analysis of Commercial Industrial development. While less actual office development is expected, the assumption of more office development is conservative for EIR analysis purposes because there are more employees and, consequently, more vehicle trips for office use than for research and development and light industrial.

3a. As with the project, an imbalance of housing to jobs is not a physical environmental effect, but rather an economic and social issue that warrants attention by San Francisco policymakers and other jurisdictions in the Bay Area. Certain indirect project and cumulative effects caused by the imbalances in local employment and housing opportunities would be environmental impacts, primarily transportation and related air quality impacts, and are described in those sections of this SEIR. The geographic distribution of employment and housing is taken into account in the SEIR analysis. For example, commute patterns are considered in the trip distribution factors underlying the transportation and air quality impact analyses. The secondary physical impacts of the Project Area housing supply shortfall (i.e., significant traffic, transit, and air quality effects from both the project and project-plus-cumulative impacts), can be best mitigated through measures directly addressing those effects, such as those that encourage increases in transit use and reduce traffic congestion.

4. The route into Mission Bay South from Berry Street to Seventh Street to the proposed rail crossing at Hooper Street would not be available under this variant as it would with the project.

4a. Travel distribution is based on San Francisco Planning Department, Public Utilities Commission and Transportation Authority, Citywide Travel Behavior Survey, May 1993, Supplemental Tables.*

5. Under the proposed project, the Townsend Street block is assumed to be developed with 710 residential units, and 111,000 gross sq. ft. of entertainment-oriented retail and restaurant space. The King Street block is assumed to have 120 dwelling units and 278,000 gross sq. ft. of entertainment-oriented commercial/retail space, including a 25-screen, 6,500-seat movie theater.
6. The employment estimate for Commercial Industrial development under this variant assumes 50% of the Commercial Industrial space would be occupied by office activities and 50% would be occupied by research and development and light industrial activities, consistent with the assumptions of the project analysis of Commercial Industrial development. While less actual office development is expected, the assumption of more office development is conservative for EIR analysis purposes because there are more employees and, consequently, more vehicle trips for office use than for research and development and light industrial.

7. As with the project, an imbalance of housing to jobs is not a physical environmental effect, but rather an economic and social issue that warrants attention by San Francisco policy makers and other jurisdictions in the Bay Area. Certain indirect project and cumulative effects caused by the imbalances in local employment and housing opportunities would be environmental impacts, primarily transportation and related air quality impacts, and are described in those sections of this SEIR. The geographic distribution of employment and housing is taken into account in the SEIR analysis. For example, commute patterns are considered in the trip distribution factors underlying the transportation and air quality impact analyses. The secondary physical impacts of the Project Area housing supply shortfall (i.e., significant traffic, transit, and air quality effects from both the project and project-plus-cumulative impacts), can be best mitigated through measures directly addressing those effects, such as those that encourage increases in transit use and reduce traffic congestion.

8. The decrease of 566,000 gross sq. ft. of city-serving retail uses would include a decrease of 111,000 gross sq. ft. in Mission Bay North and 470,000 gross sq. ft. on the Esprit site and the Castle Metals block in Mission Bay South and an increase of 15,000 gross sq. ft. in the open space near Pier 64.


10. To account for a possible shift in traffic patterns, carbon monoxide concentrations at the intersections of Seventh and Townsend Streets and Potrero and 16th Streets were also analyzed, but not included in the comparison between the proposed project and the combination of variants, because the analysis showed that traffic increases at these intersections would not be substantially different.

* A copy of this report is on file for public review at the Office of Environmental Review, Planning Department, 1660 Mission Street, San Francisco.
VIII. ALTERNATIVES TO THE PROPOSED PROJECT

The California Environmental Quality Act (CEQA) and the State CEQA Guidelines require that an EIR “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” (The primary objectives of the project are listed in “Project Sponsors and Their Objectives” in Chapter III, Project Description.) If an alternative would lessen the significant environmental effects of a proposed project substantially, the decision maker should not approve the proposed project unless it is determined that specific technological, economic, social, or other considerations make the alternative infeasible. The EIR also must identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and should explain briefly the reasons underlying the lead agency’s determination.

This chapter evaluates alternatives to the proposed Mission Bay project and, for each alternative, provides a comparative analysis of potential environmental impacts. The impacts of each alternative are compared to the proposed project. Mitigation measures for the alternatives include some measures that are similar to or the same as those for the proposed project. In addition, where appropriate, mitigation measures from the 1990 FEIR have been incorporated and, where appropriate, modified to account for changes in environmental conditions. A development profile is presented for each alternative, which specifies the types and amounts of land uses projected. The development profile is followed by an environmental assessment that discusses the environmental topics in the order presented in the main body of the SEIR. The boundaries of the Project Area have been modified from those analyzed in the 1990 FEIR. This SEIR assumes that all development alternatives would occur within the new project boundaries. For ease of reference, Mission Bay North refers to the Project Area north of the Channel and Mission Bay South refers to the Project Area south of the Channel. Three alternatives were selected for analysis in this SEIR. Table VIII.1 provides a comparison of the alternatives to the project.

- The No Project/Expected Growth Alternative, referred to as Alternative 1, is a reasonable estimate of development within the Project Area that could occur through 2015 under existing zoning regulations pursuant to Article 9 of the City Planning Code and the 1990 Mission Bay Plan. About one-half as much residential and nonresidential development is assumed to occur under this alternative by 2015 as would be the case under the proposed project. No Redevelopment Plans would be adopted under this alternative. The analysis for this
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Proposed Project/a</th>
<th>ALTERNATIVE 1 No Project/Expected Growth/b</th>
<th>ALTERNATIVE 2 Mission Bay North/Expected Growth South</th>
<th>ALTERNATIVE 3 Residential/Open Space Development/a</th>
<th>Percent Difference in 2015 Compared with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Residential Dwelling Units (number)</td>
<td>6,090</td>
<td>2,840</td>
<td>5,840</td>
<td>10,000</td>
<td>-53% - 4% 64%</td>
</tr>
<tr>
<td>Retail (gross sq. ft.)</td>
<td>1,510,000</td>
<td>329,000</td>
<td>949,000</td>
<td>300,000</td>
<td>-78% -37% -80%</td>
</tr>
<tr>
<td>500-Room Hotel (gross sq. ft.)</td>
<td>480,000</td>
<td>400,000</td>
<td>400,000</td>
<td>630,000</td>
<td>-17% -17% -17%</td>
</tr>
<tr>
<td>Service/Light Industrial/Research and Development/Office (gross sq. ft.)/c/</td>
<td>5,560,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Industrial (gross sq. ft.)</td>
<td>2,650,000</td>
<td>352,000</td>
<td>352,000</td>
<td>1,000,000</td>
<td>-51% -74% -81%</td>
</tr>
<tr>
<td>UCSF (gross sq. ft.)</td>
<td>1,930,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehouse (gross sq. ft.)</td>
<td>10,200,500</td>
<td>4,951,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office (gross sq. ft.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total Nonresidential Development</td>
<td>30,000</td>
<td>14,800</td>
<td>6,170</td>
<td>6,550</td>
<td>-51% -79% -78%</td>
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<tr>
<td>Employees</td>
<td>10,900</td>
<td>5,470</td>
<td>10,500</td>
<td>18,600</td>
<td>-50% -4% 71%</td>
</tr>
<tr>
<td>Residents</td>
<td>40,900</td>
<td>20,270</td>
<td>16,670</td>
<td>25,150</td>
<td>-50% -59% -39%</td>
</tr>
<tr>
<td>Total Employees and Residents</td>
<td>44</td>
<td>18</td>
<td>19.5</td>
<td>68.3 /d/</td>
<td>-59% -56% 55%</td>
</tr>
<tr>
<td>Open Space (acres)</td>
<td>3.72 /e/</td>
<td>3.1</td>
<td>3.1</td>
<td>5.6</td>
<td>-17% -17% 51%</td>
</tr>
<tr>
<td>Community Facilities w/o pump station (acres)</td>
<td>22,100</td>
<td>7,690</td>
<td>10,300</td>
<td>12,100</td>
<td>-65% -53% -45%</td>
</tr>
<tr>
<td>Parking (spaces)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- = Not applicable.

a. Build-out of development program by 2015.
b. Amount of development derived from ABAG Projections '96 to be built by 2015.
c. The Service/Light Industrial/Research and Development/Office designation for Alternatives 1 and 2 includes office uses; Alternative 3 does not include office uses in this designation.
d. Build-out of development program in 2015 under the proposed Mission Bay North Redevelopment Plan plus amount of development derived from ABAG Projections '96 to be built by 2015 in the Mission Bay South area. Includes 20 acres of wetlands.
e. For calculating the effects of the proposed project, Community Facilities acreage does not include the 1.5 acres of the Channel Pump Station.

Source: EIP Associates.
VIII. Alternatives to the Proposed Project

A. Alternative 1

Alternative begins with a separate assessment of existing conditions that would continue if no further development occurred in the Project Area (No Project/Existing Conditions).

- Under the Redevelopment North of Channel/Expected Growth South of Channel Alternative, referred to as Alternative 2, the proposed Mission Bay North Redevelopment Plan would be adopted and the Mission Bay North Area would be developed as described for the proposed project. The Mission Bay South area would be developed according to Alternative 1 (i.e., under existing 1990 Mission Bay Plan and City Planning Code Article 9 Zoning controls) through 2015. The Mission Bay South Redevelopment Plan proposed for adoption as part of the project would not be adopted for this alternative. Compared to the proposed project, Alternative 2 would result in about the same amount of residential development, but approximately 80% less non-residential development by 2015.

- Under the Residential/Open Space Development Alternative, referred to as Alternative 3, the Project Area would be developed with about 65% more housing units and about 80% less nonresidential development at build-out than the proposed project. This alternative is similar to full build-out of Alternative B from the 1990 FEIR. The alternative does not assume adoption of Redevelopment Plans for Mission Bay North or Mission Bay South.

The City, in conjunction with Catellus, has evaluated alternative uses for the Project Area for over 10 years. A brief description of other uses considered and rejected is presented later in “Other Alternatives Considered,” with a brief explanation of the reasons underlying the determination, in accordance with CEQA Guidelines 15126(d) and applicable case law.

Due to the unique characteristics of the Project Area and the project sponsors’ objectives, there is no other comparable site within San Francisco that could be a viable alternative location. There are no similarly sized, vacant, and underutilized areas in San Francisco with ownership consolidated largely under one owner. Further, many of the project’s objectives are site-specific and could not be achieved at other locations, such as the 6,090 housing units relatively close to downtown, the major new site for UCSF plus room for related businesses, capture of retail/entertainment business activity that will be stimulated by and serve the San Francisco Giants Ballpark, and the reduction of blight and reuse of a centrally located but underdeveloped urban area with good transit and access to other services. Because of the infeasibility of developing the project and meeting its objectives elsewhere, this SEIR does not evaluate an alternative project location.

A. ALTERNATIVE 1: NO PROJECT/EXPECTED GROWTH ALTERNATIVE

NO PROJECT/EXISTING CONDITIONS

CEQA Section 15126(d)(4) requires that the “no project” alternative discuss the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were
not approved, based on current plans and consistent with available infrastructure and community services.

The term “existing conditions” means a scenario in which no physical change and no development occurs in the Project Area, with future conditions remaining as they are now. This scenario is already described in the Setting sections under each environmental topic in the SEIR; therefore, it is discussed briefly below. The analysis of reasonably foreseeable growth based on existing conditions is contained in the No Project/Expected Growth Alternative, based on ABAG Projections '96 employment and population projections for the Project Area.

If existing physical conditions were to continue into the foreseeable future, conditions in the Project Area would remain as described in detail in the Setting sections of each of the environmental topics included in Chapter V. Growth in Nearby Areas, the rest of the City, and the Bay Area would continue as described in Section V.C, Business Activity, Employment, Housing, and Population. Some of the uses that would have located in the Project Area under the project or other alternatives would likely locate elsewhere in the City, while others might locate outside the City. For example, of the three locations for a new UCSF site analyzed in the University of California San Francisco Long Range Development Plan EIR, one is in San Francisco at Mission Bay, one is outside San Francisco (in Alameda), and one is partially outside San Francisco (the Brisbane/Executive Park site). Some uses, such as some of the residential units included in the project, might not be developed anywhere in the region.

Existing conditions, however, also include existing zoning and land use controls which allow for development of the Project Area. For existing conditions to continue, the existing zoning and land use controls would need to be amended to permit only the amount of development now in the Project Area, or some other device would need to be assumed that would freeze conditions as they now exist at least through the year 2015. This is an unlikely scenario and has not been analyzed further in the SEIR. The focus of this alternative is therefore the No Project/Expected Growth Alternative, which represents reasonably foreseeable development without the project.

**NO PROJECT/EXPECTED GROWTH**

The No Project/Expected Growth Alternative reflects a level of development based on existing zoning regulations pursuant to Article 9 of the City Planning Code and the 1990 Mission Bay Plan that is consistent with population and employment projected through the year 2015 according to ABAG’s Projections '96. Figure VIII.A.1 is the overall land use plan for this alternative and reflects full build-out (beyond year 2015). No redevelopment plans for the Project Area were assumed. ABAG’s
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.A.1 ALTERNATIVE 1: LAND USES FOR NO PROJECT/EXPECTED GROWTH ALTERNATIVE UNDER EXISTING ZONING
growth scenario projects that about one-half of total development potential, that is about 40% of the total residential development potential and about 60% of the nonresidential development potential, proposed in the 1990 Mission Bay Plan would be built and occupied by 2015.

This alternative's project area is the same as that of the proposed project. As with the proposed project, the alternative's project area excludes the port property east of Third Street and south of the Channel, the surface water area of the Channel itself and the associated houseboat community, and the Caltrain tracks and terminal in the two blocks bounded by Fourth, Townsend, King, and Sixth Streets, all of which were included in the 1990 Mission Bay Plan. The alternative includes the Castle Metal property west of Third Street between 16th and Mariposa Streets that was not part of the 1990 Mission Bay Plan.

DEVELOPMENT PROFILE

The development profile for Alternative 1 is a hypothetical estimation of expected growth. The profile was developed as a reasonable approximation of Project Area development that may occur in the absence of the proposed project. It is assumed in this alternative that necessary infrastructure would be developed to serve the assumed uses. The profile was developed from ABAG's employment and population projections (Projections '96) with consideration for the location of land uses consistent with the zoning regulations pursuant to Article 9 of the City Planning Code and the 1990 Mission Bay Plan, and based on standard population per household and employment density factors also used in the 1990 FEIR. To assess environmental impacts of this alternative in a manner that provides a meaningful comparison to the proposed project, specific magnitudes (number of dwelling units, square footage, etc.) were estimated for each land use. In total, development formulated for this alternative would generate the population, household, and employment projections of ABAG in Projections '96. The actual development that would occur in the absence of the proposed project could vary from the estimates formulated for each land use category discussed below.

It was assumed for this alternative that infrastructure would be developed to serve the assumed uses. Build-out of the Project Area under Alternative 1 assumes infrastructure improvements since the City would not issue building permits without adequate sewer systems, roads, etc. As proposed in the 1990 Mission Bay Plan, this alternative would maintain and expand the existing combined sewer system in the Central Basin, and a bridge to carry traffic across China Basin Channel connecting Sixth Street with Owens Street would be built. Alternative 1 assumes the height and bulk limits of the 1990 Mission Bay Plan as implemented in Article 9 and on the Zoning Map and as shown in
Figure VIII.A.4. The street grid shown in Figure VIII.A.1 similarly reflects the approved 1990 Mission Bay Plan as implemented in Article 9 of the City Planning Code (see also Figure V.A.4).

Expected growth in Mission Bay North would include office and retail uses, with over 98% of the space being developed for office use. In Mission Bay South, expected development would include housing; retail; office, service, light industrial, research and development and warehouse space; hotel; community facilities; open space; and associated parking. For purposes of environmental analysis, this alternative assumes no UCSF site would be developed. Total development in both areas by 2015 would be about 2,840 residential units, 2.97 million gross square feet (gross sq. ft) of office space, 900,000 gross sq. ft. of commercial and light industrial space, 329,000 gross sq. ft. of retail space, 352,000 gross sq. ft. of warehouse space, a 500-room hotel, 7,700 parking spaces, 4.6 acres of community facilities, and 18 acres of open space. This level of development would accommodate about 14,800 jobs. There would be about 5,470 people living in the Project Area.

**Residential**

Expected growth without the project would include the development of approximately 2,840 housing units in Mission Bay South. No residential development would occur in Mission Bay North. In the absence of a development agreement specifying affordable housing production for the Project Area or the application of the City’s Office Affordable Housing Production Program (OAHPP) to development in the Project Area, it is unclear whether and how affordable housing would be produced under Alternative 1. For this SEIR, it is assumed that, without the participation of the San Francisco Redevelopment Agency and the use of redevelopment tax increment for affordable housing, there would be less affordable housing associated with Alternative 1 than would be produced under the proposed project.

**Office**

About 2.97 million gross sq. ft. of office space would be developed in Mission Bay North. Potential office use is also included in the Service/Light Industrial/Research and Development/Office land use, discussed below.

**Service/Light Industrial/Research and Development/Office**

About 900,000 gross sq. ft. of Service/Light Industrial/Research and Development/Office space would be developed in Mission Bay South in the area bounded by Seventh, Mariposa, Third, 16th, and Owens Streets. This commercial space would house various types of enterprises including service
VIII. Alternatives to the Proposed Project
A. Alternative 1

Businesses; small, light manufacturing companies; distribution and transportation service companies; research and development facilities; and office activities./7/

Retail

Retail space would be developed in both Mission Bay North (47,000 gross sq. ft.) and Mission Bay South (282,000 gross sq. ft.). Retail space would be provided on the ground floor of some office and residential buildings and would also occupy separate low-rise structures.

Hotel

A full-service, mid-rise, 500-room hotel would be developed in Mission Bay South. The hotel would be up to eight stories, or 110 feet, in height and would contain about 400,000 gross sq. ft., including lobby functions, service areas, and guest rooms. The hotel would serve both tourists and business travelers.

Warehouse

About 352,000 gross sq. ft. of warehouse space would be developed in the area bounded by Seventh, Mariposa, Third, and 16th Streets. In the 1990 FEIR, this area was the site of the proposed MUNI Metro East storage and maintenance yard. Since publication of the 1990 FEIR, MUNI has decided to select another site for the facility. It is assumed that warehouses would be developed as one-story structures.

Community Facilities

Community facilities would occupy 4.6 acres: 1.5 acres in Mission Bay North and 3.1 acres in Mission Bay South. In Mission Bay North, community facilities would include the Channel Pump Station, which pumps combined sanitary sewage and rainfall runoff to the Southeast Water Pollution Control Plant. No changes would be proposed to the pump station by this alternative. Community facilities in Mission Bay South would include an elementary school between Sixth and Owens Streets, and a combined police and fire station. This station would probably be located at the site of Fire Station No. 30, which would be preserved under this alternative.

Parking

Based on this alternative’s level of development and on the parking rates used for various land uses in the 1990 FEIR, about 7,700 accessory spaces would be developed./8/ About 3,020 parking spaces
would be developed in Mission Bay North, and 4,670 parking spaces in Mission Bay South. This parking would be primarily or entirely within buildings that include other uses, rather than in separate parking structures.

Open Space

About 19 acres of open space would be developed in the Project Area, generally based on the Mission Bay Plan’s linkages between the amounts of open space housing that would be developed by 2015. Six acres of open space is assumed to be developed in Mission Bay North and 13 acres in Mission Bay South by 2015. Because the Project Area boundaries have changed since preparation of the 1990 FEIR, the approximately 12 acres of surface water in China Basin Channel that were part of the Project Area in the 1990 FEIR are not part of the alternatives analyzed in this SEIR. Similarly, the 13.6-acre wetland on port property east of Third Street also is not part of this alternative.

ENVIRONMENTAL ASSESSMENT

The significant impacts of Alternative 1 for air quality, including toxic air contaminants; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the project. The effects of this alternative would vary from the proposed project in the areas of vegetation and wildlife, traffic, and seismicity. These similarities and differences are discussed for each topic and summarized at the end of this section on Alternative 1. The applicable mitigation measures for Alternative 1 would be those of the adopted 1990 Mission Bay Plan. Impacts and mitigation measures are summarized in a subsection at the end of each alternative’s environmental assessment.

Plans, Policies, and Permits

Overall, Alternative 1 would not change the plans and policies framework governing Mission Bay land use, as would the proposed project. Alternative 1 would substantially comply with the 1990 Mission Bay Plan in terms of overall land use and street pattern, but not necessarily with all provisions of the Plan (e.g., office-housing linkages) because the rate of development is derived from ABAG’s Projections '96. The 1990 Mission Bay Plan and Article 9 of the City Planning Code would be mostly retained, and amendments to the San Francisco General Plan would be limited to changes consistent with termination of the Development Agreement. Existing land uses would be covered by the 1990 Mission Bay Plan, except at the Castle Metals and Esprit sites, the development of which would remain subject to the Central Waterfront Plan. Planning Code controls would not be altered; the existing land use and height and bulk limits set forth in the 1990 Mission Bay Plan would be in
VIII. Alternatives to the Proposed Project
A. Alternative 1

effect (as shown in Figures V.A.3 and V.A.4 in Section V.A, Plans, Policies, and Permits). Since this alternative assumes that UCSF would not locate its major new site in the Project Area, the City would not need to prepare amendments to the General Plan or the City Planning Code incorporating the new site into the relevant plan and policy documents. /10/

Any development that would occur in Alternative 1 would be subject to the applicable policies of the General Plan, including the 1990 Mission Bay Plan, and to the controls in Article 9 of the City Planning Code. As under the project, the City Planning Commission would evaluate street vacations associated with development against the policies set forth in the Urban Design Element of the City's General Plan. Development on port property would be subject to the Waterfront Land Use Plan.

Development activities, including alterations to the Channel, within a 100-foot shoreline band inland from the mean high tide line would be subject to review and permitting by the Bay Conservation and Development Commission (BCDC). The U.S. Army Corps of Engineers and the U.S. Coast Guard would review the construction of a bridge connecting Owens and Sixth Streets over China Basin Channel, a navigable waterway.

Land Use

Project Area

Alternative 1 would develop the Project Area under the land use districts of the 1990 Mission Bay Plan as outlined in Article 9, Mission Bay Districts, of the City Planning Code. This alternative includes expected growth through the year 2015, which is about 40% of the total residential development potential and about 60% of the nonresidential development potential allowable under existing zoning. Although at a slower pace, this alternative would continue the established trend of converting deteriorating and low-intensity industrial areas near the waterfront to new uses, as the proposed project would.

Under this alternative, all existing buildings may not be demolished by 2015 as they are assumed to be under the proposed project. As with the project, the Channel Pump Station would be retained and not altered. Fire Station No. 30 would be preserved in accordance with the Mission Bay Plan. Under this alternative, the existing street system would be modified substantially; however, Fourth Street would not be reconfigured as a major thoroughfare, as under the project.

The mix and amount of uses developed under this alternative would be different from those proposed under the project. Almost 3 million gross sq. ft. of office uses would replace the residential and commercial entertainment retail uses in Mission Bay North. The area would not become a year-round
VIII. Alternatives to the Proposed Project
A. Alternative 1

Regional destination center, although a hotel would be developed in Mission Bay South as it would for
the project. The amount of development projected to occur by 2015 would include about 2,840
dwelling units. Residential land use districts of varying densities would replace the UCSF uses and
some of the commercial industrial uses in Mission Bay South. Compared with the project, this
alternative would result in more employees present during the daytime in Mission Bay North and
about half the residents in Mission Bay South.

Surrounding Areas

As under the project, development of this alternative would create a new neighborhood with
residential buildings, open space, and community facilities adjacent to the houseboat community.
There would be more neighborhood-serving retail and personal services convenient to houseboat
residents, as would be the case under the proposed project. The large amount of office development
in Mission Bay North under Alternative 1 would result in a qualitatively different environment
compared to the predominantly residential development proposed in the project for Mission Bay
North. The houseboat community would experience increases in daytime pedestrians from the office
uses in Mission Bay North and morning, evening, and weekend pedestrians from the residential uses
in Mission Bay South.

Increased pedestrian and auto traffic would accompany development of the Project Area under this
alternative, as with the project. With this alternative, as with the project, the South Beach and South
Park neighborhoods would likely find their day-to-day travel patterns being altered. Under this
alternative, the office development in Mission Bay North would mean that more drivers than under
the project would use The Embarcadero, Third Street, and the re-aligned Fourth Street as major
thoroughfares. Commuters to the substantial office development in Mission Bay North would likely
travel during the peak periods. Under this alternative, Project Area employees would likely not park
on streets on Potrero Hill and Lower Potrero since there would be fewer employees in the South of
Channel area and parking opportunities in the Project Area would be increased.

South Beach and South Park residents would not find the variety and amount of new neighborhood-
serving retail as great as in Mission Bay North under the project. Moreover, the demand for drinking
and eating establishments, and pedestrian-serving retail associated with the San Francisco Giants
Ballpark would not be addressed in the Project Area under the Alternative. Therefore, there would
be more restaurants and demand for other pedestrian-serving retail uses in the South of Market area
under this alternative as compared to the project. Because there would not be as much city-serving
retail space developed in the Project Area as would be the case under the proposed project, there
would be more demand for that kind of development elsewhere in the City, to serve the needs of
future Mission Bay residents as well as the retail needs of the broader citywide market area. Locations that might experience more of this type of development and land use change than would be the case under the proposed project include: South of Market, Showplace Square, North Potrero, Lower Potrero, Central Bayfront, South Bayshore, and Inner Mission. This type of development has already occurred in most of these areas. Exceptions are the Central Bayfront and Lower Potrero Nearby Areas.

As with the project, this alternative includes residential development in Mission Bay South located adjacent to port property east of Third Street, where petroleum free product contamination has been identified. A school site at 16th and Owens Street south of the Channel would be adjacent to residential uses to the east and open space to the north and near I-280.

Existing recreational facilities north of the Channel, such as South Beach Harbor, would not be as affected by the number of pedestrians in the area at any one time as would occur under the project, primarily since office workers north of the Channel would not be present during weekends and the smaller number of residents south of the Channel may not compete for access to South Beach Harbor.

Users of the recreational waterfront facilities south of the Channel would compete for access with residents, employees, and visitors of the Project Area. Under this alternative, the number of new residents accessing existing recreational facilities would be about half those of the project, and the number of employees and visitors to the area would be substantially less since the office workers north of the Channel would not likely compete for access to the southern waterfront areas and Mission Bay would not be a year-round regional entertainment center attracting visitors.

Under the 1990 Mission Bay Plan, the Port would develop boat trailer parking directly across Terry A. François Boulevard from the Public Boat Launch Ramp between Piers 52 and 54. Under the project, the parking would likely be located farther away just south of The Common, though within 600 feet of the ramp as required under a California Department of Boating and Waterways grant.

Business Activity, Employment, Housing, and Population

Project Area Employment and Job Opportunities

Table VIII.A.1 shows the number of employees expected in the Project Area according to Alternative 1. By the year 2015, there would be about 14,800 jobs in the Project Area under this alternative. Overall, that would be about half as many jobs as estimated for build-out of the proposed project, and the geographic distribution of those jobs would be quite different. While employment
## TABLE VIII.A.1
**ALTERNATIVE 1: EMPLOYMENT BY LAND USE PROJECTED IN 2015**

<table>
<thead>
<tr>
<th>Land Use/Business Activity/a/</th>
<th>North of Channel</th>
<th>South of Channel</th>
<th>Total</th>
<th>Percent of Total</th>
<th>Total for Proposed Project</th>
<th>Alternative vs. Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>10,254</td>
<td>—</td>
<td>10,254</td>
<td>69%</td>
<td>8,790</td>
<td>17%</td>
</tr>
<tr>
<td>Service/Light Industrial/R&amp;D/Office</td>
<td>—</td>
<td>2,221</td>
<td>2,221</td>
<td>15%</td>
<td>6,520</td>
<td>-66%</td>
</tr>
<tr>
<td>UCSF Site</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>9,100</td>
<td>—</td>
</tr>
<tr>
<td>Retail</td>
<td>135</td>
<td>807</td>
<td>942</td>
<td>6%</td>
<td>4,310</td>
<td>-78%</td>
</tr>
<tr>
<td>Hotel</td>
<td>—</td>
<td>370</td>
<td>370</td>
<td>3%</td>
<td>370</td>
<td>0%</td>
</tr>
<tr>
<td>Warehouse/b/</td>
<td>—</td>
<td>267</td>
<td>267</td>
<td>2%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Community Facilities/Open Space</td>
<td>1</td>
<td>210</td>
<td>211</td>
<td>1%</td>
<td>254</td>
<td>-17%</td>
</tr>
<tr>
<td>Building Maintenance/Security/Parking</td>
<td>278</td>
<td>106</td>
<td>384</td>
<td>3%</td>
<td>410</td>
<td>-6%</td>
</tr>
<tr>
<td>Housing-Related</td>
<td>—</td>
<td>113</td>
<td>113</td>
<td>1%</td>
<td>240</td>
<td>-53%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>10,668</strong></td>
<td><strong>4,094</strong></td>
<td><strong>14,762</strong></td>
<td><strong>100%</strong></td>
<td><strong>29,994</strong></td>
<td><strong>-51%</strong></td>
</tr>
<tr>
<td><strong>Percent of Total</strong></td>
<td><strong>72%</strong></td>
<td><strong>28%</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- * = Not applicable

Based on ABAG Projections ’96 by traffic analysis zone (unadjusted, except as noted below) as presented in Keyser Marston Associates 7/31/97 tables prepared for the San Francisco Redevelopment Agency.

a. Derived from ABAG employment estimates for retail, service, and other categories. Employment estimate for Mission Bay North derived from ABAG Projections ’96 for traffic analysis zone 658, subtracting 3,000 jobs to account for the China Basin buildings and other business activity in the South of Market area outside Mission Bay Project Area.

   Employment estimate for Mission Bay South derived from ABAG Projections ’96 for traffic analysis zone 657 and a portion of traffic analysis zone 662. Assumes about 700 jobs in traffic analysis zone 662 for Mission Bay Project Area south of 16th Street.

b. Represents MUNI Metro East site from Mission Bay Plan. Assumed to be developed as one-story warehouse.

**Source:** Hausrath Economics Group.
overall would be less, there would be almost five times more jobs in Mission Bay North, compared to the proposed project, because of the concentration of office space. By contrast, under Alternative 1, Mission Bay South would have only 15% of the total employment expected under the proposed project. The mix of types of business activities and job opportunities also would be substantially different from the proposed project. Without the UCSF site and associated research and development business activity that the proposed project would bring to the Project Area and to San Francisco, there would be fewer total job opportunities in San Francisco and a less diverse range of job options for city residents under Alternative 1.

Under this alternative, the Project Area would become another center for office development in San Francisco. Most of the jobs (70%) would be office jobs in Mission Bay North. This is more office employment for the Project Area than is estimated for the proposed project. There would be a cluster of service, light industrial, research and development (R&D), warehousing, distribution, and small office business activities in Mission Bay South—less of this type of employment than would be accommodated in the proposed project. There would also be less retail activity and employment. This alternative incorporates a hotel in Mission Bay South, as does the proposed project. Other employment related to community facilities, building maintenance, and security would be less than estimated for the proposed project, consistent with the lower level of total development expected through the year 2015 under Alternative 1.

Implications for Existing Project Area Business Activity

The pace of new development in the Project Area would be slower under Alternative 1 compared to the proposed project. Existing businesses in the Project Area might be able to remain in their current locations for a longer time. It would be easier to accommodate those few tenants holding longer-term leases. Ultimately, however, as under the proposed project, there would not be many opportunities to accommodate existing Project Area businesses in new Mission Bay development. The new space would likely be too expensive, compared to other options. Other locations would become more attractive over time as the Project Area became more densely developed with a greater mix of land uses, and more congested. Although relocation assistance under the aegis of the Redevelopment Agency would not apply in Alternative 1, the 1990 Mission Bay Plan, upon which the development scenario for this alternative is based, included a Business Relocation Plan to assist industrial and maritime-related business displaced by new development in the Project Area.

Project Area Housing, Households, Population, and Employed Residents

Table VIII.A.2 shows the Project Area housing, population, and employed residents associated with Alternative 1. By 2015, there would be about 2,840 housing units with 5,470 residents, of whom
TABLE VIII.A.2
ALTERNATIVE 1: HOUSING UNITS, POPULATION, AND EMPLOYED RESIDENTS ASSUMED TO BE BUILT BY 2015

<table>
<thead>
<tr>
<th></th>
<th>Alternative 1</th>
<th>Comparison with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North of Channel</td>
<td>South of Channel</td>
</tr>
<tr>
<td>Housing Units</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>2,836</td>
</tr>
<tr>
<td>Households</td>
<td></td>
<td>2,737</td>
</tr>
<tr>
<td>Population/a/</td>
<td></td>
<td>5,473</td>
</tr>
<tr>
<td>Employed Residents/b/</td>
<td></td>
<td>3,300</td>
</tr>
</tbody>
</table>

Notes:
— = Not applicable.

a. Number of people living in housing units built in the Project Area. Derived from ABAG Projections '96 population estimates by traffic analysis zone. Includes all ABAG population estimated for traffic analysis zone 657 and 200 people (about 100 units) in traffic analysis zone 662 (south of 16th Street).

b. Residents of the Project Area who are also employed, regardless of place of work. Estimated using 1990 FEIR factors for age distribution of population and percentage of the population in each age group that would be working. See 1990 FEIR, Appendix A: The EIR Alternatives, p. XIV.A.13. Confirmed by review of ABAG Projections '96 population and labor force projections by age for San Francisco. Projections '96 estimates of employed residents by traffic analysis zone were not used because the estimates appear too large. The difference probably reflects the difficulty of using ABAG regional projections for micro-area analysis.

Source: Hausrat Economics Group.

3,300 would also be working. This is about half the housing and residential population expected under the proposed project. Following the pattern of the 1990 Mission Bay Plan land uses, all of the new residential development would be south of the Channel. About 40% of the total housing unit potential of the residential zoning districts established by the 1990 Mission Bay Plan for Mission Bay South would be developed by 2015 under Alternative 1./13/

Relationship Between Project Area Employment Growth and Housing Development and Implications for Citywide Housing Market Conditions

Analysis of the jobs/housing relationship for Alternative 1 follows the same approach applied to the proposed project—comparison of the housing demand in San Francisco associated with employment growth in the Project Area to the housing supply represented by Project Area housing development. The comparison provides a useful means of evaluating development alternatives for the Project Area, and it is an indicator of the consequences of the alternative land use mix for the City's housing
VIII. Alternatives to the Proposed Project
A. Alternative 1

market and for commute patterns (and therefore for potential transportation and air quality
environmental impacts). For both the proposed project and this alternative, the evaluation considers
the overall land use mix at full build-out, not estimated development for year 2015, and the following
section discusses this land use mix.

Build-out of the Project Area according to the total development potential of the 1990 Mission Bay
Plan would occur well after 2015 and would add more housing supply in the Project Area and less
demand than would the proposed project. The 1990 Mission Bay Plan included almost 8,300 housing
units/14/ and nonresidential development accommodating about 25,000 jobs./15/ Table VIII.A.3
presents the jobs/housing analysis for Alternative 1, assuming build-out at some point beyond 2015.
Applying the updated jobs/housing analysis to build-out of Alternative 1 (see “Background on the
Jobs/Housing Alternative” in Appendix C, Business Activity, Employment, Housing, and Population)
results in an about even match between the San Francisco housing demand associated with Project
Area employment growth and the housing supply proposed for Mission Bay./16/

Therefore, future housing market conditions after 2015 for some segments of the housing market in
San Francisco would be better under Alternative 1 (the 1990 Mission Bay Plan) in the longer term (at
build-out) than they would be under the proposed Redevelopment Plans for the Project Area. For
market-rate housing, there would be more housing options in San Francisco relative to demand,
resulting in more stable prices and rents than would be the case under the proposed project. On the
other hand, with no mechanism for providing substantial amounts of affordable housing in the Project
Area (e.g., no redevelopment tax increment), demand from very low-, low-, and moderate-income
households not satisfied in the Project Area would result in worse housing market conditions for those
segments of the market, compared to conditions under the proposed project.

Through the year 2015, differences between the jobs/housing outcomes and housing market
implications of Alternative 1 and the proposed project would not be as pronounced. At 2015 under
Alternative 1, there would not be an even match between housing demand and supply in the Project
Area. While there would be more demand relative to supply, the Project Area housing supply deficit
would be about one-half that estimated for the proposed project in 2015. Housing market
implications would be more similar to those of the proposed project than would be the case in the
longer term. In 2015, as at build-out, housing market conditions would be worse under Alternative 1
than would be the case under the proposed project, for very low-, low-, and moderate-income
households requiring affordable housing.
**TABLE VIII.A.3**

**ALTERNATIVE 1: JOBS/HOUSING ANALYSIS AT BUILD-OUT**

<table>
<thead>
<tr>
<th>Demand</th>
<th>[Formulae]</th>
<th>Alternative 1</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Employment growth accommodated in Project Area/a/</td>
<td>23,330</td>
<td>28,330</td>
</tr>
<tr>
<td>B.</td>
<td>Percent representing additional workers living in San Francisco/b/</td>
<td>55.0%</td>
<td>55.0%</td>
</tr>
<tr>
<td>C.</td>
<td>Average number of San Francisco workers in households with workers/c/</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>D.</td>
<td>Additional households associated with Project Area employment growth</td>
<td>((A\times B)/C)</td>
<td>8,020</td>
</tr>
</tbody>
</table>

**Supply**

E.  | Total Project Area Housing Units at Build-out (beyond year 2015)/d/ | 8,270 | 6,090 |

**Comparison of Supply with Demand**

| Surplus or (Deficit) in Project Area | [E - D] | 250 | (3,648) |

**Notes:**
This jobs/housing analysis is not meant to imply that there should (or ever would) be a precise match between jobs and housing for any given project area. The calculation is a useful means of evaluating the proposed project and alternatives, and it provides an indication of the implications of the land use mix for the City’s housing market.

a. Total Project Area employment at build-out (25,000 jobs per the 1991 Mission Bay Plan) minus existing Project Area employment (1,670 jobs).


d. Total units allowed under 1990 Mission Bay Plan.

**Source:** Hausrath Economics Group.

**Implications for Citywide Growth**

Alternative 1 represents what would be expected in the Project Area without a new land use plan as well as the development incentives, and financial and planning assistance embodied in the proposed Mission Bay Redevelopment Plans. The pace of growth would be slower under Alternative 1 than under the proposed project with its Redevelopment Plans. As a result, there would be less employment growth and less new housing development in San Francisco by 2015. Over the longer
term, however, build-out of the Project Area under Alternative 1 has the potential to accommodate almost as many jobs as the proposed project, and more housing.

Nevertheless, from a perspective of citywide employment growth, the proposed project reflects a more current assessment of market potential. Moreover, because Alternative 1 would not accommodate the UCSF site and associated research and development business activity in the Project Area, most, and potentially all, of that economic development would be lost to San Francisco. Accordingly, total jobs and employment diversity would be lower for city residents in the future compared to the situation under the proposed project.

While the pace of development would be slower under Alternative 1, it would eventually (beyond year 2015) offer more to San Francisco’s market rate housing inventory than would the proposed project. There would be less affordable housing development in the City under Alternative 1 than would be for case under the proposed project, however.

Implications for Nearby Areas

This alternative’s more extensive development of office space in Mission Bay North would provide more competition for those areas that could accommodate large amounts of new office development in San Francisco than would office development in Commercial Industrial districts under the proposed project. This would be particularly true for the Transbay area; successful office development in Mission Bay under Alternative 1 would slow the pace of office absorption in the Transbay area.

On the other hand, less low-rise, flexible, campus-type development in the Project Area under Alternative 1 compared to the proposed project would mean somewhat more demand pressure for existing space in Nearby Areas and fewer options for lower-rent paying businesses in those areas. This conclusion would depend on whether or not the Commercial Industrial development under the Mission Bay South Redevelopment Plan would offer a combination of price, design features, and other amenities that would make it competitive with existing, generally lower-rent space.

The neighborhood-serving retail development in Mission Bay North under Alternative 1 would not accommodate the entertainment-oriented development or the eating and drinking establishments designed to capitalize on the adjacent San Francisco Giants Ballpark activity. Therefore, under Alternative 1, there would likely be more retail development in Nearby Areas, including the South Beach neighborhood, other South of Market locations, and at sites along the waterfront to both the north and south of the Project Area, than would be the case under the proposed project.
VIII. Alternatives to the Proposed Project
A. Alternative 1

For the residential real estate market in Nearby Areas, Alternative 1 might result in somewhat more demand pressure in the short term, as a slower pace of Project Area residential development would be expected in the absence of the proposed Mission Bay North and South Redevelopment Plans. Over the longer term, however, housing market conditions in Nearby Areas might not be substantially different from conditions resulting from buildout of the project. While there would be more housing supply in the Project Area relative to housing demand associated with Project Area employment growth, under Alternative 1, there would be fewer affordable housing units in the Project Area compared to the proposed project. More demand for affordable units outside the Project Area would offset any benefits of the increased supply for other segments of the market.

Unlike the other sectors discussed above, affordable housing production depends on project sponsors and available subsidies, not on market demand. Therefore, less affordable housing in the Project Area under Alternative 1, compared with the proposed project, would not necessarily result in more affordable housing produced elsewhere in San Francisco. Instead, housing market conditions faced by households seeking affordable units would be worse than expected under the proposed project, as described in the preceding subsection.

Visual Quality and Urban Design

Alternative 1’s lower heights are shown in Figure V.A.4 in Section V.A, Plans, Policies, and Permits. Alternative 1 would maintain certain views of the downtown area that the proposed project would eliminate. Similarly, Alternative 1 would reduce the magnitude of other visual changes under the proposed project due to the absence of any 160-foot-high towers in Mission Bay South and the decreased amount of overall development under this alternative. Under this alternative, new development would primarily follow the physical transition from the higher elevations of Potrero Hill to the lower elevations of the shoreline. The 1990 Mission Bay Plan calls for taller buildings up to 110 feet in Mission Bay North and up to 85 and 95 feet near Potrero Hill in Mission Bay South, with a stepping down to lower buildings (45 feet) that are more compatible with the shoreline (refer to Figure V.A.4). This approach reinforces the existing landform while maximizing Bay views. The proposed project would allow some buildings of up to 160 feet in every zone, occupying from 7% to 20% of the total zone area as shown in Table III.B.4 in Chapter III, Project Description. Under the proposed project, certain views of the Bay Bridge, Treasure Island, and the downtown skyline from I-280 would be nearly eliminated (as discussed in Section V.D, Visual Quality and Urban Design). Under this alternative, more of these views would be maintained.

Fire Station No. 30, located at the southeast corner of Third and Mission Rock Streets, may be of historical importance and may be eligible for the National Register. Under this alternative, Fire
VIII. Alternatives to the Proposed Project

A. Alternative 1

Station No. 30 would be preserved and reused. Potential impacts associated with possible demolition of the fire station under the project would not occur.

Transportation

The street network assumed for the impact analysis of Alternative 1 is shown in Figure VIII.A.1 with the alternative land uses. This network includes Longbridge Street, which would parallel Third Street and is similar to the extended Fourth Street in the project network, but it would end south of 16th Street instead of at Mariposa Street. It would carry smaller volumes of traffic than the project's Fourth Street and it would run through a residential area with ground-floor commercial uses. The alternative's street network includes an at-grade rail crossing providing a connection between the Project Area and Seventh Street just south of China Basin Channel, as for the project, but does not include a continuous east-west street through the center of Mission Bay South, such as the North Common and South Common Streets couplet. The local street system under Alternative 1 includes a bridge to carry traffic across the Channel at Owens Street, unlike the proposed project.

Trip Generation

Alternative 1 assumes a level of development for the Project Area in the year 2015 consistent with the Association of Bay Area Governments (ABAG) forecast in Projections '96. This development is less than full build-out under the existing 1990 Mission Bay Plan and zoning and less than the full build-out assumed in the analysis of the currently proposed project. The levels of employment and population estimated by ABAG for the year 2015 were, in turn, used to estimate future land use intensities in the Mission Bay Project Area using the population and employment density factors developed for the previous 1990 Mission Bay Plan.

Table VIII.A.4 compares the p.m. peak hour trip generation projections for the No Project/Expected Growth Alternative and the proposed project. Alternative 1 would generate about 19,770 fewer person trips than would the project in 2015, a reduction of about 60%.

Traffic Impacts

This alternative analysis focused on the traffic impact in the immediate vicinity of the Project Area; 11 of the 41 study intersections were analyzed and their levels of service were compared across alternatives. These include mostly intersections surrounding the Mission Bay Project Area, the intersection of 16th Street/Third Street within the Project Area, and those intersections near the
TABLE VIII.A.4
PM PEAK HOUR PERSON TRIP GENERATION IN 2015: ALTERNATIVE 1 COMPARED TO PROJECT

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Alternative 1</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>5,840</td>
<td>11,030</td>
<td>-5,190</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>7,887</td>
<td>22,470</td>
<td>-14,583</td>
</tr>
<tr>
<td>Total</td>
<td>13,727</td>
<td>33,500</td>
<td>-19,773</td>
</tr>
</tbody>
</table>


The levels of service for the 11 intersections for year 2015 cumulative-with-project conditions are shown in Figure VIII.A.2, repeating information in Chapter V, Figure V.E.12, for convenience. As shown in Table VIII.A.5, all except 16th Street/Vermont Street and Seventh Street/Townsend Street would operate at LOS D or better under cumulative conditions with Alternative 1, while 5 of the 11 study intersections would operate at service levels worse than LOS D under cumulative-with-project conditions. The results of the analysis of Alternative 1 are shown in Figure VIII.A.3. The better level of service for the two intersections on King Street would be due to the lower trip generation and lower automobile mode choice (higher transit use) under Alternative 1 from office uses on parcels north of the Channel, plus the lower trip generation in Mission Bay South. The UCSF institutional use would not be part of this alternative and research and development/office uses would be considerably reduced in Mission Bay South, reducing traffic impacts at all intersections compared to intersection service levels with the project. More specifically, the better LOS for the intersection of 16th Street and Potrero Avenue under this alternative (LOS F in 2015 with cumulative growth plus the project, compared to LOS D with cumulative growth and Alternative 1 traffic) is attributable to the lower number of vehicle trips generated in Mission Bay South and the lack of development of the major new UCSF site.

Transit Impacts

Table VIII.A.6 compares the p.m. peak hour transit person trip generation estimates for Alternative 1 and the proposed project. The relatively large number of outbound transit person trips during the
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.A.2 YEAR 2015 CUMULATIVE LEVELS OF SERVICE WITH PROPOSED PROJECT AT SELECTED INTERSECTIONS, WEEKDAY P.M. PEAK HOUR

SOURCE: Wilbur Smith Associates
### TABLE VIII.A.5
INTERSECTION LEVELS OF SERVICE
ALTERNATIVE 1 COMPARED TO PROJECT
PM Peak Hour 2015 Cumulative Conditions

<table>
<thead>
<tr>
<th>Study Intersection</th>
<th>2015 Cumulative with Project</th>
<th></th>
<th>2015 Cumulative with Alternative 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avg. Delay (sec./veh.)</td>
<td>LOS</td>
<td>Avg. Delay (sec./veh.)</td>
</tr>
<tr>
<td>Third St./King St.</td>
<td>99.1</td>
<td>F</td>
<td>39.7</td>
</tr>
<tr>
<td>Fourth St./King St.</td>
<td>52.1</td>
<td>E</td>
<td>23.0</td>
</tr>
<tr>
<td>Fifth St./King St.</td>
<td>28.4</td>
<td>D</td>
<td>11.5</td>
</tr>
<tr>
<td>Seventh St./Townsend St.</td>
<td>195.3</td>
<td>F</td>
<td>78.4</td>
</tr>
<tr>
<td>Sixteenth St./Potrero Ave.</td>
<td>162.7</td>
<td>F</td>
<td>28.8</td>
</tr>
<tr>
<td>Sixteenth St./Vermont St.</td>
<td>200.4</td>
<td>F</td>
<td>71.0</td>
</tr>
<tr>
<td>Sixteenth St./Seventh St.</td>
<td>32.2</td>
<td>D</td>
<td>7.5</td>
</tr>
<tr>
<td>Sixteenth St./Third St.</td>
<td>25.2</td>
<td>D</td>
<td>14.1</td>
</tr>
<tr>
<td>Mariposa/I-280 On-ramp</td>
<td>16.6</td>
<td>C</td>
<td>20.4</td>
</tr>
<tr>
<td>Mariposa/Owens St./I-280 Off-ramp</td>
<td>35.9</td>
<td>D</td>
<td>18.4</td>
</tr>
<tr>
<td>Third St./Mariposa St.</td>
<td>23.7</td>
<td>C</td>
<td>17.0</td>
</tr>
</tbody>
</table>


p.m. peak hour under Alternative 1 is due to the type of land use designated for Mission Bay North under this alternative. This alternative calls for over 98% of the space in Mission Bay North to be office space, as opposed to the project scenario, which calls for residential, retail, restaurant, and movie theater uses. Because workers are more likely than visitors to use transit, and the ratio of worker trips to visitor trips is substantially greater for office space than any other land use type, the transit usage would be relatively high for Alternative 1 in Mission Bay North.

As shown in Table VIII.A.6, the outbound AC Transit trips under Alternative 1 would be greater than those generated by the proposed project. This is because Alternative 1 has different land uses and
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.A.3 YEAR 2015 CUMULATIVE LEVELS OF SERVICE WITH ALTERNATIVE 1 AT SELECTED INTERSECTIONS, WEEKDAY P.M. PEAK HOUR
VIII. Alternatives to the Proposed Project
A. Alternative 1

TABLE VIII.A.6
PM PEAK HOUR TRANSIT PERSON TRIPS DISTRIBUTION BY TRANSIT MODE IN 2015
ALTERNATIVE 1 COMPARED TO PROJECT

<table>
<thead>
<tr>
<th>Transit Mode</th>
<th>Alternative 1 In</th>
<th>Alternative 1 Out</th>
<th>Project In</th>
<th>Project Out</th>
<th>Difference In</th>
<th>Difference Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>BART</td>
<td>163</td>
<td>543</td>
<td>459</td>
<td>725</td>
<td>-296</td>
<td>-182</td>
</tr>
<tr>
<td>AC Transit</td>
<td>68</td>
<td>373</td>
<td>142</td>
<td>293</td>
<td>-74</td>
<td>+80/a/</td>
</tr>
<tr>
<td>Charter Bus</td>
<td>17</td>
<td>101</td>
<td>45</td>
<td>115</td>
<td>-28</td>
<td>-14</td>
</tr>
<tr>
<td>G.G. Bus</td>
<td>18</td>
<td>136</td>
<td>107</td>
<td>228</td>
<td>-89</td>
<td>-92</td>
</tr>
<tr>
<td>Ferry</td>
<td>4</td>
<td>29</td>
<td>23</td>
<td>49</td>
<td>-19</td>
<td>-20</td>
</tr>
<tr>
<td>SamTrans</td>
<td>17</td>
<td>100</td>
<td>45</td>
<td>143</td>
<td>-28</td>
<td>-43</td>
</tr>
<tr>
<td>CalTrain</td>
<td>37</td>
<td>202</td>
<td>106</td>
<td>305</td>
<td>-69</td>
<td>-103</td>
</tr>
<tr>
<td>MUNI Bus /b/</td>
<td>254</td>
<td>873</td>
<td>856</td>
<td>931</td>
<td>-602</td>
<td>-58</td>
</tr>
<tr>
<td>MUNI Metro /b/</td>
<td>703</td>
<td>1,897</td>
<td>1,806</td>
<td>2,859</td>
<td>-1,103</td>
<td>-962</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,281</strong></td>
<td><strong>4,254</strong></td>
<td><strong>3,589</strong></td>
<td><strong>5,648</strong></td>
<td><strong>-2,308</strong></td>
<td><strong>-1,394</strong></td>
</tr>
</tbody>
</table>

Notes:

a. AC Transit use was assumed to be greater for Alternative 1 than for the project because the large number of office employees in the Mission Bay North area would be closer to the Transbay Terminal in this Alternative than would the greater number of employees located south of the Channel in the proposed project.

b. MUNI ridership levels represent persons using MUNI as their primary travel mode, as well as those using MUNI to access regional carriers, such as BART, AC Transit, Golden Gate Transit, ferries and SamTrans.


would result in more office employees in Mission Bay North compared to the project scenario. Employees of offices in Mission Bay would be more likely to use transit than other Mission Bay workers and visitors, and office workers traveling to and from the East Bay would be more likely to use AC Transit than other types of workers and visitors. This greater use of the bus system may indicate that everyday office commuters may be more aware of their transit options and have explored the relative alternatives, and/or that the schedule and area of coverage of the AC Transit system satisfies some commuters better than does BART.
The office worker trips of Alternative 1 would be more concentrated as outbound trips during the p.m. peak hour, whereas the retail and restaurant visitor trips associated with the project scenario would be more equally distributed between inbound and outbound. Finally, 22% of the office worker trips from Alternative 1 would travel to/from the East Bay, whereas only 10 to 14% of the retail/restaurant visitor trips in the project scenario would travel to/from the East Bay.

With fewer transit trips than the proposed project, Alternative 1 would not require mitigation measures for regional transit systems except for AC Transit. BART ridership generated by Alternative 1 would be about 60% of that generated by the proposed project, suggesting that 2015 BART capacity would be sufficient to accommodate Alternative 1 ridership. The same would occur with the Golden Gate Transit, where the bus ridership generated by Alternative 1 would be approximately 45% of the number of trips under the project scenario. Projected Alternative 1 ferry ridership would be approximately 45% of that estimated for the project, causing no significant impact. Similarly, Alternative 1 would generate about 60% of the SamTrans trips that would be generated by the project scenario, while Alternative 1 would also produce about 60% of the Caltrain trips estimated under the project scenario. Neither SamTrans nor Caltrain would experience a significant impact. Under Alternative 1, charter buses would be expected to carry approximately 25% fewer trips than under the project scenario. Alternative 1 would, however, generate more outbound AC Transit trips than would the project. The 370 new trips could be accommodated on existing AC Transit service; in combination with cumulative growth, the alternative would increase the load factor to 159% of capacity, slightly greater than the 157% load factor calculated for the project-plus-cumulative conditions in 2015. This would be a significant cumulative transportation impact. As with the project, Mitigation Measure E.44, in Section VI.E, Mitigation Measures: Transportation, would encourage provision of additional AC Transit bus service.

Table VIII.A.7 describes the general directional movement of MUNI passengers from the Project Area to locations in San Francisco that cross the Northeast, Northwest, Southeast, and Southwest screenlines. Both the project scenario and Alternative 1 are presented in the year 2015 cumulative environment. The table shows that both cumulative scenarios predict increased use of MUNI capacity, with the project generating slightly more trips at the screenlines, indicating an average corridor capacity utilization factor that is approximately 1.2% higher than that of Alternative 1. Although the overall land use intensity for Alternative 1 would be less than that of the proposed project, Alternative 1 would have more office space, as described in the land use development plan. Because offices generate higher transit usage than other land uses, the impact of the two scenarios on MUNI screenlines would be very similar. The excess demand on MUNI in the Kearny-Stockton corridor (lines 30, 30X, and 45) would be attributable to cumulative ridership for both the project and Alternative 1. Passengers crossing the Southwest screenline would use about 98% of the capacity.
### TABLE VIII.A.7
MUNI RIDERSHIP SUMMARY BY SCREENLINE
YEAR 2015 CUMULATIVE WITH ALTERNATIVE 1, AND CUMULATIVE WITH PROJECT

(PM Peak Hour - Peak Direction)

<table>
<thead>
<tr>
<th>Screenline/a/</th>
<th>Year 2015 MUNI Routes</th>
<th>Existing Conditions</th>
<th>Year 2015 Cumulative with Alternative 1 Conditions</th>
<th>Year 2015 Cumulative with Project Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 2015 Capacity l/day</td>
<td>Average Hourly Load</td>
<td>Capacity Used</td>
<td>New Cumulative Trips l/day</td>
</tr>
<tr>
<td>Northeast</td>
<td>30, 30X, 45</td>
<td>3,387</td>
<td>2,256</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>41, 42X</td>
<td>1,733</td>
<td>877</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>5,120</td>
<td>3,133</td>
<td>61%</td>
</tr>
<tr>
<td>Northwest</td>
<td>38, 38L, 38AX, 38BX</td>
<td>2,823</td>
<td>1,986</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>1, 1AX, 1BX, 2, 3, 4, 5, 21, 22, 31,31AX, 31BX, 41, 45</td>
<td>7,679</td>
<td>5,537</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>10,502</td>
<td>7,523</td>
<td>72%</td>
</tr>
<tr>
<td>Southwest</td>
<td>K, L (MMX), M, N</td>
<td>6,783</td>
<td>4,876</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>6, 7, 71, F</td>
<td>1,418</td>
<td>1,096</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>8,201</td>
<td>5,972</td>
<td>73%</td>
</tr>
<tr>
<td>Southeast</td>
<td>J, 9</td>
<td>1,717</td>
<td>1,243</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>846</td>
<td>331</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>3rd. St. LRT Extension</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>14, 14X</td>
<td>1,491</td>
<td>941</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>4,054</td>
<td>2,515</td>
<td>62%</td>
</tr>
</tbody>
</table>

**Notes:**

a. See Figure V.E.6 for Screenline location.
b. Capacity based on San Francisco Municipal Railway Ridership Projections to the Year 2015, May 5, 1997. It assumes an appreciable number of standees per vehicle (somewhere between 60% and 80% of the number of seated passengers, depending on the specific transit vehicle configuration) and may not include the effects of missed or late runs.
c. Average load at maximum load point, based on MUNI's monitoring data, FY 1995-96.
d. Capacity includes the elimination of bus lines 15, 32 and 81X, plus implementation of the MMX and the 3rd St. Extension LRT Services, and any other influencing modifications to service, equipment or operation.
e. Estimated from MTC Model projections and preliminary load estimates from MUNI Third Street LRT Extension Study.
f. Estimated number of project trips that would cross the screenlines.

**Source:** Wilbur Smith Associates.
This level of usage may encourage passengers to use less crowded lines that serve destinations, although willingness to do so may depend on the relative convenience offered to each passenger on alternate lines.

Many Mission Bay workers, visitors, and residents would ride MUNI to and from regional transit stops or transfer to other MUNI lines within the screenlines. These trips are included in the analysis of transit in the vicinity of Mission Bay, where Alternative 1 would impact MUNI service less than the project, but with a more sizable difference than at the screenlines. The trips generated by Alternative 1 would use approximately 40% less local MUNI capacity than the proposed project—a difference of approximately 2,490 p.m. peak trips.

**Parking Demand and Supply**

Table VIII.A.8 compares the demand and supply for parking under Alternative 1 and the project. An estimate of parking supply for Alternative 1 was based on parking supply rates for various land uses from 1990 FEIR Table VI.E.29, p. VI.E.185. Table VIII.A.8 shows that the largest shortage of parking spaces in Mission Bay North would result under Alternative 1, while in Mission Bay South the deficit would be greater under the project scenario. This is due to the additional office space expected in the Mission Bay North in Alternative 1, which would cause a relatively large number of daily automobile trips but would provide a smaller supply of parking based on standard parking supply rates for office buildings compared with parking supply rates for the retail and entertainment uses included in the proposed project.19/

However, while Mission Bay South would have approximately the same number of dwelling units under both Alternative 1 and the proposed project, the area would be occupied by only 900,000 gross sq. ft. of service/light industrial/R&D/office space under Alternative 1 and approximately 5.5 million gross sq. ft. of service/light industrial/R&D/office space and 2.65 million gross sq. ft. of UCSF space in the proposed project. Therefore, the demand for long-term parking would be less for Alternative 1 than for the project in Mission Bay South.

The shortage of parking under Alternative 1 would be approximately 15% less than the shortage described by the project, representing a shortfall for Alternative 1 of about 4,000 spaces, about 800 spaces smaller than the 4,800-space shortfall for the project.

On-street parking should be able to accommodate some of the excess demand estimated for Alternative 1, but it is expected to be sufficiently limited to discourage individuals from driving. However, some drivers to and from Mission Bay South who may be unable to find nearby on-street
TABLE VIII.A.8
PARKING DEMAND/SUPPLY IN 2015
COMPARISON OF ALTERNATIVE 1 AND PROJECT

<table>
<thead>
<tr>
<th></th>
<th>Total Demand (spaces)</th>
<th>Proposed Supply/a/ (spaces)</th>
<th>Surplus or Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative 1: No Project/Expected Growth</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>5,808</td>
<td>3,015</td>
<td>-2,793</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>5,753</td>
<td>4,569</td>
<td>-1,184</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11,561</td>
<td>7,584</td>
<td>-3,977</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>6,585</td>
<td>5,454</td>
<td>-1,131</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>19,540</td>
<td>15,917</td>
<td>-3,623</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>26,125</td>
<td>21,371</td>
<td>-4,754</td>
</tr>
</tbody>
</table>

*Note:
 a. Parking supply rates for Alternative 1 are those presented in 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185.


Parking may seek available parking in surrounding neighborhoods, including nearby commercial/industrial areas and residential areas in the Potrero Hill and Lower Potrero neighborhoods.

**Pedestrians and Bicyclists**

Pedestrian and bicycle traffic is expected to increase in Mission Bay under Alternative 1, but to a lesser degree than the increase expected under the project. The forthcoming Third Street light rail extension through Mission Bay, and the MUNI MMX service that will soon be directly accessible from King Street in Mission Bay North, are anticipated to increase the level of pedestrian traffic in the Project Area. The adoption of the San Francisco Bicycle Plan, with portions of its network in Mission Bay, is anticipated to increase the amount of bicycle traffic in the Project Area if it is implemented. The employment and population growth projected by ABAG would also contribute to notable increases in pedestrian and bicycle traffic in Mission Bay. Table VIII.A.9 shows the non-
VIII. Alternatives to the Proposed Project
A. Alternative 1

TABLE VIII.A.9
NON-MOTORIZED (Pedestrians and Bicycle) PERSON TRIP GENERATION IN 2015
COMPARISON OF ALTERNATIVE 1 AND PROJECT
(PM Peak Hour)

<table>
<thead>
<tr>
<th>Subarea</th>
<th>No Project/Expected Growth</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>857</td>
<td>2,040</td>
<td>-1,183</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>1,274</td>
<td>2,763</td>
<td>-1,489</td>
</tr>
<tr>
<td>Total</td>
<td>2,131</td>
<td>4,803</td>
<td>-2,672</td>
</tr>
</tbody>
</table>


motorized person trips that would be generated by Mission Bay under Alternative 1 compared to those from the project.

Alternative 1 would generate fewer non-motorized trips, about 56% less than the project, in Mission Bay. These travelers, primarily comprised of pedestrians and bicyclists, would have little impact on Mission Bay's transportation network under the project scenario, as described in “Pedestrian Impacts” in Section V.E, Transportation: Impacts. Therefore, pedestrian and bicycle traffic generated by Alternative 1 would have a smaller impact on the crosswalks, sidewalks, and curb lanes in Mission Bay because volumes would be about half as large as those estimated for the project. Because Alternative 1 would also generate fewer transit trips that would require persons to walk to access their respective transit systems, the pedestrian facilities (crosswalks, sidewalks, and curb lanes) would remain at acceptable levels of service, as with the project.

Transportation impacts and mitigation measures are summarized at the end of this section on Alternative 1.

Air Quality

Regional Air Quality

In Alternative 1, vehicular emissions would be approximately 60% less than those from the proposed project. However, criteria pollutant emissions associated with daily peak vehicle trips would still exceed the significance thresholds established by the Bay Area Air Quality Management District.
VIII. Alternatives to the Proposed Project
A. Alternative 1

(BAAQMD), and therefore this alternative would not reduce the significant criteria pollutant emission impact to a less-than-significant level. Daily emissions of reactive organic gases (ROG), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM10) from traffic were calculated for this alternative. As indicated in Table VIII.A.10, vehicular emissions of ROG, NOx, and PM10 would exceed the 80 pound-per-day (lb/day) significance threshold. Emissions of ROG, NOx, and PM10 would be several times greater than their respective thresholds. Because CO emissions would be more than 550 lb/day, a micro-scale analysis of CO concentrations at intersections is appropriate, as provided below.

As with the proposed project, all measures to decrease vehicle trips, as described in Chapter VI, Mitigation Measures, should be implemented. However, even with measures to reduce vehicle trips, the regional air quality impacts would remain significant, as they would under the proposed project.

Local CO Concentrations

Modeling results of local CO concentrations at worst-case (maximally exposed) receptor locations were studied at four intersections. Figure VIII.A.4 shows the intersections selected for modeling for all three alternatives. The results indicated that no exceedances of federal or state one-hour or eight-hour standards (e.g., significant impacts) would occur as a result of traffic emissions associated with Alternative 1. These results, provided in Table VIII.A.11, are similar to those for the proposed project.

Four of the 13 intersections modeled for the proposed project were selected for analysis for Alternative 1, based on their relatively elevated CO concentrations for the project. Figure VIII.A.2 shows the four intersections selected for comparison to the proposed project.20/

Modeling results indicate that the CO concentrations would be slightly less for Alternative 1 compared to the proposed project. Differences in one-hour concentrations at each of the four modeled intersections range from 0.2 to 2.4 parts per million (ppm). The highest one-hour CO concentrations would occur at the intersection of Third and King Streets, where concentrations of 13.6 ppm and 11.2 ppm were estimated for Alternative 1 and the proposed project, respectively. For eight-hour concentrations, differences in results for Alternative 1 and the proposed project ranged from 0.1 to 1.0 ppm. The highest concentrations for both Alternative 1 and the proposed project were modeled at the intersection of Third and King Streets.
TABLE VIII.A.10
ESTIMATE 
VEHICULAR EMISSIONS FROM ALTERNATIVE 1 TRAFFIC
IN YEAR 2015

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Vehicular Emissions (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Organic Gases (ROG)/a/</td>
<td>80</td>
<td>Project: 865, Alternative 1: 290</td>
</tr>
<tr>
<td>Nitrogen Oxides (NOx)/a/</td>
<td>80</td>
<td>Project: 1,324, Alternative 1: 444</td>
</tr>
<tr>
<td>Particulate Matter (PM_{10})/a/</td>
<td>80</td>
<td>Project: 1,968, Alternative 1: 660</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)/b/</td>
<td>550</td>
<td>Project: 12,228, Alternative 1: 4,104</td>
</tr>
</tbody>
</table>

Notes:

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board’s URBEMIS version 5 model.

Toxic Air Contaminants

In Alternative 1, toxic air contaminant emissions would result from facilities located in the Service/Light Industrial/Research and Development land use and retail areas in the South of Channel area. In the North of Channel area, offices would likely emit toxic air contaminants from burning of natural gas for boilers and chillers, and retail uses may emit toxic air contaminants, but no light industrial or research and development uses would be permitted. Vehicle trips associated with Alternative 1 would also cause toxic air contaminant emissions.

Due to the smaller amount of Service/Light Industrial/Research and Development/Office and retail uses in Alternative 1, compared to the Commercial Industrial and retail uses in the proposed project, there would likely be less toxic air contaminant emissions from stationary sources in Alternative 1, compared to the proposed project. (Although there would likely be more office space in Alternative 1 than in the proposed project, toxic air contaminant emissions are generally less for offices than for light industrial and research and development uses.) Also, in this alternative, the roughly 60% decrease in overall traffic would reduce toxic air contaminant emissions from mobile sources, compared to the proposed project.
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.A.4 INTERSECTIONS SELECTED FOR MODELING OF LOCAL CARBON MONOXIDE CONCENTRATIONS FOR ALTERNATIVES
VIII. Alternatives to the Proposed Project
A. Alternative 1

TABLE VIII.A.11
ESTIMATED LOCAL CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS FOR ALTERNATIVE 1 IN 2015

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Proposed Project/a/</th>
<th>Alternative 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One Hour</td>
<td>Eight Hour</td>
</tr>
<tr>
<td>Third and 16th</td>
<td>11.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Third and King</td>
<td>13.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Fourth and Bryant</td>
<td>8.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Eighth and Townsend</td>
<td>9.9</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Notes:
ppm = Parts per million.
a. Refer to Table V.F.5 and associated text in V.F, Air Quality.

Source: EIP Associates.

As discussed in “Potential Emissions from the Proposed Project” under “Combined Risk of Individual Facilities Within the Mission Bay Project Area” in Section V.F, Air Quality: Impacts, toxic air contaminant emissions from multiple facilities within the proposed project could result in combined risks to individuals in certain locations that could be considered by some persons to be significant. Therefore, this SEIR conservatively characterizes toxic air contaminant emissions as a potentially significant impact of the project.

Whereas state law provides a mechanism to ensure that the school siting process considers potential exposure to toxic air contaminants, preschool and child care facilities would not be subject to California’s school siting process. These facilities could be operated near or among the Service/Light Industrial/Research and Development/Office uses. A measure such as Mitigation Measure F.6 proposed for the project would be needed to ensure that preschool and child care facilities would consult with agencies regarding potential risks, and that the BAAQMD would have the opportunity to request updated emissions inventories from facilities emitting toxic air contaminants if a pre-school or child-care center locates within 1,640 feet of such a facility.

In sum, even though the toxic air contaminant emissions from stationary sources in Alternative 1 would likely be less than for the proposed project, toxic air contaminant emissions from multiple facilities could combine to increase risks; therefore this SEIR conservatively characterizes toxic air...
contaminant emissions from Alternative 1 as a potentially significant impact. All of the mitigation measures for the project would be appropriate for Alternative 1, except Measure F.4 could be modified so that the meteorological station would be located near the potential Service/Light Industrial/Research and Development/Office uses on Owens Street.

Demolition and Construction Air Pollutant Emissions

Criteria Pollutants

Criteria pollutants emissions, primarily in the form of PM$_{10}$, would be a less-than-significant impact after implementing BAAQMD-approved dust mitigation measures for demolition and construction activities, as under the proposed project.

Contaminated Soils

As for the proposed project, excavation could result in the generation and release of dust containing toxic air contaminants to the air and adverse impacts on construction workers and the public. Potential impacts for Alternative 1 would be the same as for the project, and would be mitigated through implementation of risk management plans, as explained under "Contaminated Soils and Groundwater," below.

Noise and Vibration

Noise

A qualitative analysis of the traffic information for Alternative 1 shows that traffic volumes at the study locations would remain the same or would decrease, compared with volumes for the proposed project and would, therefore, have correspondingly equal or smaller traffic noise increases at the same locations. While the noise analysis of project traffic showed that traffic increases would contribute to an increase in peak hour and daily noise levels at existing sensitive receptor and residential locations, as well as at sites of potential future sensitive receptors, the contribution would not be noticeable to most individuals at most locations. Noise levels for the study locations at Potrero Avenue south of 16th Street; Pennsylvania Street south of Mariposa Street; and Berry Street west of Fourth Street would essentially remain unchanged under Alternative 1 conditions compared to noise levels shown for the project. Decreases in traffic volumes, and concomitant reductions in noise levels, would occur at the study locations of Third Street south of Mission Rock Street; The Common south of Owens Street; and Fourth/Minnesota Streets, south of Mariposa Street.
To further assess the potential traffic noise impacts of Alternative 1, a quantitative analysis was performed at the sensitive receptor location at Mariposa and De Haro Streets (St. Gregory’s Episcopal Church). Traffic volume data for the alternative were analyzed using the same SOUND 32 model that was used for the proposed project. Under this alternative, the increase in traffic noise levels would be 0.6 dBA less than the proposed project’s noise increase, and the impact would be less than significant, as it would be for the proposed project. Alternative 1 traffic plus cumulative traffic in 2015 would increase 24-hour \( (L_{dn}) \) noise levels by up to 0.3 (dBA) in contrast to a 1.3 dBA change for the proposed project. The alternative’s traffic would increase the 1-hour \( (L_{eq}) \) for p.m. peak hour traffic by 0.6 dBA—an increase that would not be noticeable to most individuals and would not interrupt church activities.

**Vibration**

Alternative 1 would have residential uses over ground floor retail on Third Street and Fourth Street in Mission Bay South. The MUNI Third Street light rail tracks would be installed down the center of these streets in the Project Area. Vibration effects from the light rail vehicles would be similar to the effects described for the project along Third and Fourth Streets and would not be expected to be significant.

Caltrain tracks in Mission Bay North would be adjacent to community facilities in Alternative 1 rather than the residential use over retail proposed in the project. Community facilities would be less sensitive than residential uses to vibration from heavy rail, because community facilities would not be expected to be used for sleeping. If a concert or theater activity were to be held occasionally in the community facilities, passenger train vibration could be annoying, but would not be considered a significant environmental impact. Therefore, Mitigation Measure G.2, described for the project in Section VI.G, Mitigation Measures: Noise and Vibration, would not be applicable to this alternative.

Existing freight rail tracks would be relocated to the center of 16th Street in Alternative 1, as with the project. Vibration from heavy rail activity would be noticeable in the residential buildings proposed to be on 16th Street east of Owens Street and might exceed the standard of 80 VdB for infrequent events suggested by the Federal Transit Administration. However, given that the freight trains in this area move very slowly (often less than 20 miles per hour) and that the residential buildings are likely to be concrete rather than wood-frame, vibration levels could be 70 VdB or less and then would not be a significant impact. As it is not likely that vibration would be a significant impact on residential uses along 16th Street, no mitigation has been suggested; it might be useful to perform a more detailed evaluation of potential vibration effects from heavy rail as part of foundation design for...
residential buildings along 16th Street, or consider vibration-reducing design features in constructing
the track.

The potential vibration effects on sensitive research instruments described in the project analysis for
the UCSF site and other possible research facilities along Third Street and along 16th Street would
not occur under this alternative.

Seismicity

Effects of Groundshaking

The Project Area under this alternative would be subject to the same seismic conditions as the
proposed project described in “Project Area Characteristics,” in Section V.H, Seismicity: Impacts: a
67% probability of at least one major earthquake within the 30-year period between 1990 and 2020;
anticipated peak ground accelerations in excess of 0.5g; liquefaction and earthquake-induced
settlement of some fill.

Under Alternative 1, some existing land uses in the Project Area could continue after 2015 during the
build-out period. While existing structures would remain, some might be retrofitted to upgrade their
seismic resistance; some new buildings would be constructed, although fewer by 2015 than for the
proposed project. As with the project, new structures would be more resistant to seismic forces than
retrofitted structures and, therefore, would suffer less damage during earthquakes. Although a
retrofitted structure would reduce injury and loss of life, the structure itself might not survive the
earthquake in as sound a condition as a new structure. If Fire Station No. 30 would be reused for a
fire or fire and police station in this alternative, it would need seismic upgrades.

Existing structures that pre-date modern building codes, and have not been retrofitted, could tilt,
deform, settle rapidly, or collapse, thereby exposing occupants to injury or death. Because of the
slower pace of development under Alternative 1, more existing structures would remain in use in
2015 in comparison to the proposed project, in which existing structures would be removed.
Conditions for the alternative in 2015 would be similar to those discussed for the project in “Phasing
of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts.

Seismic Hazard Zones

The Project Area is in a Liquefaction Hazard Zone. Existing structures supported on the potentially
liquefiable fill in the Project Area could deform, tilt, settle rapidly, or collapse, thereby exposing
occupants to injury or death. Existing pile-supported foundations pre-date modern building codes and would not be expected to perform as well as new foundations during seismically induced liquefaction of the surrounding fill. In this alternative, it is assumed that the Project Area would be redeveloped gradually, with structures on appropriate foundations to accommodate the adverse effects of liquefaction. All new construction under San Francisco’s jurisdiction throughout the Project Area would be required to meet the seismic safety provisions of the currently applicable San Francisco Building Code (1995 or future revisions). Existing structures would remain in use until they were replaced by new construction. Unless the South of Channel area were completely developed with new buildings, the effects of liquefaction would be more severe in Mission Bay South than for the proposed project’s less-than-significant impact due to the continuation of existing conditions (see “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts).

Exposure of Concentrated Populations to Seismic Hazards

As development occurred under this alternative, the population would rise from the current population of the Project Area (less than 2,000 employees) to about 20,300 people (5,470 residents, 14,800 employees) by the year 2015. In terms of the actual number of people in the Project Area, this represents about 50% of the population of the proposed project in 2015.

As development progressed in the Project Area, the percentage of the population in seismically resistant buildings that are on pile-supported foundations, have been retrofitted, or meet the seismic safety provisions of the currently applicable San Francisco Building Code, would increase because new structures in San Francisco’s jurisdiction would comply with the currently applicable San Francisco Building Code. However, unless the Project Area were completely developed with new structures, the percentage would not be the same as that of the proposed project. Therefore, although build-out to 2015 would result in about 50% fewer people occupying the Project Area than the proposed project, this alternative would have slightly more severe seismic safety effects because existing seismic safety conditions would continue longer than for the proposed project. These existing conditions are described in the “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts. As with the proposed project, these existing conditions would not be significant impacts under CEQA.

Under this alternative, the Mission Bay Plan would integrate such emergency response facilities as the fire station and the extension of the Auxiliary Water Supply System for fire-fighting into the South of Channel area, (it already exists in the North of Channel area) to reduce the remaining exposure to seismic hazards to an acceptable level.
Health and Safety

Like the proposed project, Alternative 1 would increase the use, storage, generation, and disposal of hazardous materials and waste. However, the increase would be substantially smaller with the alternative for two reasons. First, development of the UCSF site is not assumed under this alternative. Second, the amount of commercial space that could use or generate hazardous materials or waste would be smaller—approximately 80% less service/light industrial/R&D and industrial space (approximately 900,000 sq. ft. under Alternative 1 and 5.6 million gross sq. ft. under the proposed project). Under this alternative, the smaller amount of space where hazardous materials use and generation could occur would reduce the magnitude of potential use within the Project Area.

Reduction in magnitude of potential use would reduce the potential risk, although it would not eliminate potentially significant impacts. Legal and regulatory requirements applicable to hazardous materials operations would reduce most of the common and potentially significant health and safety impacts to less-than-significant levels, as they would under the proposed project. However, the project’s potentially significant impacts would also be significant under this alternative, and significant health and safety impacts are discussed below.

First, although the UCSF site would not be developed, it is possible that some occupants of the industrial space would conduct biomedical or related activities and generate biohazardous waste. In this case, the potential impact could be reduced to less-than-significant levels with mitigation measures identified for the project.

Second, development under this alternative would likely increase the generation of hazardous waste and contribute to existing impacts of hazardous waste disposal. However, the increase in hazardous waste generation would be substantially less than for the proposed project. As with the project, environmental impacts of hazardous waste disposal would be minimized, but not eliminated, by encouraging such pollution prevention measures.

Contaminated Soils and Groundwater

Chemicals of various types and concentrations were found in the soil and groundwater throughout the Mission Bay Project Area. With the exception of petroleum hydrocarbon contamination in a petroleum free product area (see “Glossary and Acronyms” at the end of Section V.J, Contaminated Soils and Groundwater, for definition) located in the southeast portion of the Project Area in the vicinity of Illinois and Third Streets, concentrations of contaminants in soil or groundwater do not present a human health or ecological risk under existing conditions. In the free product area, potential effects on near-shore aquatic organisms are being managed through additional investigation.
and any necessary remediation by oil companies responsible for the contamination. This remediation will be carried out regardless of whether the proposed project or this alternative is approved (see Section V.J, Contaminated Soils and Groundwater).

Most of the Project Area would experience soil and groundwater construction-related effects similar to those described for the proposed project, although the locations and extent of activities would vary because of differences in land use compared to the proposed project. As explained for the proposed project, some residual chemicals may remain in the Project Area soils or groundwater other than those associated with the free product (see “Impacts During Project Development,” in Section V.J, Contaminated Soils and Groundwater). There would be fewer people who could be exposed to contaminants in soil or groundwater that could be released during site development. Potential construction-related effects on the aquatic environment would be similar to those identified for the proposed project.

To reduce potential hazards to human health and the environment during construction, Risk Management Plans (RMPs) would be prepared for development activities that would occur in Mission Bay North and Mission Bay South based on proposed land uses; the RMPs would be reviewed by the Regional Water Quality Control Board (RWQCB) staff. Measures identified in the RMPs, which would be modified to reflect the proposed land uses under this alternative, would reduce to a less-than-significant level any risks that might result during construction and from use of locations that would be developed and occupied during construction, under this alternative.

The alternative would not be expected to be fully built out by 2015. Therefore, unlike the proposed project, some sites in the Project Area would remain vacant and would allow rainwater to infiltrate the soil, potentially affecting concentrations of chemicals in groundwater. Thus, under Alternative 1 there could be less reduction in potential releases of residual contaminants to the environment by 2015 than under the project. It has been shown that there are no unacceptable risks to the aquatic environment from chemicals in soil or groundwater in the Project Area that may migrate in groundwater to surface water bodies, except possibly for the free product area. The fact that the alternative would not be fully built out by 2015 would not mean that the alternative would cause significant aquatic impacts.

**Hydrology and Water Quality**

The Project Area would be served entirely by a combined sewer system, and not by the separated sewer system for part of the Project Area that is proposed for the project. The resulting pollutant load under this alternative would be similar to that described for the Bayside Base Case plus Mission Bay.
B. Alternative 1

Bay 100% Combined Sewer System scenario in “Changes in Discharges to Receiving Waters” in Section V.K, Hydrology and Water Quality: Impacts. That scenario assumes build-out of the proposed project, but with a 100% combined sewer system for the entire Project Area instead of both separate and combined systems. As discussed in that subsection, the pollutant load resulting from the 100% Combined Sewer System scenario would be about the same as that resulting from the proposed project.

Total development under Alternative 1 would be less than under the proposed project, but it would occur within the same land area. Municipal wastewater generated under Alternative 1 would be about 35% of that under the project. As with the project, land uses under this alternative would include businesses such as wet laboratories that could potentially release chemicals into the City’s combined sewer system that could cause the City to exceed its permit limits. Mitigation Measure K.2 would apply to this alternative. More permeable surface area could conceivably result under this alternative based on the less-intensive development scheme. Therefore, stormwater runoff to the combined system potentially could be less under this alternative than under the proposed project. No direct stormwater discharge to the Bay or Channel would occur under Alternative 1.

As for the project, land uses under this alternative would be similar to the existing range of uses in the City. Therefore, pollutant concentrations in municipal wastewater effluent and treated combined sewer overflows (CSO) would remain essentially the same as existing conditions, as they would for the proposed project. Unlike the project, there would be no direct stormwater discharge to near shore waters of the Bay because the Project Area would be served by a combined sewer system. As for the project, no new toxicological effects to aquatic organisms in San Francisco Bay and no new effects on sediment quality would result from changes in discharges under this alternative. In addition, as with the project, water-contact recreation would not be substantially impacted by increased treated CSOs, as with the project. Therefore, Alternative 1 would have a less-than-significant project impact on water quality. The cumulative impacts of this alternative would be similar to those of the proposed project, in that cumulative impacts would be less-than-significant, but as with the project, the SEIR conservatively finds that this alternative would contribute to a potentially significant cumulative impact on the near-shore waters of San Francisco Bay. Because no direct stormwater discharges would occur under this alternative, Mitigation Measure K.4 would not apply to Alternative 1. Only Mitigation Measure K.3 would apply to this alternative for this cumulative impact.

Under Alternative 1, UCSF would not develop its major new site in the Project Area, but Alternative 1 would include development of interim Giants Ballpark parking lots in Mission Bay South. Therefore, interim drainage plans would not necessarily be the same as those proposed for the project (see “Proposed Drainage Plans for Interim Giants Ballpark and UCSF Parking” in Section V.K, Hydrology and Water Quality: Impacts), but could include a surface detention basin concept as for the
project. As discussed in "Water Quality Effects of Phased Development and Interim Uses" in Section V.K, Hydrology and Water Quality: Impacts, if a surface detention basin were included in interim drainage plans until other improvements or upgrades could be made to the existing combined sewer system in the Project Area, pollutant load effects for phased development would be equal to, or less than, loading under built-out conditions under the 100% Combined Sewer System scenario for the proposed project. Because controls would be needed for stormwater under Alternative 1, prior to Project Area build-out, as for the proposed project, Mitigation Measure K.5 would apply.

Erosion and sedimentation impacts from construction would be similar to those of the proposed project. A construction Storm Water Pollution Prevention Plan would be required by existing stormwater regulations to reduce impacts to less-than-significant levels, as would be the case under the proposed project. Mitigation Measure K.1 specifies the minimum measures that must be included in the Storm Water Pollution Prevention Plan.

China Basin Channel Vegetation and Wildlife

The Channel edge treatments for Alternative 1 would be the same as those presented for the Mission Bay Plan/22/, with a hard edge on the north side of the Channel between Fourth Street and Owens Street composed of walls and decking. The hard-edge treatment on the north side of the Channel for Alternative 1 would result in the same amount of loss of existing salt marsh wetlands as the proposed project (totaling 0.13 acre). This would be more than offset, however, by proposed soft-edge treatments on the north side of the Channel between Sixth and Seventh Streets and on the south edge of the Channel between Owens Street and Third Street. The proposed soft-edge treatments would plant approximately 0.6 acre of native salt marsh vegetation where none currently exists./23/ This would result in a net gain of about 0.5 acre of salt marsh wetland acreage. It would result in a larger area of wetlands than the proposed project.

Installation of more structures (i.e., the proposed Owens Street Bridge) in the Channel under Alternative 1 would be similar to the proposed project but with increased area of disturbance. This would result in more potential impacts caused by resuspension of contaminated sediments. These impacts would be reduced to a less-than-significant level with mitigation measures similar to those proposed for the project.

Community Services and Utilities

Fire Protection

Alternative 1 assumes a level of development for the Project Area by the year 2015 that would be less than that of the proposed project and would, therefore, be expected to generate fewer emergency,
VIII. Alternatives to the Proposed Project
A. Alternative 1

The number of hazardous materials incidents would also likely be less because there would be less research and development (R&D) and institutional space. Under this alternative, the resident and employee populations in 2015 would be about half of each forecast population for the proposed project at build-out (see Table VIII.1). There would be about 78% less retail development and 52% less office and service/light industrial/R&D/office space.

Although the number of incidents generated by this alternative could reasonably be expected to be less than for the proposed project, this alternative would also require additional Fire Department resources as would the proposed project. An engine company and a truck company, and a station to house them would be provided under this alternative, as called for in the adopted 1990 Mission Bay Plan.\(^\text{24}\) This alternative would also add new households and businesses into a previously underdeveloped area. The additional demand on citywide Fire Department resources, and emergency access to the South of Channel area in the event of an earthquake or during events at the San Francisco Giants Ballpark, would remain a concern for any substantial amount of new development in the Project Area.

Expansion of the high-pressure water system (also known as the Auxiliary Water Supply System, or AWSS) and installation of six cisterns would provide adequate fire-fighting capability to the interior of the Project Area in this alternative. Expansion of the AWSS in this alternative would be similar to the proposed expansion of the AWSS in the project. The six cisterns included in this alternative would provide a backup supply of water, if the AWSS fails. The project proposes to use suction inlets near the Bay and Channel as a backup water supply, instead of installing cisterns.

This alternative would include 3.1 acres south of the Channel for community facilities, which could include a police and/or fire station. Fire Station 30 could be rehabilitated for use, or a new station could be constructed. The proposed project would include about 3.7 acres for community facilities south of the Channel.

Police Protection

Because this alternative would have about half the employee and resident populations of the proposed project in 2015, demand on the SFPD for police personnel and resources would be about half as much (about 30 police personnel as opposed to about 60) in order to provide a level of police service comparable to the citywide level.\(^\text{25}\) As with the proposed project, interior building space in an existing or new police station within or near the Project Area, would be needed, but would be about half as much (3,720 gross sq. ft.) as estimated for the proposed project (about 7,440 gross sq. ft.).
The number of squad cars needed would also be about half (10-11), and fewer parking spaces would be needed.

It is unlikely that additional personnel could be accommodated at existing stations. This alternative, which would include 3.1 acres south of the Channel for community facilities, could include a police and/or fire station. An approximately 1.5-acre site adjacent to and including the site of the closed Fire Station No. 30 at Third and Mission Rock Streets may be considered among those potentially available for a relocated Southern Station. If the Southern Station were to be expanded and/or relocated, it could accommodate some of the additional demand for space to serve this alternative.

**Public Health Services**

This alternative would generate less demand for public health services in the areas of environmental health, personal health care services, and mental health services than the proposed project would because there would be fewer employees and residents. Demand for the Bureau of Environmental Health Management's inspection and oversight services would be less than that for the proposed project because fewer retail establishments would serve food and fewer firms would be likely to use hazardous materials. In 2015 there would be approximately 78% less retail development and 52% less office and research and development space than in the proposed project (see Table VIII.1). Demand for personal health care services and mental health services would also be expected to be less than that for the proposed project due to the smaller resident and employee populations in the Project Area.

**Recreation and Parks**

Demand for open space in 2015 would be less for this alternative than for the proposed project because there would be about 50% fewer residents and workers in the Project Area by the year 2015. However, about 60% less open space would be provided. An estimated 19 acres of open space would be developed through 2015 with Alternative 1, which would provide a ratio of approximately 3.5 acres per 1,000 residents. The alternative would generate a total employee demand for 2.1 acres; employee demand would be satisfied by the same open space as that used by residents, as with the proposed project. The project, which would include the development of approximately 47 acres of open space, would provide a ratio of approximately 4.3 acres per 1,000 residents, and would generate a total employee demand for approximately 4.2 acres.

The total amount of open space provided by this alternative in 2015 would be 28 acres less than that provided by the proposed project, and would also be comparatively less when measured in acres.
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provided per 1,000 residents. Comparison of open space impacts based on the service area analysis done for the proposed project is not possible, however, since there is no plan at this time for the types or location of recreational facilities that would be provided by Alternative 1. This information would be necessary to determine whether open space planned for this alternative would be more or less likely to satisfy the needs of Project Area employees and residents than that provided by the proposed project.

Schools

Alternative 1 projects a resident population of about half that of the proposed project by 2015. Therefore, this alternative would be expected to generate about half as many school-age children as the proposed project: 810 compared to 1,615. The estimated number of students at each school level would be approximately 365 elementary-school-age students, 200 middle-school-age students, and 245 high-school-age students./27/

As with the proposed project, this alternative would include a site for a public school in Mission Bay South. As with the proposed project, the City and County of San Francisco would need to develop additional classroom space to accommodate students generated by this alternative. Demand for classroom space would be less with this alternative because there would be fewer new students; all of the elementary school students in this alternative could likely be accommodated at a new school in the Project Area, whereas with the proposed project they could not be. However, middle school and high school students would not be accommodated on-site. Options that could be considered by the SFUSD to increase the capacity of the school district include implementing year-round schools, using portable classrooms, or building new permanent classrooms at an existing or new school site. While constructing new schools might cause significant impacts at those locations, it is too speculative to identify impacts at this time from construction of additional school facilities without knowing what action or actions the SFUSD would take to accommodate the additional students, whether SFUSD would choose to accommodate the additional students in a manner that would result in physical changes to the environment, or exactly where those actions would occur. Any new facilities proposed by SFUSD would undergo appropriate environmental review for site-specific physical environmental impacts.

Development occurring with Alternative 1 would be subject to the same one-time development impact fee as the proposed project. As discussed in “Schools: Impacts,” in Section V.M, Community Services and Utilities, this fee is collected for the school district at the time building permits are issued, and is $1.72/square foot (sq. ft.) for residential development, and varies from $0.08/sq. ft. to $0.24/sq. ft. for different types of commercial development./28/ The development impact fees were
set by the state legislature and are reviewed every two years by the State Allocation Board. The San Francisco Board of Education than must set the fees within the state constraints. The fees do not necessarily increase annually. Total fees would be less than those collected for the proposed project because there would be fewer square feet of residential and commercial development generating these fees. Alternative 1 would generate about $5.5 million in school fees, whereas the project would generate approximately $11.2 million. Construction of an elementary school for 365 students costs about $9.2 million in 1998 dollars, which would exceed the amount generated through development impact fees. Therefore, development impact fees would be insufficient to cover the cost of a new elementary school and provide funds for middle and high school students.

Solid Waste

Alternative 1 would generate approximately 10,000 tons of solid waste per year by 2015, which is about 50% of the projected solid waste generation for the proposed project at build-out (19,000 tons/year). At San Francisco’s current diversion rate (35%), this alternative would contribute about 6,500 tons of solid waste per year to the Altamont Landfill. With a diversion rate of 50%, as required by state law by the year 2000, this alternative would contribute approximately 5,000 tons of waste to the landfill annually. As with the proposed project, development under Alternative 1 is assumed in the Altamont Landfill Capacity Projections and would not affect the expected lifespan of San Francisco’s landfill contract with Waste Management of Alameda County, due to expire between 2012 and 2016. Under this alternative, the disposal companies could potentially require additional staff and collection equipment to serve the Project Area, as they would under the proposed project.

Water Supply

Alternative 1 would use an estimated 1.0 million gallons per day (mgd) of water in 2015, which would represent approximately 35% of the water demand for the proposed project (2.9 mgd). The reclaimed water demand for this alternative would be approximately 0.50 mgd, or about 50% of the reclaimed water demand for the proposed project (0.98 mgd).

As with the proposed project, the low-pressure and high-pressure water systems would require expansion in order to provide adequate service to the central portion of the Project Area. The City’s proposed reclaimed water system would require a new system of pipelines throughout the Project Area, as would be the case under the proposed project.
Sewers and Wastewater

Alternative 1 would generate approximately 0.87 mgd of sewage through 2015, which is about 35% of the estimated daily sewage generation for the proposed project (2.5 mgd). Under this alternative, unlike the proposed project, the Central/Bay Basin would continue to use the City’s combined sewer system (see Figure V.K.2, in Section V.K, Hydrology and Water Quality). The combined sewer system in the Central/Bay Basin would require expansion and upgrading of sewer lines. This alternative would also include the construction of additional storage sewer capacity to accommodate increased stormwater runoff, as proposed in the approved 1990 Mission Bay Plan. Recent analysis by the San Francisco Public Utilities Commission, Clean Water Program indicates that the City’s combined sewer system probably has adequate capacity to accommodate development from the proposed project in the Project Area without additional storage sewer capacity. Further analysis of detailed, project-level, drainage plans of the combined sewer system for the Project Area, once they were developed, would be needed for confirmation. Growth in the North Basin and Mariposa Basin (Figure V.K.2) would require the same extensions of the existing combined sewer system to previously unserviced areas as would occur with the proposed project. Construction of new sewer lines would have impacts related to contaminated soils similar to those described for project construction in Section V.J, Contaminated Soils and Groundwater: Impacts.

Energy Capacity and Infrastructure

Energy demand would be less overall under this alternative than for the proposed project because there would be less residential and commercial development. However, the Project Area is an underdeveloped area, and any substantial amount of new development could be expected to require some amount of new infrastructure or upgrades to existing infrastructure. Therefore, although energy demand would be less than that for the proposed project, some upgrades would still be necessary.

Telecommunications

On the basis of preliminary information, Pacific Bell would serve the proposed project via fiber optic cable and remote terminal sites. This alternative would likely generate less demand for telecommunications services than the proposed project because there would be approximately 50% less residential and commercial development in 2015. However, as discussed above under “Energy Capacity and Infrastructure,” the Project Area is an underdeveloped area, and any substantial amount of new development may still require new infrastructure or infrastructure upgrades, although on a smaller scale than required for the proposed project.
SUMMARY OF MITIGATION MEASURES

Mitigation measures applicable under this alternative would be those of the 1990 Mission Bay Plan. Since this SEIR’s analysis updates that of the 1990 FEIR in terms of environmental and regulatory conditions and information (as well as a changed project), it is reasonable to expect that mitigation measures similar to those identified for the proposed project would be developed and applied as necessary.

The significant impacts of Alternative 1 for air quality, including toxic air contaminants; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the project.

Hydrology and water quality mitigation measures for Alternative 1 would be the same as for the project, but Mitigation Measure K.4 would not apply. This is because no direct stormwater discharges to near-shore waters would occur that could cumulatively impact near-shore water quality. Potential cumulative impacts to near-shore water quality would only occur from treated combined sewer overflows.

Effects on existing wetlands in China Basin Channel would be about the same under Alternative 1 as they would be under the project and more acreage of wetlands would be restored. This Mission Bay Plan proposal for this alternative, to restore salt marsh wetlands along the south edge (and part of the north edge) of the Channel, would have essentially the same result as described for the proposed project in Section VI.L, Mitigation Measures: China Basin Channel Vegetation and Wildlife.

Traffic impacts in 2015 would be reduced under this alternative, and fewer intersections would degrade to LOS E or F. Traffic mitigation measures for this alternative would be similar in nature to those for the project, although some mitigation measures might be applied in different locations due to the proposed circulation pattern. On the other hand, some features of the proposed project would not be necessary, and some mitigation measures would not be needed, based on reduced numbers of intersections reaching significant levels. For example, the intersection of 16th Street and Potrero Avenue would not degrade to LOS F under the alternative and would not need the mitigation measures described for the project in Section VI.E, Mitigation Measures: Transportation. Measures also would not be needed at Third and King Streets and at Fourth and King Streets in 2015 under the alternative. As with the proposed project, Alternative 1 would contribute to congestion at intersections leading to freeway ramps; these intersections could not be mitigated to acceptable levels of service by typical signal timing or reconfiguration measures and would remain at LOS E or F, as they are under existing conditions.
Impacts on regional transit services, except for AC Transit, would be less (because demand for service other than AC Transit would range from 40% to 75% of the demand generated by the project) and would not require mitigation. The alternative would contribute a slightly greater amount to cumulative demand for AC Transit service because of the relatively larger amount of office space in Mission Bay North. Impacts on MUNI service would be similar to those of the project, and the same mitigation measures as described for the project would be applicable. Other transportation issues, such as parking and pedestrian effects, would not have significant environmental impacts, as with the project, and therefore would not require mitigation.

Existing seismic structural hazards in the Project Area would persist for a longer period of time under Alternative 1 because more of the Project Area’s existing buildings would remain in use for a longer time (see “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts). Although existing regulations may seismically strengthen some of those buildings, the Project Area’s building stock would pose a higher degree of seismic safety risk through 2015 than the less-than-significant risks under the proposed project. The risk would not be a significant impact under CEQA because the majority of existing structures are relatively low-rise, light-weight buildings posing limited hazards.

Regarding toxic air contaminants, the 1990 FEIR did not address them other than from construction sources. As a result, measures similar to those proposed for the project would be needed, with Mitigation Measure F.4 modified so the meteorological station would be located near the potential Service/Light Industrial/Research and Development/Office, since UCSF is not assumed as part of the alternative. As with the proposed project, combined toxic air contaminant impacts would remain potentially significant and unavoidable after mitigation.

The 1990 FEIR did not identify water quality impacts as significant in the manner that the SEIR does. Thus, no mitigation measures were proposed in the 1990 FEIR. Because water quality impacts have been identified as significant, Mitigation Measures K.1-K.3 and K.5 would be recommended for Alternative 1.

This alternative’s significant unavoidable project and cumulative impacts would be the same as those of the proposed project (see Chapter IX, e.g., intersection, bridge/ramp, vehicular air pollutant emissions, toxic air contaminants, hazardous waste generation and disposal, water quality), although their magnitude may vary.
B. ALTERNATIVE 2: REDEVELOPMENT NORTH OF CHANNEL/EXPECTED GROWTH SOUTH OF CHANNEL ALTERNATIVE

The Redevelopment North of Channel/Expected Growth South of Channel Alternative (Alternative 2) is a hybrid consisting of the proposed project for Mission Bay North, and Alternative 1 for Mission Bay South. Figure VIII.B.1 is a site plan for this alternative and reflects full build-out in 2015 for Mission Bay North and full build-out beyond year 2015 for Mission Bay South. This alternative assumes a redevelopment plan and associated documents for Mission Bay North as discussed in Chapter III, Project Description, of this SEIR. No redevelopment plan is assumed for Mission Bay South, but the partial build-out assumptions of Alternative 1 would occur, in accordance with the existing land use districts of the 1990 Mission Bay Plan.

This alternative's project area is the same as that for the proposed project. As with the proposed project, the alternative's project area excludes the port property east of Third Street and south of the Channel, the surface water area of the Channel itself and the associated houseboat community, and the Caltrain tracks and terminal in the two blocks bounded by Fourth, Townsend, King, and Sixth Streets, all of which were included in the 1990 Mission Bay Plan. The alternative includes the Castle Metal property west of Third Street between 16th and Mariposa Streets that was not part of the 1990 Mission Bay Plan.

DEVELOPMENT PROFILE

It was assumed for this alternative that infrastructure would be developed in Mission Bay South to serve the assumed uses. As proposed in the 1990 Mission Bay Plan, this alternative would maintain and expand the existing combined sewer system in the Central Basin and would construct a bridge across China Basin Channel connecting Sixth Street with Owens Street. For Mission Bay South, Alternative 2 assumes the height and bulk limits of the 1990 Mission Bay Plan as implemented in Article 9 and on the Zoning Map and as shown in Figure V.A.3. The street grid shown in Figure VIII.A.1 for Mission Bay South similarly reflects the approved 1990 Mission Bay Plan as implemented in Article 9 of the City Planning Code (see also Figure V.A.4).

In Alternative 2, the total combined development in Mission Bay North and Mission Bay South would be about 5,840 residential units, 900,000 gross sq. ft. of service/light industrial/research and development/office space, 949,000 gross sq. ft. of retail space, a 500-room hotel, 350,000 gross sq. ft. of warehouse space, 10,300 parking spaces, 4.6 acres of community facilities, and 19 acres of open space. For purposes of environmental analysis, Alternative 2 assumes no UCSF site would be developed. This level of development would accommodate about 6,170 jobs. The resident population
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.B.1 ALTERNATIVE 2: LAND USES FOR REDEVELOPMENT NORTH/EXPECTED GROWTH SOUTH ALTERNATIVE

SOURCE: EIP Associates; City and County of San Francisco
Planning Code Zoning Maps (as amended, 1996)
would be about 10,500 people. In Table VIII.1, characteristics of Alternative 2 are compared with those of the project.

**Residential**

A total of about 5,840 dwelling units would be developed in the Project Area: 3,000 units in Mission Bay North and about 2,840 units in Mission Bay South. The residential development in Mission Bay North would occur as it would under the proposed project. Of the 3,000 units in Mission Bay North, 20% (600 units) would be affordable to very low-, low- and moderate-income households. Catellus Development Corporation (Catellus) would be responsible for developing approximately 255 of the affordable units. The Catellus affordable units would likely be rental units, integrated into Catellus' market-rate development within Mission Bay North. The balance of the affordable units (345 units) would be developed by non-profit housing developers sponsored by the San Francisco Redevelopment Agency (Redevelopment Agency) on land donated by Catellus. In Mission Bay South, without the participation of the Redevelopment Agency or affordable housing production requirements specified in a development agreement, there would be no clear mechanism for providing affordable housing in this part of the Project Area. For this SEIR, it is assumed that there would be less affordable housing in Mission Bay South under Alternative 2 than would be the case under the proposed project.

**Service/Light Industrial/Research and Development/Office**

About 900,000 gross sq. ft. of service/light industrial/research and development/office space would be developed in Mission Bay South, as described for Alternative 1.

**Retail**

Retail space would be developed in both Mission Bay North and Mission Bay South. Up to 667,000 gross sq. ft. of retail space would be developed in Mission Bay North. Of that, about 222,000 gross sq. ft. would be moderate-scale retail businesses intended to draw customers from the entire City. About 56,000 gross sq. ft. would be neighborhood-serving retail, and about 389,000 gross sq. ft. would be entertainment-oriented retail, possibly including such enterprises as a state-of-the-art theater complex, retail emphasizing sports, restaurant and fine-dining restaurants, new technology and/or game-related retail, and small stores that promote a street-level experience. In Mission Bay South, about 135,000 gross sq. ft. of neighborhood-serving retail would be developed, and about 147,000 gross sq. ft. of moderate-scale retail.
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Hotel

As in Alternative 1, a full-service, mid-rise, 500-room hotel would be developed in Mission Bay South. The hotel would contain about 400,000 gross sq. ft., including lobby functions, service areas, and guest rooms serving tourists and business travelers.

Warehouse

As in Alternative 1, about 350,000 gross sq. ft. of warehouse space would be developed in Mission Bay South.

Community Facilities

Community facilities would occupy 4.6 acres—1.5 acres in Mission Bay North and 3.1 acres in Mission Bay South. In Mission Bay North, community facilities would include the Channel Pump Station. Community facilities in Mission Bay South would include an elementary school located between Sixth and Owens Streets, and a combined police and fire station. The police and fire station would probably be located at the site of Fire Station No. 30, which is no longer in service, but would be retained.

Parking

About 10,300 parking spaces would be developed. Mission Bay North parking estimates are derived from the proposed project, while Mission Bay South parking estimates are based on 1990 FEIR parking rates for the various land uses.35/ About 5,670 spaces would be developed in Mission Bay North, and about 4,670 spaces in Mission Bay South. This parking would be primarily or entirely within buildings that include other uses, rather than in separate parking structures.

Open Space

In Alternative 2, about 25 acres of public open space would be developed—6 acres in Mission Bay North (based on the proposed project), and 19 acres in Mission Bay South (generally based on the housing/open space linkage of the Mission Bay Plan).36/ Because the Project Area boundaries have changed since preparation of the 1990 FEIR, the approximately 12 acres of surface water in China Basin Channel that were part of the Project Area in the 1990 FEIR are not part of the alternatives analyzed in this SEIR. Similarly, the 13.6-acre wetland on port property east of Third Street also is not part of this alternative.
ENVIRONMENTAL ASSESSMENT

The significant impacts of Alternative 2 for visual quality and urban design; air quality including toxic air contaminants; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the project. The effects of this alternative would vary from the proposed project in the areas of vegetation and wildlife, traffic, and seismicity. These similarities and differences are discussed for each topic and summarized at the end of this section on Alternative 2. In Mission Bay North, the proposed project’s mitigation measures would be applicable to similar impacts. In Mission Bay South, the 1990 Mission Bay Plan’s mitigation measures would apply. If conflicts were to arise between measures for the two areas, the City would resolve them as part of the approval process. Impacts and mitigation measures are summarized at the end of this environmental assessment section.

Plans, Policies, and Permits

In Alternative 2, the Redevelopment Plan and related documents for the Mission Bay North Redevelopment Plan Area would be adopted. Adoption would require rescission of the 1990 Mission Bay Plan and amendments to Article 9 of the City Planning Code and Zoning Map. For Mission Bay South, Alternative 2 would substantively comply with the 1990 Mission Bay Plan in terms of overall land use and street pattern, but not necessarily with all provisions of the Plan (e.g., office-housing and development-open space linkages). References pertaining to the Mission Bay North area would be removed from the Mission Bay Plan and Article 9 instead of the more substantive modifications necessary with the project. The City Planning Commission would evaluate street vacations associated with development against the policies set forth in the Urban Design Element of the City’s General Plan. This alternative would require the same changes as the proposed project in the plans and policies framework governing Mission Bay North. The Redevelopment Agency would prepare the same new plans and documents to guide development in Mission Bay North.

As with Alternative 1, existing land uses in Mission Bay South would be covered by the 1990 Mission Bay Plan, except the Castle Metals and Esprit sites, which would be covered in the Central Waterfront Plan. Zoning controls would not be altered; the existing height and bulk limits set forth in the 1990 Mission Bay Plan would be in effect. Since this alternative assumes that UCSF would not locate its major new site in the Project Area, the City would not need to prepare amendments to the General Plan or the City Planning Code to incorporate that new site into the relevant plan and policy documents. No actions would be taken by the City Planning Commission or the Redevelopment Commission to prepare or revise plans pertaining to Mission Bay South.
Any development that would occur in Mission Bay South would be subject to the applicable policies of the General Plan, especially the 1990 Mission Bay Plan, and to the zoning controls presented in Article 9 of the City Planning Code. Any development on port property would be subject to the Port of San Francisco's Waterfront Land Use Plan. Any development activities, including alterations to the Channel, within a 100-foot shoreline band inland from the mean high tide line would be subject to review and permitting by BCDC. The U.S. Army Corps of Engineers and the U.S. Coast Guard would review the construction of the Owens Street bridge.

**Land Use**

Alternative 2 would develop Mission Bay North under the Mission Bay North Redevelopment Plan, as would the project. Alternative 2 would develop Mission Bay South under the land use districts of the existing 1990 Mission Bay Plan as discussed above for Alternative 1. As with the project, this alternative's development, both north and south of the Channel, would continue the trend of converting deteriorating and low-intensity industrial areas near the waterfront to new uses.

For Mission Bay North, the impacts would be the same on surrounding communities as would occur with development of the project. For Mission Bay South, effects on the surrounding communities would be similar to those of Alternative 1.

**Project Area**

Under this alternative, all buildings may not be demolished by 2015 as they are assumed to be under the proposed project. As with the project, the Channel Pump Station would be retained and not altered, and Fire Station No. 30 would be preserved. Under this alternative, the street system south of the Channel would be modified to resemble the existing 1990 Mission Bay Plan; however, Fourth Street would not be reconfigured to parallel Third Street, but would meet Third Street as it does now, and a “Longbridge” Street would be constructed parallel to Third Street (same as under Alternative 1). Relocation assistance under the California State Redevelopment Law as contained in the California State Health and Safety Code, Section 33300 et seq.; would be provided as legally required for residents and businesses in Mission Bay North.

In Mission Bay North, the commercial entertainment uses of the project would be built and a year-round regional destination center would be created. Development of commercial entertainment and retail uses north of the Channel would address some of the projected demand related to the San Francisco Giants Ballpark patrons and could increase demand in the South of Market for complementary development of restaurants, retail, and other commercial uses, as would occur under
the project. Overall, however, for both Alternative 2 and the proposed project, there would be less new retail development in nearby South of Market locations than would be the case without the retail-entertainment complex in Mission Bay North.

Development under this alternative would change the mix and amount of uses for Mission Bay South compared with those proposed under the project. In Mission Bay South, residential land use districts of various densities would replace the UCSF site and some of the commercial industrial uses of the project. A 500-room hotel would be developed under this alternative as it would be for the project. Projected development to 2015 would include about 5,840 dwelling units; full build-out beyond year 2015 would allow for a total of about 10,400 dwelling units.\(^{37}\)

**Surrounding Areas**

This alternative would create a new neighborhood adjacent to the houseboat community. Under Alternative 2, the houseboat community would be bordered by residential buildings, open space, and community facilities (including the existing Channel Pump Station) as would occur under the project. Development of ground-floor retail space within residential buildings north and south of the Channel would increase the type and amount of personal services and retail stores accessible to the houseboat residents, as the project would. There would be more neighborhood-serving retail and personal services convenient to houseboat residents, as would be the case under the proposed project.

The effects of entertainment-oriented retail development in Mission Bay North under this alternative would be the same as those of the proposed project. As would the proposed project, Alternative 2 would provide neighborhood-serving retail development to meet the demands of Project Area residents. Alternative 2 would not provide as much city-serving retail development in the Project Area, however. Consequently, compared to the development pattern anticipated under the proposed project, there would be more city-serving retail development in surrounding nearby areas. Potential locations include: South of Market, Showplace Square, North Potrero, Lower Potrero, Central Bayfront, South Bayshore, and Inner Mission. This development would serve the retail demand of Project Area residents and residents of the rest of San Francisco.

As with the project, this alternative includes residential development south of the Channel located adjacent to port property east of Third Street, where petroleum free product contamination has been identified. A school site at 16th and Owens Street south of the Channel would be adjacent to residential uses to the east and open space to the north and near I-280.
Existing recreational facilities north of the Channel, such as South Beach Harbor, would be affected by the number of pedestrians in the area at any one time. Effects due to the number of residents in the area during mornings, evenings, and weekends would be similar to the project’s effects. Recreational uses north of the Channel would be impacted by the demand generated by the development of Mission Bay North as a regional destination, as would occur under the project.

Under this alternative, users of the recreational facilities south of the Channel would not have to compete as much for access with Project Area employees and residents as they would under the project. Employee and resident traffic would be much less due to the less-intensive development south of the Channel. Under this alternative, these recreational users would primarily compete with visitors attracted to the regional entertainment uses.

Under the 1990 Mission Bay Plan, the Port would develop boat trailer parking directly across Terry A. François Boulevard from the Public Boat Launch Ramp between Piers 52 and 54. Under the project, the parking would likely be located further away, just south of The Common, though it would be within 600 feet as required by a California Department of Boating and Waterways grant.

Potrero Hill and Lower Potrero would not experience parking impacts on local streets under this alternative since the relatively high trip-generating office uses of the project would not occur.

Business Activity, Employment, Housing, and Population

Project Area Employment and Job Opportunities

Table VIII.B.1 presents estimates of the number of employees in the Project Area for Alternative 2. Under this alternative, Mission Bay North would develop as expected under the proposed project’s Mission Bay North Redevelopment Plan. The South of Channel area would develop as projected for Alternative 1. The result would be about 6,170 jobs in 2015 in total—about 20% of the total employment expected under the proposed project. The primary reason for the lower employment total is the absence of both the UCSF site and the large amount of employment that could be accommodated in the 5.56 million gross sq. ft. of Commercial Industrial development proposed for Mission Bay South under the proposed project. As a consequence, there would be fewer total job opportunities in San Francisco and less diversity in job options for city residents compared to what the proposed project would bring to the Project Area and to San Francisco.

This alternative would include a smaller amount of commercial and industrial economic activity in Mission Bay South—a total of about 2,490 jobs in service, light industrial, research and development,
### TABLE VIII.B.1
**ALTERNATIVE 2: EMPLOYMENT BY LAND USE—2015**

<table>
<thead>
<tr>
<th>Land Use/Business Activity/a/</th>
<th>Alternative 2</th>
<th>Comparison with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mission Bay North</td>
<td>South of Channel</td>
</tr>
<tr>
<td>Service/Light Industrial/R&amp;D/Office</td>
<td>-</td>
<td>2,221</td>
</tr>
<tr>
<td>UCSF Site</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moderate-scale Retail</td>
<td>630</td>
<td>420</td>
</tr>
<tr>
<td>Entertainment-oriented Retail</td>
<td>1,110</td>
<td>-</td>
</tr>
<tr>
<td>Neighborhood-serving Retail</td>
<td>160</td>
<td>387</td>
</tr>
<tr>
<td>Hotel</td>
<td>-</td>
<td>370</td>
</tr>
<tr>
<td>Warehouse</td>
<td>-</td>
<td>267</td>
</tr>
<tr>
<td>Community Facilities/Open Space</td>
<td>1</td>
<td>210</td>
</tr>
<tr>
<td>Building Maintenance/Security/Parking</td>
<td>50</td>
<td>106</td>
</tr>
<tr>
<td>Housing-related</td>
<td>120</td>
<td>113</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2,071</strong></td>
<td><strong>4,094</strong></td>
</tr>
<tr>
<td>Percent of Total</td>
<td>34%</td>
<td>66%</td>
</tr>
</tbody>
</table>

**Notes:**
- = Not applicable
a. Mission Bay North estimates reflect the proposed project, see Table V.C.5.
b. South of Channel estimates reflect No Project/Expected Growth, see Table VIII.1.

**Source:** Haurath Economics Group.
office, and warehouse space. All of the retail development proposed for Mission Bay North under the proposed project would also be accommodated in this alternative, along with smaller amounts of retail activity in the South of Channel area. Jobs in retail businesses would be about 60% of the level estimated for the proposed project; retail business activity and jobs would be a higher proportion of total Project Area jobs than would be the case under the proposed project. The level of hotel employment and community facility employment would be the same as anticipated under the proposed project.

Implications for Existing Project Area Business Activity

In Mission Bay North, the implications for existing business activity would be the same as those anticipated under the proposed project. In Mission Bay South, the implications for existing business activity would be the same as those described for Alternative 1.

Project Area Housing, Households, Population, and Employed Residents

Table VIII.B.2 presents estimates of Project Area housing, population, and employed residents for Alternative 2 in 2015. For Mission Bay North, this reflects full build-out of the proposed project. The Mission Bay South component reflects 2,840 units of the total residential potential allowed by the 1990 Mission Bay Plan for the South of Channel area (about 7,400 units in total).\[38/\]

Overall, under Alternative 2, housing development by 2015 would be quite similar to that expected under the proposed project. There would be about 5,840 housing units, 10,500 residents, and 6,310 employed residents. This alternative would accommodate about 95% of the households, residents, and employed residents expected under the proposed project. As under the project, the residential development would be split fairly evenly between Mission Bay North and Mission Bay South.

Relationship Between Project Area Employment Growth and Housing Development and Implications for Citywide Housing Market Conditions

The jobs/housing analysis of Alternative 2 evaluates the overall land use mix represented by the alternative—Project Area housing demand and supply at build-out of total development potential (i.e., beyond year 2015 for Mission Bay South). Total jobs and total housing associated with build-out of Alternative 2 would be more than the 2015 estimates described above. Table VIII.B.3 presents the jobs/housing analysis.
TABLE VIII.B.2
ALTERNATIVE 2: HOUSING UNITS, POPULATION, AND EMPLOYED RESIDENTS—2015

<table>
<thead>
<tr>
<th></th>
<th>Alternative 2</th>
<th>Comparison with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mission Bay North/a/</td>
<td>South of Channel/b/</td>
</tr>
<tr>
<td>Housing Units</td>
<td>3,000</td>
<td>2,836</td>
</tr>
<tr>
<td>Households</td>
<td>2,895</td>
<td>2,737</td>
</tr>
<tr>
<td>Population/c/</td>
<td>4,980</td>
<td>5,473</td>
</tr>
<tr>
<td>Employed Residents/d/</td>
<td>3,010</td>
<td>3,300</td>
</tr>
</tbody>
</table>

Notes:
a. Mission Bay North estimates reflect proposed project; Table V.C.7 is source of data.
b. South of Channel estimates reflect No Project/Expected Growth; Table VIII.2 is source of data.
c. Number of people living in housing units built in the Project Area.
d. Residents of the Project Area who are also employed, regardless of place of work.

Source: Hausrath Economics Group.

Although both residential and nonresidential development in Mission Bay North would be built out by 2015, not all of the development in Mission Bay South would be completed by 2015. On the jobs (housing demand) side, most of the retail space in the South of Channel area would remain to be developed after 2015. This amount of development represents about 1,200 jobs. On the housing supply side, most of the 7,400 units allowed in the South of the Channel area under the 1990 Mission Bay Plan would remain to be developed after 2015. Only 2,840 units would be developed according to Alternative 2, leaving approximately 4,500 units to add to the potential build-out housing supply for Alternative 2.

Build-out (beyond year 2015 for Mission Bay South) of Alternative 2 would accommodate 5,700 additional jobs in the Project Area (after accounting for existing employment), representing demand in San Francisco for about 1,960 housing units. This would be only about one-fifth of the total housing demand associated with the proposed project. Total housing supply in the Project Area would exceed 10,000 units at build-out, counting the 3,000 proposed for Mission Bay North and the 7,370 allowed in the South of Channel area under the 1990 Mission Bay Plan, or 70% more housing supply than accommodated under the proposed project. Unlike the housing supply deficit (relative to demand) calculated for the proposed project, the jobs/housing analysis reveals a substantial surplus of Project Area housing supply relative to the housing demand in San Francisco associated with Project Area employment growth at build-out (beyond year 2015) under Alternative 2.
### TABLE VIII.B.3

**ALTERNATIVE 2: JOBS/HOUSING ANALYSIS AT BUILD-OUT**

<table>
<thead>
<tr>
<th>Demand</th>
<th>[Formulae]</th>
<th>Alternative 2</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Employment growth accommodated in Project Area/a/</strong></td>
<td></td>
<td>5,700</td>
<td>28,330</td>
</tr>
<tr>
<td><strong>B. Percent representing additional workers living in San Francisco/b/</strong></td>
<td></td>
<td>55.0%</td>
<td>55.0%</td>
</tr>
<tr>
<td><strong>C. Average number of San Francisco workers in households with workers/c/</strong></td>
<td></td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>D. Additional households associated with Project Area employment growth</strong></td>
<td>((A \times B)/C)</td>
<td>1,959</td>
<td>9,738</td>
</tr>
</tbody>
</table>

#### Supply

| **E. Total Project Area Housing Units at Build-out (beyond year 2015)/d/** | 10,370 | 6,090 |

#### Comparison of Supply with Demand

| **Surplus or (Deficit) in Project Area** | \([E - D]\) | 8,411 | (3,648) |

**Notes:**

This jobs/housing analysis is not meant to imply that there should (or ever would) be a precise match between jobs and housing for any given project area. The calculation is a useful means of evaluating the proposed project and alternatives, and it provides an indication of the implications of the land use mix for the City's housing market.

a. Total Project Area employment at build-out (7,370 jobs) minus existing Project Area employment (1,670 jobs). Build-out employment is about the same as 2015 employment. Mission Bay North would be built out. All non residential space in the Project Area south of the Channel would be developed except for about 420,000 gross sq. ft. of retail space which would accommodate about 1,200 jobs.


d. Total housing units in Mission Bay Plan (8,270 units) minus 900 units in that plan for north of Channel, plus 3,000 units for Mission Bay North in the proposed project.

**Source:** Hausrath Economics Group.

Given the conclusions of the Project Area jobs/housing analysis, Alternative 2 would result in better long-term housing market conditions for some segments of the housing market in San Francisco than would the proposed project. For market-rate housing, better housing market conditions would be indicated by higher vacancy rates, more mobility and choice in the housing market, and more stable prices and rents than would otherwise be the case under the proposed project.
Regarding affordable housing, without the participation of the Redevelopment Agency in Mission Bay South, there would be limited opportunity for providing the proportion of new housing affordable to very low-, low-, and moderate-income households in the Project Area. Housing market conditions for this segment of the market would consequently be worse under Alternative 2 over the longer term and by 2015 than they would be under the proposed project.

Differences between the jobs/housing outcomes and housing market implications of Alternative 2 and the proposed project would be narrower at the 2015 analysis year. By 2015, there would be a smaller surplus of housing supply relative to demand in the Project Area under Alternative 2 (about half the surplus calculated for build-out of total development potential). It follows that housing market implications would be more similar to those of the proposed project at build-out than would be the case in the longer term.

**Implications for Citywide Growth**

Alternative 2 would result in a slower pace of job growth in San Francisco and less total job opportunities in San Francisco compared to the proposed project. Under Alternative 2, the South of Channel area would not accommodate the UCSF site and associated research and development businesses in San Francisco. Most, if not all, of this difference would represent a net loss to the City compared to the scenario under the proposed project. On the other hand, many of the other businesses that would be accommodated in the Project Area under the proposed project but not under Alternative 2 for Mission Bay South would have alternative location options in San Francisco. If those activities (some retail, most of the entertainment-oriented commercial development, office and other commercial and light industrial activities) were not located in Mission Bay, they would instead locate in the Transbay area, other parts of the South of Market, along the waterfront, and in the Potrero Hill and Inner Mission areas. Overall for the City, therefore, the difference between the proposed project and Alternative 2 in terms of employment growth would not be as great as the difference between each for employment totals within the Project Area. The primary difference would be the absence, under Alternative 2, of UCSF jobs and associated jobs in research and development and other business support services.

By 2015, Alternative 2 would add about the same number of units to San Francisco’s housing supply as would be the case under the proposed project. This is because the pace of development in Mission Bay South would be slower without the impetus of the proposed project’s Mission Bay South Redevelopment Plan. Ultimately, however, as described above for the jobs/housing analysis, Alternative 2, at build-out (beyond year 2015), represents the potential for more total housing supply.
in San Francisco than does the proposed project but fewer affordable housing options for very low-, low-, and moderate-income households.

**Implications for Nearby Areas**

In the office and commercial industrial real estate markets, Alternative 2 would result in more activity in the South of Market and other Nearby Areas than would be the case under the proposed project. Project Area office development under Alternative 2 would not be of the scale to compete much with other areas of the City that have the potential to accommodate large amounts of new office development. In fact, because there would be even less office development than expected under the proposed project, Alternative 2 might result in a faster pace of development in locations such as the Transbay area. Also, development in the South of Channel area would not provide the amount of flexible Commercial Industrial development envisioned for the proposed project under the *Mission Bay South Redevelopment Plan*. Therefore, there would be more demand pressure on existing space in the South of Market, North Potrero, Potrero Hill, Inner Mission, and Central Bayfront Nearby Areas from new and growing business activities. Resultant higher rents for that space, compared to the situation under the proposed project, would mean fewer space options for lower-rent paying uses in Nearby Areas.

The effects of Alternative 2 on retail development and the spread of retail activity in Nearby Areas would be similar to the effects of the proposed project in most cases. As under the proposed project, the large amount of retail and entertainment-oriented commercial development in Mission Bay North would accommodate retail shops, restaurants, and bars in the Project Area, thereby absorbing much of the demand for visitor-oriented retail and eating and drinking establishments in the vicinity. Successful Project Area retail development might also come at the expense (in the near term) of similar development at other locations along the waterfront north of the Channel that could accommodate large amounts of visitor-oriented retail and entertainment activity. On the other hand, Alternative 2 does not have the proposed project's large amounts of moderate-scale, city-oriented retail development in Mission Bay South. There would consequently be more potential for that type of development in western South of Market, Inner Mission, Central Bayfront, and South Bayshore locations than would be the case under the proposed project. See Figure IV.B.2 for the locations of the Nearby Areas.

Effects of Alternative 2 on the housing market in Nearby Areas would be similar to the effects of the proposed project. By 2015, Alternative 2 would add about the same number of housing units to the City's inventory. While there would be less employment growth in the Project Area compared to the amount expected under the proposed project, much of that employment growth and associated housing
VIII. Alternatives to the Proposed Project
B. Alternative 2

demand would still occur in San Francisco. Over the longer term, because of the greater housing
supply potential in Mission Bay South under the 1990 Mission Bay Plan, Alternative 2 might result in
somewhat less demand for housing in nearby residential areas than would be expected under the
proposed project. However, housing market benefits would likely be offset by the stronger demand
for affordable housing because of the lower supply in the Project Area under Alternative 2 compared
to the proposed project.

Unlike the other sectors discussed above, affordable housing production depends on project sponsors
and available subsidies, not on market demand. Therefore, less affordable housing in the Project
Area under Alternative 2, compared with the proposed project, would not necessarily result in more
affordable housing produced elsewhere in San Francisco. Instead, housing market conditions faced by
households seeking affordable units would be worse than expected under the proposed project, as
described in the preceding subsection.

Visual Quality and Urban Design

Visual impacts in Mission Bay South would be reduced compared with the project, due to the lower
building heights associated with the alternative as shown in Table III.B.4 and Figure III.B.5 in
Chapter III, Project Description. Under Alternative 2, fewer views of downtown would be
eliminated, and new development would not appear as tall or dense to viewers at street level.
Implementing the proposed Mission Bay North Redevelopment Plan under Alternative 2, with
building heights of up to 160 feet, would affect the same viewpoints associated with the project.
Short-range views from Potrero Hill and I-280 would consist of buildings with heights up to 110 feet,
approximately 10 stories.

Fire Station No. 30, located at the southeast corner of Third and Mission Rock Streets may be of
historical importance and may be eligible for the National Register. Under this alternative, Fire
Station No. 30 would be preserved and reused. Potential impacts associated with the potential
demolition of the fire station under the project would not occur.

Transportation

The street network assumed for the analysis of Alternative 2 is shown in Figure VIII.B.1 with the
assumed alternative land uses. This street system is similar to the one assumed for Alternative 1,
except that Berry Street in Mission Bay North would be closed to through traffic between Fourth and
Fifth Streets. This feature would not affect the assignment of traffic to the major intersections in the
network.
TABLE VIII.B.4
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
ALTERNATIVE 2 COMPARED TO PROJECT

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Alternative 2</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>11,030</td>
<td>11,030</td>
<td>0</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>7,887</td>
<td>22,470</td>
<td>-14,583</td>
</tr>
<tr>
<td>Total</td>
<td>18,917</td>
<td>33,500</td>
<td>-14,583</td>
</tr>
</tbody>
</table>


Trip Generation

Alternative 2 assumes development in Mission Bay South based on ABAG's Projections '96 expected increases in population and employment levels in the southern portion of the Project Area through 2015, just as described in Alternative 1.39 Mission Bay North is assumed to be developed as described in the project scenario, with housing and retail/entertainment uses.

Table VIII.B.4 compares the trip generation projections for Alternative 2 with those for the proposed project. Alternative 2 would generate about 14,580 fewer person trips (including walk trips) during the p.m. peak hour, about 45% less than the project's person trips in 2015.

Traffic Impacts

Table VIII.B.5 shows the intersection levels of service (LOS) under year 2015 cumulative conditions with Alternative 2 compared to those from project-with-cumulative conditions for a selected group of intersections (see “Traffic Impacts” in Alternative 1, above). Under this alternative in 2015, all study intersections except Fifth Street/King Street and Mariposa Street/I-280 on-ramp would operate with less delay than they would under the project. As shown in Figure VIII.B.2, all but the intersections of Third Street/King Street, 16th Street/Vermont Street, and Seventh Street/Townsend Street would operate at LOS D or better under cumulative-with-Alternative 2 conditions. Under Alternative 2, two intersections would improve their operating conditions from LOS E or F to acceptable conditions (LOS D or better), when compared to the proposed project. These are King Street at Fourth Street and 16th Street at Potrero Avenue. The better traffic conditions would be due to the lower (65%) trip generation of the South of Channel area under Alternative 2 in 2015, when compared to the project scenario.
### TABLE VIII.B.5

**SUMMARY OF PROJECT INTERSECTION LEVELS OF SERVICE**

**ALTERNATIVE 2 COMPARED TO PROJECT**

**PM Peak Hour 2015 Cumulative Conditions**

<table>
<thead>
<tr>
<th>Study Intersection</th>
<th>2015 Cumulative with Project</th>
<th>2015 Cumulative with Alternative 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avg. Delay (sec./veh.)</td>
<td>LOS</td>
</tr>
<tr>
<td>Third St./King St.</td>
<td>99.1</td>
<td>F</td>
</tr>
<tr>
<td>Fourth St./King St.</td>
<td>52.1</td>
<td>E</td>
</tr>
<tr>
<td>Fifth St./King St.</td>
<td>28.4</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St./Townsend St.</td>
<td>195.3</td>
<td>F</td>
</tr>
<tr>
<td>Sixteenth St./Potrero Ave.</td>
<td>162.7</td>
<td>F</td>
</tr>
<tr>
<td>Sixteenth St./Vermont St.</td>
<td>200.4</td>
<td>F</td>
</tr>
<tr>
<td>Sixteenth St./Seventh St.</td>
<td>32.2</td>
<td>D</td>
</tr>
<tr>
<td>Sixteenth St./Third St.</td>
<td>25.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa/I-280 On-ramp</td>
<td>16.6</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa/Owens St./I-280 Off-ramp</td>
<td>35.9</td>
<td>D</td>
</tr>
<tr>
<td>Third St./Mariposa St.</td>
<td>23.7</td>
<td>C</td>
</tr>
</tbody>
</table>


When comparing the average delay between this alternative and Alternative 1 discussed above, traffic generated by Alternative 2 would result in greater delay at most intersections. This is because the p.m. peak hour trip generation from the parcels north of the Channel under Alternative 1, with primarily office land uses, would be less than that under Alternative 2 with mostly retail/entertainment and residential uses as described in the project scenario.

**Transit Impacts**

Table VIII.B.6 compares the project transit trips with those calculated for Alternative 2. In all cases Alternative 2 would create less demand for regional transit service than the proposed project.
FIGURE VIII.B.2 YEAR 2015 CUMULATIVE LEVELS OF SERVICE WITH ALTERNATIVE 2 AT SELECTED INTERSECTIONS, WEEKDAY P.M. PEAK HOUR
TABLE VIII.B.6
PM PEAK HOUR TRANSIT PERSON TRIPS DISTRIBUTION BY TRANSIT MODE
ALTERNATIVE 2 COMPARED TO PROJECT—2015

<table>
<thead>
<tr>
<th>Transit Mode</th>
<th>Alternative 2 In</th>
<th>Alternative 2 Out</th>
<th>Project In</th>
<th>Project Out</th>
<th>Difference In</th>
<th>Difference Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>BART</td>
<td>402</td>
<td>366</td>
<td>459</td>
<td>725</td>
<td>-57</td>
<td>-359</td>
</tr>
<tr>
<td>AC Transit</td>
<td>117</td>
<td>103</td>
<td>142</td>
<td>293</td>
<td>-25</td>
<td>-190</td>
</tr>
<tr>
<td>Charter Bus</td>
<td>33</td>
<td>32</td>
<td>45</td>
<td>115</td>
<td>-12</td>
<td>-83</td>
</tr>
<tr>
<td>G.G. Bus</td>
<td>87</td>
<td>103</td>
<td>107</td>
<td>228</td>
<td>-20</td>
<td>-125</td>
</tr>
<tr>
<td>Ferry</td>
<td>19</td>
<td>22</td>
<td>23</td>
<td>49</td>
<td>-4</td>
<td>-27</td>
</tr>
<tr>
<td>SamTrans</td>
<td>28</td>
<td>31</td>
<td>45</td>
<td>143</td>
<td>-17</td>
<td>-112</td>
</tr>
<tr>
<td>CalTrain</td>
<td>71</td>
<td>78</td>
<td>106</td>
<td>305</td>
<td>-35</td>
<td>-227</td>
</tr>
<tr>
<td>MUNI Bus/a/</td>
<td>740</td>
<td>482</td>
<td>856</td>
<td>931</td>
<td>-116</td>
<td>-449</td>
</tr>
<tr>
<td>MUNI Metro/a/</td>
<td>1,453</td>
<td>1,171</td>
<td>1,806</td>
<td>2,859</td>
<td>-353</td>
<td>-1,688</td>
</tr>
<tr>
<td>Total</td>
<td>2,950</td>
<td>2,388</td>
<td>3,589</td>
<td>5,648</td>
<td>-639</td>
<td>-3,260</td>
</tr>
</tbody>
</table>

Note:
a. MUNI ridership levels represent persons using MUNI as their primary travel mode, as well as those using MUNI to access regional carriers, such as BART, AC Transit, Golden Gate Transit, ferries and SamTrans.


Most notable differences would occur on transit services that serve passengers traveling primarily to the South Bay, such as SamTrans and Caltrain, both of which combined would carry about 65% of the number of riders predicted to use transit to the South Bay under the proposed project. BART and MUNI would continue to carry the largest numbers of travelers under Alternative 2 similar to the proposed project.

BART ridership generated by Alternative 2 would be about 65% of that generated by the proposed project, suggesting that 2015 BART capacity would be sufficient to accommodate Alternative 2 ridership. Similarly, the number of AC Transit riders estimated by Alternative 2 would be
VIII. Alternatives to the Proposed Project
B. Alternative 2

approximately half the number of trips that would be generated under the proposed project, which would be accommodated by the existing AC Transit service. Cumulative ridership with the alternative would increase the AC Transit load factor to about 152% compared with 157% with the project; the alternative would contribute somewhat less than the project’s contribution to cumulative ridership but would still be a significant cumulative impact. Sufficient capacity would also exist in the Golden Gate Transit bus system, where the ridership that would be generated by Alternative 2 would be approximately 55% of that produced under the project scenario. Similarly, estimated Alternative 2 ferry ridership would be approximately 55% of that generated by the proposed project, causing no significant impacts. SamTrans Alternative 2 ridership would be about 30% of that generated by the project scenario, while Caltrain, under Alternative 2, would carry about 63% less Mission Bay riders that those generated by the project. Neither SamTrans nor Caltrain would experience a significant impact under this alternative. Under Alternative 2, charter buses are expected to carry approximately 60% fewer trips than under the proposed project.

Alternative 2 assumes the largest amount of development would occur in Mission Bay North. Travelers’ preferences for using transit in the northeast quadrant of the City closer to Market Street and the rest of downtown, compared to less transit use by residents and workers in Mission Bay South, means that more transit trips would occur under Alternative 2 than if development in this alternative were more equally distributed between Mission Bay North and Mission Bay South.

The comparison of Alternative 2 with the project in Table VIII.B.6 indicates that the number of inbound transit trips would be relatively similar (about 610 fewer in Alternative 2), with comparatively larger differences in outbound trips (nearly 3,060 fewer in Alternative 2 compared to the project). Thus, the comparison of the alternative to the proposed project is different for inbound and outbound transit trips. These characteristics influence the MUNI screenline analysis for Alternative 2 compared to the project scenario, as shown in Table VIII.B.7.

The level of MUNI use would increase for each screenline under Alternative 2 compared to existing conditions, with the Northeast screenline experiencing the greatest growth. This is because the high percentage of trips that would both begin and end in the northeast quadrant of the City, where Mission Bay North is located, would result in a larger number of transit passenger trips through the Northeast screenline. The excess demand on MUNI in the Kearny-Stockton corridor would be attributable to cumulative ridership for both scenarios. The capacity of MUNI lines crossing the Southwest screenline would be essentially matched by demand (97%). This could mean that some lines would operate with loads greater than those preferred by MUNI; either more riders would stand on some buses or metro cars, or some might shift to a less crowded parallel line crossing the Southwest screenline. The willingness of passengers to use an alternate line would determine whether
TABLE VIII.B.7
MUNI RIDERSHIP SUMMARY BY SCREENLINE
YEAR 2015 CUMULATIVE WITH ALTERNATIVE 2 AND WITH PROJECT
(PM Peak Hour - Peak Direction)

<table>
<thead>
<tr>
<th>Screenline/ Year 2015 MUNI Routes</th>
<th>Existing Conditions</th>
<th>Year 2015 Cumulative with Alternative 2 Conditions</th>
<th>Year 2015 Cumulative with Project Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hourly Capacity /b/</td>
<td>Average Hourly Load /c/</td>
<td>Percent Capacity Used</td>
</tr>
<tr>
<td>Northeast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30, 30X, 45</td>
<td>3,387</td>
<td>2,256</td>
<td>67%</td>
</tr>
<tr>
<td>41, 42X</td>
<td>1,733</td>
<td>877</td>
<td>51%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>5,120</td>
<td>3,133</td>
<td>61%</td>
</tr>
<tr>
<td>Northwest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38, 38L, 38AX, 38BX</td>
<td>2,823</td>
<td>1,986</td>
<td>70%</td>
</tr>
<tr>
<td>1, 1AX, 1BX, 2, 3, 4, 5, 21, 22, 31, 31AX, 31BX, 41, 45</td>
<td>7,679</td>
<td>5,537</td>
<td>72%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>10,502</td>
<td>7,523</td>
<td>72%</td>
</tr>
<tr>
<td>Southwest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K, L (MMX), M, N</td>
<td>6,783</td>
<td>4,876</td>
<td>72%</td>
</tr>
<tr>
<td>6, 7, 71, F</td>
<td>1,418</td>
<td>1,096</td>
<td>77%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>8,201</td>
<td>5,972</td>
<td>73%</td>
</tr>
<tr>
<td>Southeast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J, 9</td>
<td>1,717</td>
<td>1,243</td>
<td>72%</td>
</tr>
<tr>
<td>15</td>
<td>846</td>
<td>331</td>
<td>39%</td>
</tr>
<tr>
<td>3rd. St. LRT Extension</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>14, 14X</td>
<td>1,491</td>
<td>941</td>
<td>63%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>4,054</td>
<td>2,515</td>
<td>62%</td>
</tr>
</tbody>
</table>

Notes:
- a. See Figure V.E.6 for Screenline location.
- b. Capacity based on San Francisco Municipal Railway Ridership Projections to the Year 2015, May 5, 1997. It assumes an appreciable number of standees per vehicle (somewhere between 60% and 80% of the number of seated passengers, depending on the specific transit vehicle configuration) and may not include the effects of missed or late runs.
- c. Average load at maximum load point, based on MUNI's monitoring data, FY 1995-96.
- d. Capacity includes the elimination of bus lines 15, 32 and 81X, plus implementation of the MMX and the 3rd St. Extension LRT Services, and any other influencing modifications to service, equipment or operation.
- e. Estimated from MTC Model projections and preliminary load estimates from MUNI Third Street LRT Extension Study.
- f. Estimated number of project trips that would cross the screenlines.

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substantial redistribution of passenger loads would occur. If a "second choice" line were a notable inconvenience, less shift would occur in that corridor.

A comparison of Alternative 2 MUNI ridership with that of the proposed project suggests that, under the project scenario, MUNI corridor capacity utilization would be approximately 2.6% more than that of Alternative 2. This difference is about double the difference between Alternative 1 and the project (1.2%).

Many Mission Bay workers, visitors, and residents would ride MUNI to and from regional transit stops or transfer to other MUNI lines within the screenlines. These trips would appear near the Project Area, where Alternative 2 would impact MUNI service substantially less than the project. MUNI trips generated by Alternative 2 would use approximately 38% less capacity than MUNI trips generated by the project—a difference of approximately 2,370 p.m. peak trips.

Parking Demand and Supply

Table VIII.B.8 compares the parking demand under the project with Alternative 2. Mission Bay North would produce the same parking demand in both Alternative 2 and the project because they include the same types and amounts of development. In Mission Bay North, the supply of parking spaces would also be the same as that for the proposed project. The South of Channel area, primarily comprised of residential and retail uses with a relatively small amount of service/light industrial/R&D/office space, would require substantially fewer spaces under this alternative than under the project. The supply of parking in Mission Bay South would be the same as the supply for the area under Alternative 1, derived from the supply rates used in the 1990 FEIR./40/ The difference between the supply of spaces and the relative demand would be less for Alternative 2, indicating a parking space deficit of about 2,320 spaces, which is approximately 2,440 spaces, or 50%, less than that shown for the project. Thus, the overall parking deficit in the Project Area would be substantially less under Alternative 2 than with the proposed project. The smaller deficit is directly proportional to the 900,000 gross sq. ft. of office/R&D space described in this alternative, compared to more than six times that amount of office/R&D and institutional space under the project scenario.

On-street parking would be expected to accommodate some of the excess demand generated by Alternative 2, but would be sufficiently limited to discourage individuals from driving. However, some drivers to and from Mission Bay South that may be unable to find nearby on-street parking, may seek available parking in surrounding neighborhoods, possibly including Potrero Hill and Lower Potrero residential areas.
TABLE VIII.B.8
PARKING DEMAND/SUPPLY IN 2015
COMPARISON OF ALTERNATIVE 2 AND PROJECT

<table>
<thead>
<tr>
<th></th>
<th>Total Demand (spaces)</th>
<th>Proposed Supply/a/ (spaces)</th>
<th>Surplus or Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 2: Redevelopment Mission Bay North/Mission Bay South, Expected Growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>6,585</td>
<td>5,454</td>
<td>-1,131</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>5,753</td>
<td>4,569</td>
<td>-1,184</td>
</tr>
<tr>
<td>Total</td>
<td>12,338</td>
<td>10,023</td>
<td>-2,315</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>6,585</td>
<td>5,454</td>
<td>-1,131</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>19,540</td>
<td>15,917</td>
<td>-3,623</td>
</tr>
<tr>
<td>Total</td>
<td>26,125</td>
<td>21,371</td>
<td>-4,754</td>
</tr>
</tbody>
</table>

Note:
a. Parking supply rates for Alternative 2 are those presented in 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185.


Pedestrians and Bicyclists

As previously discussed with regard to Alternative 1, pedestrian and bicycle traffic is expected to increase with the establishment of the forthcoming Third Street light rail and MMX service in the Project Area, and following implementation of the San Francisco Bicycle Plan. Under Alternative 2, Mission Bay North would be fully developed with the same types and amounts of land uses proposed for the project, while Mission Bay South would experience less growth by the year 2015, based on employment and population increases projected by ABAG. The development of Mission Bay North would further increase pedestrian traffic in that part of the Project Area, with many individuals walking from Mission Bay North to Caltrain or to the MMX stations on King Street, just as is expected under the project.

Table VIII.B.9 shows the non-motorized person trips that would be generated by Alternative 2 compared to the same types of modal trips generated by the project. The majority of the non-
TABLE VIII.B.9
NON-MOTORIZED (Pedestrians and Bicycle) PERSON TRIP GENERATION IN 2015 COMPARISON OF ALTERNATIVE 2 AND PROJECT (PM Peak Hour)

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Alternative 2</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>2,040</td>
<td>2,040</td>
<td>0</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>1,274</td>
<td>2,763</td>
<td>-1,489</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,314</strong></td>
<td><strong>4,803</strong></td>
<td><strong>-1,489</strong></td>
</tr>
</tbody>
</table>


motorized trips are assumed to be made by walking or bicycling. Alternative 2 would generate about 31% fewer pedestrian and bicycle trips than would the proposed project. The difference in the numbers of these types of trips between the project scenario and Alternative 2 would be primarily comprised of trips generated by the 4.6 million gross sq. ft. of service/light industrial/office/R&D/institutional space proposed for the project that would not occur under Alternative 2. The impact of the smaller volumes of pedestrian and bicycle traffic generated by Alternative 2 would be minimal, as under the project scenario.

Transportation impacts and mitigation measures are summarized at the end of this section on Alternative 2.

**Air Quality**

**Regional Air Quality**

In Alternative 2, vehicular emissions would be approximately 50% less than those from the proposed project. However, criteria pollutant emissions associated with daily peak vehicle trips would still exceed the significance thresholds established by the BAAQMD, and this alternative would not reduce the significant impact of the proposed project to a less-than-significant level. Daily emissions from the traffic associated with Alternative 2 were calculated for reactive organic gases (ROG), nitrogen oxides (NOₓ), carbon monoxide (CO), and particulate matter (PM₁₀). As indicated in Table VIII.B.10, vehicular emissions for ROG, NOₓ, and PM₁₀ would exceed the 80 pound-per-day (lb/day) significance threshold. Emission of ROG was estimated to be 416 lb/day. NOₓ emission was estimated at 637 lb/day, and PM₁₀ emission would be 947 lb/day. In addition, according to the modeling analysis, 5,884 lb/day of CO would be emitted from traffic associated with this alternative,
TABLE VIII.B.10
ESTIMATED VEHICULAR EMISSIONS FROM ALTERNATIVE 2 TRAFFIC IN 2015

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Vehicular Emissions (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Organic Gases (ROG)/a/</td>
<td>80</td>
<td>865</td>
</tr>
<tr>
<td>Nitrogen Oxides(NOx)/a/</td>
<td>80</td>
<td>1,324</td>
</tr>
<tr>
<td>Particulate Matter (PM_{10})/a/</td>
<td>80</td>
<td>1,968</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)/b/</td>
<td>550</td>
<td>12,228</td>
</tr>
</tbody>
</table>

Notes:
- The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
- For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS version 5 model.

exceeding the 550 lb/day screening threshold of the BAAQMD. Because CO emissions would be more than 550 lb/day, a micro-scale analysis of CO concentrations at intersection 1 is appropriate, as provided below.

As with the proposed project, all measures to decrease vehicle trips, as described in Section VI.F, Mitigation Measures: Air Quality, should be implemented. However, even with measures to reduce vehicle trips, the regional impacts on air quality would remain significant, as they would under the proposed project.

Local CO Concentrations

Modeling results of local CO concentrations at worst-case (maximally exposed) receptor locations were studied at the four intersections. Figure VIII.A.4 shows the intersections selected for modeling for all four intersections. The results indicated that no exceedances of federal or state one-hour or eight-hour CO standards (e.g., significant impacts) would occur as a result of traffic emissions associated with Alternative 2. Table VIII.B.11 provides the results.

Four of the 13 intersections modeled in the proposed project were selected for analysis for Alternative 2, based on their relatively elevated CO concentrations for the project. Figure VIII.A.4 shows the four intersections selected for comparison to the proposed project.
TABLE VIII.B.11
ESTIMATED LOCAL CARBON MONOXIDE CONCENTRATIONS AT
SELECTED INTERSECTIONS FOR ALTERNATIVE 2 IN 2015

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Proposed Project/a/</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-Hour</td>
<td>Eight-Hour</td>
</tr>
<tr>
<td>3rd and 16th</td>
<td>11.0</td>
<td>9.7</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
<td>5.7</td>
</tr>
<tr>
<td>3rd and King</td>
<td>13.6</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>7.6</td>
<td>8.1</td>
</tr>
<tr>
<td>4th and Bryant</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>5.3</td>
<td>5.7</td>
</tr>
<tr>
<td>8th and Townsend</td>
<td>9.9</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>5.4</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Note:
ppm = Parts per million
a. Refer to Table V.F.5 and associated text in Section V.F, Air Quality.

Source: EIP Associates.

Modeling results indicate that the CO concentrations would be slightly less for Alternative 2 compared to the proposed project. Differences in one-hour CO concentrations between the project and alternative at each of the four modeled intersections ranged from 0.1 to -1.9 ppm. For example, the highest one-hour CO concentrations would occur at the intersection of Third and King Streets where concentrations of 11.7 ppm and 13.6 ppm were estimated for Alternative 2 and the proposed project, respectively. For eight-hour CO concentrations, differences in results ranged from -0.6 to 1.5 ppm. The greatest difference occurred at the intersection of Eighth and Townsend Streets.

Toxic Air Contaminant Emissions

The potential impacts of toxic air contaminant emissions for the Mission Bay North component of Alternative 2 would be the same as for the proposed project in Mission Bay North. The potential impacts of toxic air contaminant emissions from stationary sources in the South of Channel area in Alternative 2 would be the same as for Alternative 1, i.e., smaller emissions than for the project. Since vehicle trips associated with Alternative 2 would be approximately 45% less than for the proposed project, toxic air contaminant emissions from vehicles would be correspondingly less for Alternative 2, compared to the project.

Whereas state law provides a mechanism to ensure that the school siting process considers potential exposure to toxic air contaminants, preschool and child care facilities would not be subject to
California's school siting process. These facilities could be operated near or among the Service/Light Industrial/Research and Development/Office uses. A measure such as Mitigation Measure F.6 proposed for the project would be needed to ensure that preschool and child care facilities would consult with agencies regarding potential risks and that the BAAQMD would have the opportunity to request updated emissions inventories from facilities emitting toxic air contaminants if a preschool or child care center locates within 1,640 feet of such a facility.

In sum, even though the toxic air contaminant emissions from stationary sources in Alternative 2 would likely be less than for the proposed project, toxic air contaminant emissions from multiple facilities could combine to increase risks; therefore this SEIR conservatively characterizes toxic air contaminant emissions from Alternative 2 as a potentially significant impact. All of the mitigation measures for the project would be appropriate for Alternative 2, except Mitigation Measure F.4 could be modified so that the meteorological station would be located near the potential Service/Light Industrial/Research and Development/Office uses on Owens Street.

Demolition and Construction Air Pollutant Emissions

Criteria Pollutants

Criteria pollutants emissions, primarily in the form of PM$_{10}$, would be a less-than-significant impact after implementing BAAQMD-approved dust mitigation measures for demolition and construction activities, as under the proposed project.

Contaminated Soils

As for the proposed project, excavation could result in the generation and release of dust containing toxic air contaminants to the air and adverse impacts on construction workers and the public. Potential impacts for Alternative 2 would be the same as for the project, and would be mitigated through implementation of risk management plans, as explained under "Contaminated Soils and Groundwater," below.

Noise and Vibration

Noise

A qualitative analysis of the traffic volumes at the noise study locations shows that Alternative 2 would have lower traffic volumes than the proposed project and would, therefore, have
correspondingly smaller traffic noise increases. For the study locations at Potrero Avenue south of 16th Street, Pennsylvania Street south of Mariposa Street, and Berry Street west of Fourth Street, traffic volumes would be the same under both alternative and project conditions. Therefore, there would not be any difference in traffic noise levels at each of these three study locations in the future. While the noise analysis of project traffic indicates that traffic increases would contribute to an increase in peak hour and daily noise levels at existing sensitive receptor and residential locations, as well as at sites of potential future sensitive receptors, the contribution would not be noticeable to most individuals at most locations.

To further assess the potential traffic noise impacts of Alternative 2, a quantitative analysis was performed at the sensitive receptor location at Mariposa and De Haro Streets. Traffic volume data for the alternative were analyzed using the same SOUND 32 model that was used for the proposed project. Alternative 2's increase in 24-hour $L_{eq}$ levels would be 0.6 dBA less than the proposed project's less-than-significant increase. Alternative 2 traffic plus cumulative traffic in 2015 would increase 24-hour $L_{eq}$ noise levels by up to 0.7 dBA at the church on Mariposa Street at De Haro Street compared with a 1.3 dBA increase for the proposed project. The alternative's 1-hour $L_{eq}$ of 65.6 dBA for p.m. peak hour traffic would be the same as that analyzed for the proposed project, an increase of 1.6 dBA. This increase would not be noticeable to most individuals and would not interrupt church activities.

Vibration

Alternative 2 would have residential uses over ground floor retail on Third Street and Fourth Street in Mission Bay South similar to Alternative 1. The MUNI Third Street light rail tracks would be installed down the center of these streets in the Project Area. Vibration effects from the light rail vehicles would be similar to the effects described for the project along Third and Fourth Streets and would not be expected to be significant.

Caltrain tracks in Mission Bay North would be adjacent to residential uses and ground floor retail in Alternative 2, as for the project. Vibration effects from the passenger train would be the same as those described for the project.

Existing freight rail tracks would be relocated to the center of 16th Street in Alternative 2, as with the project and Alternative 1. Vibration from heavy rail activity would be noticeable in the residential buildings proposed to be on 16th Street east of Owens Street, similar to Alternative 1, and might exceed the standard of 80 VdB for infrequent events suggested by the Federal Transit Administration. However, given that the freight trains in this area move very slowly (often less
than 20 miles per hour) and that the residential buildings are likely to be concrete rather than wood-frame, vibration levels could be 70 VdB or less and, if so, would not be a significant impact. As it is not likely that vibration would be a significant impact on residential uses along 16th Street, no mitigation has been suggested; it might be useful to perform a more detailed evaluation of potential vibration effects from heavy rail as part of foundation design for residential buildings along 16th Street.

The potential vibration effects on sensitive research instruments described in the project analysis for the UCSF site and other possible research facilities along Third Street and along 16th Street would not occur under this alternative.

Seismicity

Effects of Groundshaking

The Project Area under Alternative 2 would be subject to the same seismic conditions as the proposed project described in “Project Area Characteristics” in Section V.H, Seismicity: Setting: a 67% probability of at least one major earthquake within the 30-year period between 1990 and 2020; anticipated peak ground accelerations in excess of 0.5g; liquefaction and earthquake-induced settlement of some fill.

In this alternative, Mission Bay North would be redeveloped according to the plan for the proposed project, containing residential, retail, and parking facilities. Many existing structures in Mission Bay South would remain, some of which might be retrofitted to upgrade their seismic resistance, and some new buildings would be constructed, although fewer than for the proposed project. The same mitigation measure would apply to this alternative as would under the proposed project. These existing conditions are described in the “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts. Mission Bay North would consist entirely of new buildings. In general, the new structures would be more resistant to seismic forces than retrofitted structures and, therefore, would suffer less damage during earthquakes. Although a retrofitted structure would reduce injury and loss of life, the structure itself might not survive the earthquake in as sound condition as a new structure. If Fire Station No. 30 would be re-used for a fire or fire and police station in this alternative, it would need seismic upgrades.

Seismic Hazard Zones

The Project Area is in a Liquefaction Hazard Zone. Existing structures in Mission Bay South, supported on the potentially liquefiable fill, could deform, tilt, settle rapidly, or collapse, thereby
exposing occupants to injury or death. In Mission Bay North, deep foundations (such as pile-supported foundations) would be constructed for new major buildings, as would occur for the proposed project, to prevent these adverse effects of liquefaction. Existing pile-supported foundations in the South of Channel area pre-date modern building codes. During seismically induced liquefaction of the surrounding fill, they would not be expected to perform as well as the new foundations to be constructed in Mission Bay North.

In this alternative, it is assumed that the South of Channel area would be developed gradually, with structures on appropriate foundations to accommodate the adverse effects of liquefaction. All new construction under San Francisco’s jurisdiction throughout the Project Area would be required to meet the seismic safety provisions of the currently applicable San Francisco Building Code (1995 or future revisions). Existing structures would remain in use until they were replaced by new construction. Unless the South of Channel area were completely developed with new buildings, the effects of liquefaction would be more severe in Mission Bay South than for the proposed project’s less-than-significant impact due to the continuation of existing conditions (see “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts).

**Exposure of Concentrated Populations to Seismic Hazards**

With the development of Mission Bay North and the expected growth in the South of Channel area, this alternative would have about 59% (16,665 employees and residents) of the population of the proposed project (40,900 employees and residents) in the year 2015. In terms of exposure to seismic hazards, the population of Mission Bay North in this alternative would be in the same circumstances as in the proposed project. As development progressed in the Project Area, the percentage of the population in seismically resistant buildings that are on pile-supported foundations, have been retrofitted, or meet the seismic safety provisions of the currently applicable San Francisco Building Code, would increase because new structures in San Francisco’s jurisdiction would comply with the currently applicable San Francisco Building Code. However, unless Mission Bay South were completely developed with new structures, the percentage would not be the same as that of the proposed project. Therefore, although build-out to 2015 would result in about 59% fewer people occupying the Project Area than the proposed project, this alternative would have slightly more severe seismic safety effects because existing seismic safety conditions would continue longer than for the proposed project. These existing conditions are described in the “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity: Impacts. As with the proposed project, these existing conditions would not be significant impacts under CEQA.
In this alternative, the proposed project's integrated seismicity mitigation measures related to project infrastructure would be applied to reduce the remaining exposure to seismic hazards in Mission Bay North to an acceptable level. For Mission Bay South, the existing Mission Bay Plan would integrate such emergency response facilities as the on-site fire and police station, and the extension of the Auxiliary Water Supply System for fire-fighting into the South of Channel area, and reduce the remaining exposure to seismic hazards in Mission Bay South to an acceptable level.

Health and Safety

Like the proposed project, Alternative 2 would increase the use, storage, generation, and disposal of hazardous materials and waste. However, the increase would be substantially smaller with the alternative for two reasons. First, UCSF is not assumed to be built. Second, the amount of commercial space that could use or generate hazardous materials or waste would be smaller—approximately 80% less R&D and industrial-related space (900,000 sq. ft. under Alternative 2 and approximately 5.6 million gross sq. ft. under the proposed project). Under this alternative, the smaller amount of space where hazardous materials use and generation could occur would reduce the magnitude of potential use within the Project Area compared with the project. Reduction in magnitude of potential use would reduce the potential risk, although it would not eliminate potentially significant impacts. Legal and regulatory requirements applicable to hazardous materials operations would reduce most of the common and potentially significant health and safety impacts to less-than-significant levels, as they would under the proposed project. However, the project's potentially significant impacts would also be significant under this alternative, and significant health and safety impacts are discussed below.

First, although the UCSF site would not be developed, it is possible that some occupants of the industrial space would conduct biomedical or related activities and generate biohazardous waste. In this case, the potential impact could be reduced to less-than-significant levels with mitigation measures identified for the project.

Second, development under this alternative would likely increase the generation of hazardous waste and contribute to existing impacts of hazardous waste disposal. However, the increase in hazardous waste generation would be substantially less than for the proposed project. As with the project, environmental impacts of hazardous waste disposal would be minimized, but not eliminated, by encouraging pollution prevention.
Contaminated Soils and Groundwater

Chemicals of various types and concentrations were found in the soil and groundwater throughout the Mission Bay Project Area. With the exception of petroleum hydrocarbon contamination in a petroleum free product area (see “Glossary and Acronyms” at end of Section V.J, Contaminated Soils and Groundwater, for definitions) located in the southeast portion of the Project Area in the vicinity of Illinois and Third Streets, concentrations of contaminants in soil or groundwater do not present a human health or ecological risk under existing conditions. In the free product area, potential effects on near-shore aquatic organisms are being managed through additional investigation and necessary remediation by oil companies responsible for the contamination. This remediation will be carried out regardless of whether the proposed project or this alternative is approved (see “Existing Human Health Risks,” in Section V.J, Contaminated Soils and Groundwater: Setting).

Most of the Project Area would experience soil and groundwater construction-related effects similar to those described for the proposed project, although the locations and extent of activities would vary because of differences in land use compared to the proposed project. As explained for the proposed project, some residual contaminants may remain in the Project Area soils or groundwater other than those associated with the free product (see “Impacts During Project Development,” in Section V.J, Contaminated Soils and Groundwater). There would be fewer people who could be exposed to contaminants in soil or groundwater that could be released during site development. Potential construction-related effects on the aquatic environment would be similar to those identified for the proposed project.

To reduce potential hazards to human health and the environment during construction, Risk Management Plans (RMPs) would be prepared for development activities that would occur in Mission Bay North and Mission Bay South based on proposed land uses; the RMPs would be reviewed by the RWQCB. Measures identified in the RMPs, which would be modified to reflect the proposed land uses under this alternative, would reduce to a less-than-significant level any risks that might result during construction and from use of locations that would be developed and occupied during construction under this alternative.

The area south of the Channel in this alternative would not be expected to be fully built out by 2015. Therefore, unlike the proposed project, some sites in the Project Area south of the Channel would remain vacant and would allow rainwater to infiltrate the soil, thereby potentially affecting concentrations of chemicals in groundwater. Thus, under Alternative 2 there could be less reduction in potential releases of residual contaminants to the environment than under the project. It has been shown that there are no unacceptable risks to the aquatic environment from chemicals in soil or
groundwater in the Project Area that may migrate in groundwater to surface water bodies, except possibly for the free product area. The fact that the alternative would not be fully built out by 2015 would not mean that the alternative would cause significant aquatic impacts.

**Hydrology and Water Quality**

As for Alternative 1, Alternative 2 assumes a combined sewer system for the entire Project Area rather than both combined and separated systems proposed under the project. As with the project, land uses under this alternative would include businesses such as wet laboratories that could potentially release chemicals into the City's combined sewer system that could cause the City to exceed its permit limits. Mitigation Measure K.2 would apply to this alternative.

As with Alternative 1, a comparison of the pollutant load resulting under Alternative 2 is made with the Bayside Base Case plus Mission Bay 100% Combined Sewer System scenario analyzed in "Changes in Discharges to Receiving Waters," in Section V.K, Hydrology and Water Quality: Impacts. Alternative 2 would have a more-intensive development scheme than Alternative 1 and would more closely resemble the scale of development proposed by the project. Therefore, mass pollutant loading under Alternative 2 would be more than under Alternative 1, but still less than the load resulting from the 100% Combined Sewer System scenario under the proposed project. As with the project, pollutant concentrations in municipal wastewater effluent, treated CSOs, and direct stormwater discharges, would not change to the point where toxicological effects to aquatic organisms, adverse effects on sediment quality, or substantial impacts on water-contact recreation could occur. Therefore, as with the proposed project, this would be a less-than-significant impact. The cumulative impacts of this alternative would be similar to those of the proposed project, in that cumulative impacts would be less-than-significant, but as with the project, the SEIR conservatively finds that this alternative would contribute to a potentially significant cumulative impact on the near-shore waters of San Francisco Bay. Because no direct stormwater discharges would occur under this alternative, Mitigation Measure K.4 would not apply to this alternative. Only Mitigation Measure K.3 would apply to this alternative for this cumulative impact.

As discussed for Alternative 1, impacts associated with phased and interim development would be equal to, or less than, those under built-out project conditions for the 100% Combined Sewer System scenario. Because stormwater quality controls would be needed for this alternative as for the proposed project, Mitigation Measure K.5 would apply.

Erosion and sedimentation impacts from construction would be similar to the significant impact of the proposed project; a construction Storm Water Pollution Prevention Plan would be required for this
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alternative to reduce impacts to less-than-significant levels, as would be the case under the proposed project. Mitigation Measure K.1 specifies the minimum measures that must be included in the Storm Water Pollution Prevention Plan.

China Basin Channel Vegetation and Wildlife

This alternative would propose a hard-edge treatment for the north side of the Channel (the same as for the proposed project), resulting in the same impact as the proposed project, loss of approximately 0.13 acre of salt marsh wetlands. The south edge of the Channel would be treated as in the “No Project” alternative, based on the Mission Bay Plan/43/ to preserve and restore salt marsh vegetation for a “soft-edge” approach.

Under Alternative 2, the impacts and mitigation requirements would be about the same as those discussed for Alternative 1. In summary, Alternative 2 would have about the same wetland impact as the proposed project because of the hard-edge treatment on the north Channel edge and would result in a net increase of salt marsh wetlands because of restoration on the south Channel edge. It would have more in-channel construction and disturbance impacts than the proposed project because of the proposed Owens Street Bridge in addition to walls and decking on the north edge.

Community Services and Utilities

Fire Protection

Alternative 2 assumes a level of development for the Project Area with approximately 4% less residential development than the proposed project, and about 80% fewer employees. There would be 37% less retail development and about 90% less office and service/light industrial/R&D/office space (see Table VIII.1). Therefore, the number of emergency, fire, hazardous materials, and false alarm incidents involving the San Francisco Fire Department for Alternative 2 would be expected to be substantially less than for the proposed project.

Although the number of incidents generated by this alternative could reasonably be expected to be less than the number generated by the proposed project, this alternative would still require additional resources. An engine and a truck company, and a station to house them would be provided under this alternative as required in the adopted 1990 Mission Bay Plan./44/ This is because there would still be an addition of new households and businesses into a previously underdeveloped area, which would place additional demand on citywide Fire Department resources. Emergency access to the South of Channel area in the event of an earthquake or during events at the San Francisco Giants Ballpark would also be a concern for any substantial amount of new development.
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Expan. of the high-pressure water system (also known as the Auxiliary Water Supply System, or AWSS) and installation of six cisterns would be necessary to provide adequate fire-fighting capability to the interior of the Project Area in this alternative. Expansion of the AWSS in this alternative would be similar to the proposed expansion of the AWSS in the project. The six cisterns included in this alternative would provide a backup supply of water, if the AWSS fails. The project proposes to use suction inlets near the Bay and Channel as a backup water supply, instead of installing cisterns.

This alternative would include 3.1 acres in the South of Channel area for community facilities, which could include a police and/or fire station. Fire Station 30 would be preserved and reused under Alternative 2. The proposed project would include about 3.7 acres for community facilities in the South of Channel area.

Police Protection

This alternative would have a resident population of about 4% less than the proposed project (about 10,500 as opposed to 10,900) and approximately 80% fewer employees (6,170 compared with the project’s 30,000). Total resident and employee population for the alternative would be approximately 16,600, or about 60% less than the proposed project’s approximately 41,000 employees and residents. Using the same ratio of police personnel per number of residents and employees that was used for the proposed project, an estimated 25 police personnel would be needed under Alternative 2 to provide a level of police service comparable to the citywide level. This is approximately 40% of the estimated 62 police personnel needed for the proposed project. As with the proposed project, interior building space would be needed for these additional personnel, either in an existing or new police station in or near the Project Area. The amount of space needed would be less (about 3,000 gross sq. ft. compared with the project’s 7,440 gross sq. ft.), as would the number of squad cars (about 8 to 9) and parking spaces. However, this would likely be a minimum demand, with the actual number of officers needed falling somewhere within the range between this estimate and estimated demand for the proposed project. This is because the residential population would be only 4% less than that estimated for the proposed project. These residents would occupy the Project Area overnight, while many of the employees would likely leave the area at the close of business.

It is unlikely that additional departmental personnel could be accommodated at existing police stations. This alternative would include 3.1 acres in the South of Channel area for community facilities, which could include a police and/or fire station. An approximately 1.5-acre site adjacent to and including the site of the closed Fire Station No. 30 at Third and Mission Rock Streets may be considered among those potentially available for a relocated Southern Station. If the Southern Station were to be
expanded and/or relocated, it could accommodate some of the additional demand for space to serve this alternative.

**Public Health Services**

This alternative would be likely to generate about the same demand for some public health services as the proposed project, and less demand for other services. The residential population of the Project Area in Alternative 2 would be 4% less than expected in the proposed project. Demand could be about the same as the proposed project for personal health care services and mental health services because these services would be used primarily by residents rather than employees in the area.

In this alternative, there would be approximately 37% less retail development and about 90% less office and service/light industrial/research and development/office space than in the proposed project (see Table VIII.1). Demand on the City’s Department of Public Health’s Bureau of Environmental Health Management for inspection and oversight service could be less than that of the proposed project because there may be fewer retail establishments serving food and fewer firms would be likely to use hazardous materials.

**Recreation and Parks**

Residential demand for open space would be similar for Alternative 2 to that for the proposed project because this alternative would have about 96% of the projected residential population of the proposed project. Employee demand would be about 80% less. Fifty-five percent less open space would be provided as part of this alternative, which would have approximately 60% fewer residents and employees. An estimated 26.5 acres of open space would be developed through 2015 with Alternative 2, and would provide a ratio of approximately 2.5 acres per 1,000 residents. This alternative would generate a total employee demand for about 0.9 acres of open space; employees would use the same open space as residents./46/ The proposed project would include development of approximately 47 acres of open space, providing a ratio of approximately 4.3 acres per 1,000 residents, and would generate an employee demand for approximately 4.2 acres.

The total amount of open space provided by this alternative would be 20.5 acres less than the amount provided by the proposed project, and would also be comparatively less when measured in acres provided per 1,000 residents. Comparison of open space impacts based on the service area analysis done for the proposed project is not possible, since there is no complete plan at this time for the location of or types of recreational facilities that would be provided in the open space under Alternative 2. This information would be necessary to determine whether open space planned for this
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This alternative would be more or less likely to satisfy the needs of Project Area employees and residents than that provided by the proposed project.

Schools

Alternative 2 would have a resident population of approximately 10,500 by the year 2015 (4% less than the proposed project’s resident population). Therefore, this alternative would be expected to generate 4% fewer school-age students than the proposed project (1,550 compared to 1,615). The estimated number of students at each school level would be as follows: approximately 700 elementary-school-age students, 380 middle-school-age students, and 470 high-school-age students.

Like the proposed project, this alternative would include a site for a public school. Demand for classroom space would be slightly less with this alternative because there would be fewer new students. If an elementary school were developed, it is unlikely that all new elementary-school-age students with this alternative could be accommodated on-site because City elementary schools are generally built for 500 or fewer students. Middle school and high school students would not be accommodated on-site. Therefore, as with the proposed project, the City and County of San Francisco would need to develop additional classroom space to accommodate students generated by the proposed project. Options that could be considered by the SFUSD to increase the capacity of the school district include implementing year-round schools, using portable classrooms, or building new permanent classrooms at an existing or new school site. While constructing new schools might cause significant impacts at those locations, it is too speculative to identify impacts at this time from construction of additional school facilities without knowing what action or actions the SFUSD would take to accommodate the additional students, whether SFUSD would choose to accommodate the additional students in a manner that would result in physical changes to the environment, or exactly where those actions would occur. Any new facilities proposed by SFUSD would undergo appropriate environmental review for site-specific physical environmental impacts.

Development occurring with Alternative 2 would be subject to the same one-time development impact fee as the proposed project. As discussed in “Schools: Impacts” in Section V.M, Community Services and Utilities, this fee is collected for the school district at the time building permits are issued, and is $1.72/ sq. ft. for residential development, and varies from $0.08/sq. ft. to $0.24/sq. ft. for different types of commercial development. The development impact fees were set by the state legislature and are reviewed every two years by the State Allocation Board. The San Francisco Board of Education then must set the fees within the State constraints. The fees do not necessarily increase annually. Total fees would likely be slightly less than those collected for the proposed project.
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Because although there would be a similar amount of residential development, there would be fewer square feet of commercial development generating these fees. Alternative 2 would generate about $9.7 million in school fees, whereas the project would generate approximately $11.2 million. Construction of a 500-student elementary school facility costs about $12.6 million in 1998 dollars, which would exceed the amount generated through development impact fees. Therefore, development impact fees would be insufficient to cover the cost of a new elementary school and provide funding for middle and high school students.

Solid Waste

Alternative 2 would generate approximately 10,000 tons of solid waste per year by 2015, which is about 50% of the projected solid waste generation of the proposed project at build-out (19,000 tons/year). At San Francisco's current diversion rate (35%), this alternative would contribute about 6,500 tons of solid per year to the Altamont Landfill. With a diversion rate of 50%, as required by state law by year 2000, this alternative would contribute approximately 5,000 tons of waste to the landfill annually. As with the proposed project, development under Alternative 2 is assumed in the Altamont Landfill Capacity Projections and would not affect the expected lifespan of San Francisco's landfill contract with Waste Management of Alameda County, due to expire between 2012 and 2016. Under this alternative, the disposal companies could potentially require additional staff and collection equipment to serve the Project Area, as they would under the proposed project.

Water Supply

Alternative 2 would use an estimated 1.5 million gallons per day (mgd) of water in 2015, which would represent approximately 50% of the water demand for the proposed project (2.9 mgd). The reclaimed water demand for this alternative would be approximately 0.37 mgd, or about 40% of the reclaimed water demand for the proposed project (0.98 mgd).

As with the proposed project, the low-pressure and high-pressure water systems would require expansion in order to provide adequate service to central portion of the Project Area. The City's proposed reclaimed water system would require a new system of pipelines throughout the Project Area, as would be the case under the proposed project.

Sewers and Wastewater

Alternative 2 would generate approximately 1.3 mgd of sewage through year 2015, which is about 50% of the estimated daily sewage generation for the proposed project (2.5 mgd). Under this
alternative, unlike the proposed project, the Central/Bay Basin would continue to use the City's combined sewer system (see Figure V.K.2, in Section V.K, Hydrology and Water Quality). The combined sewer system in the Central/Bay Basin would require expansion and upgrade of sewer lines. This alternative would also include the construction of additional storage sewer capacity to accommodate increased stormwater runoff, as proposed in the approved 1990 Mission Bay Plan. Recent analysis by the San Francisco Public Utilities Commission, Clean Water Program indicates that the City's combined sewer system probably has adequate capacity to accommodate development from the proposed project in the Project Area without additional storage sewer capacity. Further analysis of detailed, project-level, drainage plans of the combined sewer system for the Project Area, once they were developed, would be needed for confirmation. Growth in the North Basin and Mariposa Basin (Figure V.K.2) would require extension of the existing combined sewer system to previously unserviced areas. Construction of new sewer lines would have impacts related to contaminated soils similar to those described for project construction in “Utility Trench Excavation” in Section V.J, Contaminated Soils and Groundwater: Impacts.

Energy Capacity and Infrastructure

Under Alternative 2, energy demand would be the same in Mission Bay North as under the proposed project. In the South of Channel area, energy demands would be less. There would be about 250 fewer dwelling units than under the proposed project (3,090), but about 87% less retail, office, and R&D space (1,180,000 gross sq. ft. of retail, service/light industrial/R&D/office space vs. 9,050,000 gross sq. ft. of office, R&D, including the UCSF site, and retail space). Even though there would be less development in the South of Channel area under this alternative, the Project Area is underdeveloped, and any amount of new development would require some amount of new infrastructure or upgrades to existing infrastructure.

Telecommunications

Alternative 2 would likely generate the same demand for telecommunications services in Mission Bay North as with the proposed project because there would be the same amount of residential and commercial development in the area by the year 2015. As discussed under “Energy Capacity and Infrastructure,” there would be substantially less development in Mission Bay South by 2015 under this alternative than with the proposed project. There would still be the potential need for new infrastructure or infrastructure upgrades throughout the Project Area in order to provide for new development in an underdeveloped area.
SUMMARY OF MITIGATION MEASURES

In Mission Bay North, the proposed project's mitigation measures would be applicable to similar impacts. In Mission Bay South, the 1990 Mission Bay Plan's mitigation measures are generally assumed to apply. If conflicts were to arise between measures for the two areas, the City would resolve them. Since this SEIR's analysis updates that of the 1990 FEIR in terms of environmental, informational, and regulatory conditions (as well as a changed project), it is reasonable to expect that mitigation measures similar to those identified for the proposed project would be developed and applied as necessary.

The significant impacts of Alternative 2 for visual quality and urban design; air quality including toxic air contaminants; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the project. Therefore, mitigation measures for these environmental issues under Alternative 2 would be the same as those described in Chapter VI for the proposed project in Mission Bay North. They would be expected to be similar to those of the proposed project for Mission Bay South as discussed in the preceding paragraph.

Hydrology and water quality mitigation measures for Alternative 2 would be the same as for the project, but Mitigation Measure K.4 would not apply. This is because no direct stormwater discharges to near-shore waters would occur that could cumulatively impact near-shore water quality. Potential cumulative impacts to near-shore water quality would only occur from treated combined sewer overflows.

Effects on existing wetlands in China Basin Channel would be greater under Alternative 2 than they would be under the project. The mitigation measures in Section VI.L, Mitigation Measures: China Basin Channel Vegetation and Wildlife, would remain applicable under this alternative and could be extended in scope to account for the greater impact.

Traffic impacts in 2015 would be reduced under this alternative, with fewer intersections degrading to LOS E or F compared with the project. Therefore some of the mitigation measures described for the proposed project would also be applicable to Alternative 2, but some features of the project or mitigation measures might be somewhat different due to the different street configuration in this alternative, and some measures would not be necessary. For example, as with Alternative 1, the intersection at 16th Street and Potrero Avenue would not require mitigation in Alternative 2 because it would not degrade to unacceptable levels. The intersection of Third and King Streets could be mitigated with either one of the two measures called for in the project (see Measures E.1, E.21a, and Mitigation Measures E.37 and E.40 in Section VI.E, Mitigation Measures: Transportation).
Impacts on regional transit services would be less than those of the project and would need the same mitigation. Impacts on MUNI would be similar to those of the project, with somewhat less demand for service near the Project Area leading to other MUNI routes and to regional transit. The same mitigation measures as described for the project would be applicable to the alternative, with potentially somewhat smaller demand for additional service on the new Third Street Light Rail in 2015. As the Project Area built out after 2015, however, the demand on this MUNI Metro line would grow, and could approach that of the project.

Other transportation topics, such as parking and pedestrians, would not be significant, as with the project, and would not require mitigation.

Existing seismic structural hazards in the Project Area would persist for a longer period of time under Alternative 2 because more of the Project Area’s existing buildings would remain in use a longer time (see “Phasing of Infrastructure and Development During the Build-Out Period” in Section V.H, Seismicity). Although existing regulations may seismically strengthen some of those buildings, the Project Area’s building stock would pose a higher degree of seismic safety risk through 2015 than the less-than-significant risks under the proposed project. The risk would not be a significant impact under CEQA because the majority of existing structures are low-rise, light-weight buildings, posing limited hazards.

Regarding toxic air contaminants, the 1990 FEIR did not address them other than from construction sources. As a result, measures similar to those proposed for the project would be needed, with Mitigation Measures F.4 modified so the meteorological station would be located near the potential Services/Light Industrial/Research and Development/Office, since UCSF is not assumed as part of the alternative. As with the proposed project, combined toxic air contaminant impacts would remain potentially significant and unavoidable after mitigation.

The 1990 FEIR did not identify water quality impacts as significant in the manner that the SEIR does. Thus, no mitigation measures were proposed in the 1990 FEIR. Because water quality impacts have been identified as significant, Mitigation Measures K.1, K.2, K.3, and K.5 would be recommended for Alternative 2.

This alternative’s significant unavoidable project and cumulative impacts would be the same as those of the proposed project (see Chapter IX, e.g., intersection, bridge/ramp, vehicular air pollutant emissions, toxic air contaminants, hazardous waste generation and disposal, water quality), although their magnitude may vary.
C. ALTERNATIVE 3: RESIDENTIAL/OPEN SPACE DEVELOPMENT ALTERNATIVE

The Residential/Open Space Development Alternative (Alternative 3) is a modified version of full build-out of Alternative B from the 1990 FEIR. No redevelopment plans for the Project Area were assumed. Figure VIII.C.1 shows a site plan for Alternative 3. There are four differences in the project boundaries between Alternative 3 and the 1990 FEIR Alternative B: 1) Alternative 3 includes the Castle Metals property west of Third Street between 16th Street and Mariposa, whereas 1990 FEIR Alternative B did not; 2) Alternative 3 excludes the Pier 48 backland area, whereas 1990 FEIR Alternative B included this area, and proposed a wetland for it; 3) Alternative 3 excludes most of the surface water area of China Basin Channel and the associated houseboat community and pleasure boat berths, whereas 1990 FEIR Alternative B included these areas; and 4) Alternative 3 excludes the Caltrain terminal, the two blocks bounded by Fourth, Townsend, King, and Sixth Streets, whereas Alternative B included this area, and proposed residential with some ground-floor retail for it in the 1990 FEIR.

DEVELOPMENT PROFILE

Build-out of the Project Area under Alternative 3 assumes infrastructure improvements, since the City would not issue building permits without adequate sewer systems, roads, etc. As proposed in the 1990 FEIR, this alternative would maintain and expand the existing combined sewer system in the Central Basin and would create two wetlands, one located northwest of Fourth and Owens Streets, and the other located southeast of Third and Mission Rock Streets. The street grid shown in Figure VIII.C.1 is a modified version of the project street grid to account for the wetlands and open space areas that would not have streets traversing them. Unlike Alternatives 1 and 2, there would be no bridge across China Basin Channel connecting Sixth Street with Owens Street. The wetland near the San Francisco Bay would require off-site improvements along the bayfront to permit tidal access from the Bay to the wetland and a full bridge. The wetlands would require removal of an existing boat storage yard on port property between the southern edge of Pier 54 and the northern edge of Pier 64. Alternative 3 would include about 10,000 residential units, 1 million gross sq. ft. of office space, 630,000 gross sq. ft. of service/light industrial/research and development space, 300,000 gross sq. ft. of retail space, 12,100 parking spaces, 7.1 acres of community facilities, 48 acres of open space, and 20 acres of wetlands. For purposes of environmental analysis, Alternative 3 assumes no UCSF site would be developed. This level of nonresidential development would accommodate about 6,550 jobs. There would be about 18,600 residents in Project Area housing. In Table VIII.1, characteristics of Alternative 3 are compared to those of the project.
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.C.1 ALTERNATIVE 3: LAND USES FOR RESIDENTIAL/OPEN SPACE ALTERNATIVE

SOURCE: EIP Associates
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C. Alternative 3

Residential

In the absence of a development agreement specifying affordable housing production requirements to
development in the Project Area, it is unclear whether and how affordable housing would be produced
under Alternative 3. Affordable housing provided through the City’s Office Affordable Housing
Production Program would be limited since Alternative 3 has little office development. For this
SEIR, it is assumed that, without participation of the San Francisco Redevelopment Agency and the
use of redevelopment tax increment for affordable housing, there would be less affordable housing
associated with Alternative 3 than would be produced under the proposed project.

Office

About 1 million gross sq. ft. of office space would be developed in Mission Bay South.

Service/Light Industrial/Research and Development

Service/light industrial/research and development space would occupy about 630,000 gross sq. ft. in
Mission Bay South, including on the Castle Metals site which was not included in Alternative B in the
1990 FEIR.

Retail

A total of 300,000 gross sq. ft. of retail space would be developed in the Project Area. There would
be 80,000 gross sq. ft. of ground-floor retail space in Mission Bay North. Most of the retail space
(220,000 gross sq. ft.) would be developed in Mission Bay South; it would include both ground-floor
space and stand-alone retail development.

Community Facilities

About 7.1 acres of community facilities would be developed in the Project Area. Mission Bay North
would contain 1.5 acres of community facilities, including the Channel Pump Station. Mission Bay
South would contain 5.6 acres of community facilities, including community rooms, a combined
police and fire station on the site of Fire Station No. 30, and an elementary school west of 16th and
Owens Street. Fire Station No. 30 could be preserved or demolished as assumed for the project.
VIII. Alternatives to the Proposed Project

C. Alternative 3

Parking

About 12,100 parking spaces would be developed in the Project Area in association with the various land uses assumed. About 3,750 spaces would be in Mission Bay North and about 8,350 in Mission Bay South. Most or all of the parking would be within buildings that include other uses, rather than in separate parking structures.

Open Space and Wetlands

Open space would be emphasized in this alternative. There would be 48.3 acres of open space (11 acres north of the Channel, and 37.3 acres south of the Channel); an additional 20 acres would be developed as wetlands in Mission Bay South. The wetlands would be developed northwest of Fourth and Owens Streets and southeast of Third and Mission Rock Streets, as shown in Figure VIII.C.1. Because the Project Area boundaries have been changed since preparation of the 1990 FEIR, the approximately 12 acres of surface water in China Basin Channel that were part of the Project Area in the 1990 FEIR are not part of the alternatives analyzed in this SEIR. Similarly, the 13.6-acre wetland on port property east of Third Street also is not part of this alternative.

ENVIRONMENTAL ASSESSMENT

The significant impacts of Alternative 3 for visual quality and urban design; air quality including toxic air contaminants; seismicity; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the proposed project. Therefore, mitigation measures for these environmental issues under Alternative 3 would be the same as those described in Chapter VI for the project. Other impacts and mitigation measures would vary from those of the proposed project in the area of vegetation and wildlife, traffic, and toxic air contaminants. These similarities and differences, discussed for each topic, are summarized at the end of this section on Alternative 3.

Plans, Policies, and Permits

Alternative 3 would change the existing plans and policies framework governing the Project Area. As with the project, Alternative 3 would require that the 1990 Mission Bay Plan be amended to change land use designations, zoning controls, and other land use policies to accommodate potential development.
Since Alternative 3 assumes that UCSF would not locate its major new site in the Project Area, the City would not need to prepare amendments to the General Plan or the City Planning Code incorporating the new site into relevant plan and policy documents.

Development on port property would be subject to the Port of San Francisco’s Waterfront Land Use Plan. Development of the wetlands east of Third Street would require removal of an existing boat storage yard. Any development activities, including alterations to the Channel, within a 100-foot shoreline band inland from the mean high tide line would be subject to review and permitting by the Bay Conservation and Development Commission (BCDC).

Land Use

Project Area

Alternative 3 would develop the Project Area under the land use districts of Alternative B of the 1990 FEIR, as shown in Figure VIII.C.1. Alternative 3 includes 10,000 units of housing, 48 acres of open space, and 20 acres of wetlands at build-out. It would continue the trend of converting deteriorating and low-intensity industrial areas near the waterfront to new uses, as the proposed project would. Effects on the surrounding communities that relate to the overall development of the Project Area would be similar under this alternative as for the project except for effects on the port property between Piers 54 and 64.

For the project and under this alternative, almost all buildings would be demolished over time and the Channel Pump Station would be retained and not altered. Under this alternative, the street system would be modified substantially, and Fourth Street would be reconfigured as a major thoroughfare as would occur for the project. Fire Station No. 30 could be preserved or demolished.

Development under this alternative would change the mix and amount of uses in the Project Area. Uses would be primarily residential and open space compared with the proposed project’s mix of commercial industrial, institutional (UCSF), and residential. Mission Bay North would not become a year-round regional destination center since the project’s regional entertainment center of year-round use would not be created. A 500-room hotel would not be developed. Full build-out of the land use districts under Alternative 3 would allow for about 67% more residential development compared with the project, for a total of about 10,000 dwelling units. More intense residential development would occur in Mission Bay North, and a variety of residential densities and open space and wetlands would be developed in Mission Bay South. While this alternative would result in substantially more residents in the Project Area, it would result in fewer jobs.
As with the project, this alternative includes residential development in Mission Bay South located south of port property east of Third Street, where petroleum free product contamination has been identified. A school site southwest of 16th and Owens Streets would be adjacent to residential uses to the east and open space to the north and I-280 to the west.

**Surrounding Areas**

This alternative would maintain the existing relative isolation of the Mission Creek houseboat community. Under this alternative, the houseboat community would be surrounded by wetlands, other open space, and community facilities (including the existing Channel Pump Station). As under the proposed project, residents of the houseboat community would see an increase in convenient retail stores and personal services.

Increased pedestrian and auto traffic in the South of Market Nearby Area would occur in tandem with build-out of the Project Area under this alternative as with the project.

Compared to the proposed project, there would be more retail development, including entertainment-oriented retailing, restaurants, and bars in the South of Market Nearby Area (including South Beach and South Park) under Alternative 3 because the retail-entertainment complex in Mission Bay North would not be developed in the Project Area. Demand associated with the Giants Ballpark would be satisfied by retail development elsewhere in the vicinity. In addition, there would be more demand in surrounding areas for city-serving retail development oriented to both Mission Bay and the broader market area under Alternative 3 than would be the case under the proposed project. Because the Project Area would not provide sites for large amounts of this larger-scale retail development, there would be more of it in other suitable locations such as South of Market, Showplace Square, North Portrero, Lower Portrero, Central Bayfront, South Bayshore, and Inner Mission locations. Many of these locations have already experienced some of this type of development over the last five to ten years.

Existing recreational facilities north of the Channel, such as South Beach Harbor, would be affected by the increased number of pedestrians in the area at any one time, primarily since a larger number of residents would be present during weekends. Users of the recreational waterfront facilities south of the Channel would primarily compete for access with residents of the Project Area. Under this alternative, the number of residents accessing existing recreational facilities potentially could be about 67% more than under the project.
Under this alternative, the Port would develop boat trailer parking directly across Terry A. François Boulevard from the Public Boat Launch Ramp between Piers 52 and 54. Under the project it is likely that the parking would be located farther away just south of The Common, although it would be located within 600 feet of the ramp as required under a California Department of Boating and Waterways grant. The development of a wetlands east of Third Street requires removal of an existing boat storage yard on port property. The Port's Waterfront Land Use Plan would allow new open space and public access, the retention of existing maritime recreational uses, and new small-scale commercial and accessory retail uses in this area. The wetlands in this area would provide new open space.

Under this alternative, Project Area employees might park on streets on Potrero Hill and Lower Potrero; however, the number of employees would be about one-fifth that of the project. Thus, employee spillover parking from this alternative would be less than under the project.

**Business Activity, Employment, Housing, and Population**

**Project Area Employment and Job Opportunities**

Build-out of Alternative 3 would result in only about 20% of the total Project Area employment accommodated by the project. Table VIII.C.1 presents the employment estimates by business activity. Of the approximately 6,550 jobs expected under this alternative, almost all (95%) would be in Mission Bay South. Without the UCSF site and associated business activity that the proposed project offers to the Project Area and to San Francisco, there would be fewer total job opportunities and less diversity in job options for City residents under Alternative 3.

While there would be no UCSF site or hotel in Mission Bay South, there would be some office activity, representing the largest share of jobs under this alternative, as well as some service, light industrial, and R&D activity. Under Alternative 3, the South of Channel area would accommodate a substantial amount of retail development and employment, although not as much moderate-scale retail as envisioned for the proposed project. In Mission Bay North, there would be only a small amount of retail business activity and some service and support jobs for the residential development.

**Implications for Existing Project Area Business Activity**

As under the proposed project, there would not be sites in Mission Bay under this alternative for many of the types of businesses now operating there. The transition would be gradual and would be an expected element of the pattern of land use change in this part of the City. A few existing
### TABLE VIII.C.1
**ALTERNATIVE 3: EMPLOYMENT BY LAND USE AT BUILD-OUT**

<table>
<thead>
<tr>
<th>Land Use/Business Activity/a/</th>
<th>North of Channel</th>
<th>South of Channel</th>
<th>Total</th>
<th>Percent of Total</th>
<th>Total for Proposed Project</th>
<th>Alternative vs. Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>—</td>
<td>3,450</td>
<td>3,450</td>
<td>53%</td>
<td>8,790</td>
<td>-61%</td>
</tr>
<tr>
<td>Service/Light Industrial/R&amp;D/a/</td>
<td>—</td>
<td>1,280</td>
<td>1,280</td>
<td>20%</td>
<td>6,520</td>
<td>-80%</td>
</tr>
<tr>
<td>UCSF Site</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>9,100</td>
<td>—</td>
</tr>
<tr>
<td>Retail</td>
<td>230</td>
<td>640</td>
<td>870</td>
<td>13%</td>
<td>4,310</td>
<td>-80%</td>
</tr>
<tr>
<td>Hotel</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>370</td>
<td>—</td>
</tr>
<tr>
<td>Community Facilities/Parkland</td>
<td>1</td>
<td>373</td>
<td>374</td>
<td>6%</td>
<td>254</td>
<td>47%</td>
</tr>
<tr>
<td>Building Maintenance/Security/Parking</td>
<td>6</td>
<td>162</td>
<td>169</td>
<td>3%</td>
<td>410</td>
<td>-59%</td>
</tr>
<tr>
<td>Housing-related</td>
<td>150</td>
<td>260</td>
<td>410</td>
<td>6%</td>
<td>240</td>
<td>71%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>388</td>
<td>6,165</td>
<td>6,553</td>
<td>100%</td>
<td>29,994</td>
<td>-78%</td>
</tr>
</tbody>
</table>

**Percent of Total**

<table>
<thead>
<tr>
<th></th>
<th>Alternative 3</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6%</td>
<td>94%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- = Not applicable.

For consistency with current Project Area boundaries, employment associated with the Caltrain terminal is not included in this table.

a. For consistency with current Project Area boundaries, includes non-Catellus property fronting on Third Street, south of 16th Street. Likely development for this site would be S/LI/RD space comparable to that across Third Street to the east.

**Source:** Hausrath Economics Group.
businesses, particularly those with substantial investments in buildings or equipment and businesses requiring large amounts of open land, might have difficulty finding suitable sites elsewhere in the City.

Project Area Housing, Households, Population, and Employed Residents

Alternative 3 emphasizes housing and open space. At build-out, there would be 10,000 units developed in the Project Area, over 60% more than under the proposed project. Table VIII.C.2 shows the associated population and employed residents estimates for the alternative. The housing units and households would accommodate 18,600 residents, of whom 11,200 would be working.

Relationship Between Project Area Employment Growth and Housing Development and Implications for Citywide Housing Market Conditions

The Project Area employment and housing estimates presented above for Alternative 3 represent build-out of Alternative 3. The updated jobs/housing analysis used for the proposed project and the other alternatives was also applied to Alternative 3. Table VIII.C.3 presents the results of the comparison of housing demand in San Francisco, associated with Project Area employment growth, to Project Area housing supply.

Consistent with its intent, Alternative 3 would provide a substantial surplus of housing supply relative to the housing demand in San Francisco associated with employment growth under the alternative. Employment growth accommodated in the Project Area under Alternative 3 would result in demand for about 1,700 housing units in San Francisco, less than 20% of the demand associated with the larger amount of employment growth under the proposed project. The alternative would provide 10,000 housing units — over 60% more than would the proposed project.

The jobs/housing surplus calculated for Alternative 3 would result in a more favorable housing market condition for some segments of the housing market in San Francisco than would the situation identified for the proposed project. For market-rate housing, because there would be more housing supply relative to demand, vacancy rates would be higher, and there would be greater mobility compared with the housing market situation under the proposed project. In the longer term, prices and rents for market-rate housing would be more stable than would be the case under the proposed project.

For housing affordable to very low-, low-, and moderate-income households, market conditions would be worse, and there would be fewer affordable housing options under Alternative 3 compared with the
TABLE VIII.C.2
ALTERNATIVE 3: HOUSING UNITS, POPULATION, AND EMPLOYED RESIDENTS AT BUILD-OUT

<table>
<thead>
<tr>
<th></th>
<th>Alternative 3</th>
<th>Comparison with Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North of Channel</td>
<td>South of Channel</td>
</tr>
<tr>
<td>Housing Units/a/</td>
<td>3,680</td>
<td>6,320</td>
</tr>
<tr>
<td>Households</td>
<td>3,551</td>
<td>6,099</td>
</tr>
<tr>
<td>Population/b/</td>
<td>6,268</td>
<td>12,339</td>
</tr>
<tr>
<td>Employed Residents/c/</td>
<td>3,790</td>
<td>7,450</td>
</tr>
</tbody>
</table>

Notes:
For consistency with current Project Area boundaries, the houseboats in the China Basin Channel are not included in this table.

a. All new housing units are included, even though some (about 400) were originally designated for port property east of Third Street not in the current Project Area. Those units are included in the Mission Bay South totals.

b. Number of people living in housing units built in the Project Area.

c. Residents of the Project Area who are also employed, regardless of place of work.

Source: Hausrath Economics Group.

proposed project. Without the participation of the Redevelopment Agency, there would be no mechanism that could supply the number and proportion of affordable units assumed for the proposed project.

Implications for Citywide Growth

Compared with the proposed project, Alternative 3 would result in less job growth in San Francisco, but, as would be the case under Alternative 2, the difference in job growth overall for the City would not be as great as the difference in job growth for the Project Area. This is because many of the business activities and jobs accommodated in the Project Area under the proposed project would have location options elsewhere in the City. If the business activities were not accommodated in the Project Area, there would be more growth in those other locations; office, retail, entertainment-oriented commercial, and hotel business activity not accommodated in the Project Area under Alternative 3 would instead locate in Nearby Areas. The absence of the UCSF site and associated economic activity in the Project Area under Alternative 3 would represent a loss of most, if not all, of that economic activity and job opportunity in San Francisco compared with the outcome for the
TABLE VIII.C.3
ALTERNATIVE 3: JOBS/HOUSING ANALYSIS AT BUILD-OUT

<table>
<thead>
<tr>
<th>Demand</th>
<th>[Formulae]</th>
<th>Alternative 3</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Employment growth accommodated in Project Area/a/</td>
<td>4,880</td>
<td>28,330</td>
<td></td>
</tr>
<tr>
<td>B. Percent representing additional workers living in San Francisco/b/</td>
<td>55.0%</td>
<td>55.0%</td>
<td></td>
</tr>
<tr>
<td>C. Average number of San Francisco workers in households with workers/c/</td>
<td>1.6</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>D. Additional households associated with Project Area employment growth</td>
<td>[(A*B)/C]</td>
<td>1,678</td>
<td>9,738</td>
</tr>
</tbody>
</table>

Supply
E. Total Project Area Housing Units at Build-out                      | 10,000     | 6,090         |

Comparison of Supply with Demand
Surplus or (Deficit) in Project Area                                  | [E - D]    | 8,323         | (3,648)          |

Notes:
This jobs/housing analysis is not meant to imply that there should (or ever would) be a precise match between jobs and housing for any given project area. The calculation is a useful means of evaluating the proposed project and alternatives, and it provides an indication of the implications of the land use mix for the City's housing market.

a. Total Project Area employment at build-out (6,550 jobs) minus existing Project Area employment (1,670 jobs).


Source: Hausrath Economics Group.

Moreover, under this alternative, in addition to UCSF and associated economic activity, some other business activity not accommodated in the Project Area might also choose a location outside San Francisco, rather than competing for limited space in Nearby Areas. Most of this other employment growth would find a location in San Francisco, as described above, however.

On the housing side, the results are reversed. Alternative 3 would provide more total housing supply in San Francisco than would the proposed project. There are not many other location options in the City for the large amount of new housing that could be accommodated in the Project Area, so similar numbers of units would not be provided elsewhere in the City if they were not built in the Project Area. On the other hand, Alternative 3 would result in fewer affordable housing units in San Francisco than would be the case under the proposed project.
Implications for Nearby Areas

Alternative 3 would result in more office and commercial industrial activity in South of Market and other Nearby Areas than would be the case under the proposed project. There would be very little Project Area office development under Alternative 3 to compete with new office development districts such as the Transbay area. Similarly, without the flexible Commercial Industrial development envisioned for Mission Bay South under the proposed project, Alternative 3 would result in more demand pressure on existing space in the South of Market, North Potrero, Potrero Hill, Inner Mission, and Central Bayfront Nearby Areas from new and growing business activities. Higher rents for that space, compared to the situation under the proposed project, would mean fewer space options for lower-rent paying uses in Nearby Areas.

This demand pressure would be compounded in the South of Market area by the pressure for retail expansion under Alternative 3. There would be very little retail development in Mission Bay North under Alternative 3 to accommodate the demand expected as a result of San Francisco Giants Ballpark activities. Therefore, compared to the situation with the proposed project’s large amounts of retail and entertainment-oriented commercial development, there would be more retail development in Nearby Areas, including South Beach, other South of Market locations, and at sites along the waterfront to both the north and south of the Project Area.

The results for the housing market situation in Nearby Areas would not be as pronounced. Under Alternative 3, there would be less demand pressure on the housing stock in Nearby Areas than would be the case under the proposed project. The larger additions to the City’s housing supply under Alternative 3 would absorb more market-rate demand, resulting in less potential for some demand-induced increases in housing prices and rents than would be the case under the proposed project, those benefits would be offset in Nearby Areas by demand pressure associated with the lack of affordable housing in the Project Area compared to what would be possible under the proposed project.

Unlike the other sections discussed above, affordable housing production depends on project sponsors and available subsidies, not on market demand. Therefore, less affordable housing in the Project Area under Alternative 3 compared to the proposed project would not necessarily result in more affordable housing produced elsewhere in San Francisco. Instead, housing market conditions faced by very low-, low-, and moderate-income households seeking affordable units would be worse than expected under the proposed project, as described in the preceding section.
Visual Quality and Urban Design

Alternative 3 would represent a substantial change in visual character compared with the proposed project and other alternatives. This alternative focuses on residential and open space uses rather than the more-intense urban development associated with industrial, commercial, retail, and UCSF uses. The reduced scale of building heights and massing under Alternative 3 would create a more open street-level environment. Building heights would be in the three- to eight-story range, with a maximum height of 100 feet, instead of up to 160 feet under the proposed project. Views of downtown and the Bay Bridge would still be affected, but not to the extent shown for the proposed project.

Fire Station No. 30, located at the southeast corner of Third and Mission Rock Streets may be of historical importance and may be eligible for the National Register. As with the project, potential demolition impacts associated with the fire station could be addressed by Mitigation Measure D.2 in Section VI.D, Mitigation Measures: Visual Quality and Urban Design.

Transportation

The street network assumed for Alternative 3 is shown in Figure VIII.C.1 along with land uses. It is similar to that of the proposed project, with smaller blocks providing additional street access in the residential areas of Mission Bay South. Neither The Common, nor the east-west couplet north and south of The Common in the proposed project are included in this alternative because different and larger open space areas are provided.

Trip Generation

Alternative 3 assumes the same types of land uses as the project but substantially less commercial development and substantially larger numbers of dwelling units in the Project Area. It would result in about 14,620 fewer p.m. peak hour person trips or about 44% less than the project. Table VIII.C.4 shows the projected trip generation for Alternative 3 compared with that of the project.

Traffic Impacts

The levels of service for the 11 alternative study intersections under year 2015 cumulative with Alternative 3 conditions are shown in Table VIII.C.5. Since the trip generation for Alternative 3 would be higher than either of the previously discussed alternatives, but lower than the project's, the levels of service under this scenario are expected to be better than those under cumulative-with-project
### TABLE VIII.C.4
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
ALTERNATIVE 3 COMPARED TO PROJECT

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Alternative 3</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>5,802</td>
<td>11,030</td>
<td>-5,228</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>13,074</td>
<td>22,470</td>
<td>-9,396</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,876</strong></td>
<td><strong>33,500</strong></td>
<td><strong>-14,624</strong></td>
</tr>
</tbody>
</table>


conditions but worse than under Alternatives 1 and 2. As shown in Table VIII.C.5 and Figure VIII.C.2, 7 of the 11 study intersections would continue to operate at LOS D or better under cumulative with the Alternative 3 conditions. Six of the same 11 intersections would operate at LOS D or better under project conditions. The intersection of Fourth and King Streets would operate at an acceptable LOS D under Alternative 3, in contrast to LOS E under the project scenario. All six intersections that operate at an acceptable level of service under the project conditions would operate at better levels of service under Alternative 3. The four intersections operating at LOS E or F under Alternative 3 are also included in the group of five intersections that would fail under the project scenario. The intersection of King Street at Third Street would operate at LOS E, and the intersections of Seventh and Townsend Streets, 16th Street and Potrero Avenue, and 16th and Vermont Streets would operate at LOS F. Delays would be less than those caused by the cumulative-with-project scenario, even when LOS values would be the same.

**Transit Impacts**

Table VIII.C.6 compares the transit trip generation of the project to that of Alternative 3. As Alternative 3 would include substantially less office, R&D, and instruction/research space than described under the project scenario and no major institutional space, it would generate fewer transit trips than the project.

Table VIII.C.6 shows that in 2015 there would be relatively small differences in numbers of inbound transit trips between Alternative 3 and the proposed project compared to the difference in total outbound trips. The smaller amount of office/research and development space included in
MISSION BAY SUBSEQUENT EIR

FIGURE VIII.C.2 YEAR 2015 CUMULATIVE LEVELS OF SERVICE WITH ALTERNATIVE 3 AT SELECTED INTERSECTIONS, WEEKDAY P.M. PEAK HOUR

SOURCE: Wilbur Smith Associates
TABLE VIII.C.5
INTERSECTION LEVELS OF SERVICE
ALTERNATIVE 3 COMPARED TO PROJECT
( PM Peak Hour 2015 Cumulative Conditions)

<table>
<thead>
<tr>
<th>Study Intersection</th>
<th>2015 Cumulative with Project</th>
<th>2015 Cumulative with Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avg. Delay (sec./veh.)</td>
<td>LOS</td>
</tr>
<tr>
<td>Third St./King St.</td>
<td>99.1</td>
<td>F</td>
</tr>
<tr>
<td>Fourth St./King St.</td>
<td>52.1</td>
<td>E</td>
</tr>
<tr>
<td>Fifth St./King St.</td>
<td>28.4</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St./Townsend St.</td>
<td>195.3</td>
<td>F</td>
</tr>
<tr>
<td>Sixteen St./Potrero Ave.</td>
<td>162.7</td>
<td>F</td>
</tr>
<tr>
<td>Sixteenth St./Vermont St.</td>
<td>200.4</td>
<td>F</td>
</tr>
<tr>
<td>Sixteenth St./Seventh St.</td>
<td>32.2</td>
<td>D</td>
</tr>
<tr>
<td>Sixteenth St./Third St.</td>
<td>25.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa/I-280 On-ramp</td>
<td>16.6</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa/Owens St./I-280 Off-ramp</td>
<td>35.9</td>
<td>D</td>
</tr>
<tr>
<td>Third St./Mariposa St.</td>
<td>23.7</td>
<td>C</td>
</tr>
</tbody>
</table>


Alternative 3 would produce substantially fewer outbound trips than inbound trips (17% versus 83%), compared with the project, during the afternoon peak commute period.

Because Alternative 3 would generate fewer total regional transit trips than the project, the impact of these trips would also be less than the project’s impact. The number of BART riders generated by Alternative 3 in 2015 would be about 50% of that generated by the proposed project, suggesting that 2015 BART capacity would be sufficient to accommodate Alternative 3 ridership. Similar to Alternative 2, Alternative 3 would generate about 220 AC Transit riders, approximately half the number that would be generated under the proposed project. This ridership would be accommodated on the existing AC Transit service, and would contribute less to cumulative excess demand on AC Transit in the future. Cumulative ridership on AC Transit with this alternative would increase the load factor to about 152% compared with 157% with the project; the alternative would contribute...
TABLE VIII.C.6
PM PEAK HOUR TRANSIT PERSON TRIPS DISTRIBUTION BY TRANSIT MODE
ALTERNATIVE 3 COMPARED TO PROJECT IN 2015

<table>
<thead>
<tr>
<th>Transit Mode</th>
<th>Alternative 3</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
<td>In</td>
</tr>
<tr>
<td>BART</td>
<td>340</td>
<td>284</td>
<td>459</td>
</tr>
<tr>
<td>AC Transit</td>
<td>106</td>
<td>112</td>
<td>142</td>
</tr>
<tr>
<td>Charter Bus</td>
<td>24</td>
<td>31</td>
<td>45</td>
</tr>
<tr>
<td>G.G. Bus</td>
<td>9</td>
<td>31</td>
<td>107</td>
</tr>
<tr>
<td>Ferry</td>
<td>2</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>SamTrans</td>
<td>20</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Caltrain</td>
<td>48</td>
<td>77</td>
<td>106</td>
</tr>
<tr>
<td>MUNI Bus /a/</td>
<td>759</td>
<td>497</td>
<td>856</td>
</tr>
<tr>
<td>MUNI Metro /a/</td>
<td>1,457</td>
<td>1,167</td>
<td>1,806</td>
</tr>
<tr>
<td>Total</td>
<td>2,765</td>
<td>2,241</td>
<td>3,589</td>
</tr>
</tbody>
</table>

Note:
a. MUNI ridership levels represent persons using MUNI as their primary travel mode, as well as those using MUNI to access regional carriers, such as BART, AC Transit, Golden Gate Transit, ferries and SamTrans.


somewhat less than the project’s contribution to the cumulative ridership. This would be a significant cumulative impact. Sufficient capacity would exist on the Golden Gate Transit bus system, where the ridership that would be generated by Alternative 3 would be approximately 12% of that produced under the project. Similarly, estimated Alternative 3 ferry ridership would be approximately 13% of that generated by the proposed project, causing no significant impacts. SamTrans Alternative 3 ridership would be about 30% of that generated by the project scenario, while Caltrain would carry about 30% of the Mission Bay riders than would be generated by the proposed project. Neither SamTrans nor Caltrain would experience a significant impact under this alternative. Charter buses are expected to carry approximately 35% of the trips that would be produced under the project scenario.

Table VIII.C.7 shows the year 2015 cumulative Alternative 3 MUNI screenline analysis compared with that of the project. The table shows the slightly smaller MUNI capacity that would be used
<table>
<thead>
<tr>
<th>Screenline/a/</th>
<th>Year 2015 MUNI Routes</th>
<th>Existing Conditions</th>
<th>Year 2015 Cumulative with Alternative 3 Conditions</th>
<th>Year 2015 Cumulative with Project Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hourly Capacity /b/</td>
<td>Average Hourly Load/c</td>
<td>Percent Capacity Used</td>
<td>Hourly Capacity /d/</td>
</tr>
<tr>
<td>Northeast</td>
<td>30, 30X, 45</td>
<td>3,387</td>
<td>2,256</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>41, 42X</td>
<td>1,733</td>
<td>877</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>5,120</strong></td>
<td><strong>3,133</strong></td>
<td><strong>61%</strong></td>
</tr>
<tr>
<td>Northwest</td>
<td>38, 38L, 38AX, 38BX</td>
<td>2,823</td>
<td>1,986</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>1, 1AX, 1BX, 2, 3, 4, 5, 21, 22, 31, 31AX, 31BX, 41, 45</td>
<td>7,679</td>
<td>5,537</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>10,502</strong></td>
<td><strong>7,523</strong></td>
<td><strong>72%</strong></td>
</tr>
<tr>
<td>Southwest</td>
<td>K, L (MMX), M, N</td>
<td>6,783</td>
<td>4,876</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>6, 7, 71, F</td>
<td>1,418</td>
<td>1,096</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>8,201</strong></td>
<td><strong>5,972</strong></td>
<td><strong>73%</strong></td>
</tr>
<tr>
<td>Southeast</td>
<td>J, 9</td>
<td>1,717</td>
<td>1,243</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>846</td>
<td>331</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>3rd St. LRT Extension</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>14, 14X</td>
<td>1,491</td>
<td>941</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>4,054</strong></td>
<td><strong>2,515</strong></td>
<td><strong>62%</strong></td>
</tr>
</tbody>
</table>

**Notes:**

a. See Figure V.E.6 for Screenline location.

b. Capacity based on San Francisco Municipal Railway Ridership Projections to the Year 2015, May 5, 1997. It assumes an appreciable number of standees per vehicle (somewhere between 60% and 80% of the number of seated passengers, depending on the specific transit vehicle configuration) and may not include the effects of missed or late runs.

c. Average load at maximum load point, based on MUNI's monitoring data, FY 1995-96.

d. Capacity includes the elimination of bus lines 15, 32 and 81X, plus implementation of the MMX and the 3rd St. Extension LRT Services, and any other influencing modifications to service, equipment or operation.

e. Estimated from MTC Model projections and preliminary load estimates from MUNI Third Street LRT Extension Study.

under the less developed Alternative 3 in 2015 compared with that used under the proposed project. Similar to the previously discussed alternatives, the greatest increase in MUNI ridership would occur crossing the Northeast screenline.

The greatest use of capacity would be experienced at the Northeast screenline, where cumulative demand with the project is expected to greatly exceed capacity as with the project. Passengers traveling through the Southwest screenline are projected to use approximately 98% of capacity essentially the same as with the project. This level of use would cause some transit riders to find the least crowded line traveling to their destination, creating an equilibrium between lines serving the same direction and providing similar levels of service. However, this behavior is largely dependent upon the convenience offered by alternate MUNI lines to each individual, as well as personal preferences of these riders.

The larger amount of residential space in Alternative 3, which would generate primarily inbound trips, explains the larger ratio of inbound to outbound trips for MUNI buses in the alternative as seen in Table VIII.C.6. The lesser proportion of outbound trips is also reflected in the alternative’s smaller impact on MUNI screenlines than would be seen if the ratio of outbound to inbound trips were similar to that of the proposed project.

A comparison of Alternative 3 with the proposed project suggests that the project would use approximately 2.4% more MUNI corridor capacity than Alternative 3. The corresponding impact of Alternative 3 and the project on MUNI service at the screenlines would be similar.

Many Mission Bay workers, visitors, and residents would ride MUNI to and from regional transit stops or transfer to other MUNI lines within the screenlines. These trips would occur near the Mission Bay Project Area, where Alternative 3 would impact MUNI service less than the project. MUNI riders generated by Alternative 3 would use approximately 39% less capacity than MUNI trips generated by the project scenario—a difference of approximately 2,380 p.m. peak trips.

Overall, impacts on MUNI from Alternative 3 would be essentially the same as those of the project at the citywide screenlines, and would be less than impacts of the project on MUNI lines leading from the Project Area to regional and MUNI transfer points near Market Street.

Parking Demand and Supply

Table VIII.C.8 shows the parking demand for Alternative 3 compared to that for the project. The alternative would include less development in Mission Bay South, mostly of retail and residential,
TABLE VIII.C.8
PARKING DEMAND/SUPPLY IN 2015
COMPARISON OF ALTERNATIVE 3 AND PROJECT

<table>
<thead>
<tr>
<th></th>
<th>Total Demand (spaces)</th>
<th>Proposed Supply/a/ (spaces)</th>
<th>Surplus or Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 3:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential/Open</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Space Alternative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>5,050</td>
<td>3,760</td>
<td>-1,290</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>11,390</td>
<td>8,168</td>
<td>-3,222</td>
</tr>
<tr>
<td>Total</td>
<td>16,440</td>
<td>11,928</td>
<td>-4,512</td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay North</td>
<td>6,585</td>
<td>5,454</td>
<td>-1,131</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>19,540</td>
<td>15,917</td>
<td>-3,623</td>
</tr>
<tr>
<td>Total</td>
<td>26,125</td>
<td>21,371</td>
<td>-4,754</td>
</tr>
</tbody>
</table>

Note:

a. Parking supply rates for Alternative 3 are those presented in 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185.


than the project. This difference in level of development results in the difference in parking demand between Alternative 3 and the project. In essence, the difference in retail land use translates to short-term parking demand, and the presence of residential or R&D/office and institutional land uses translates to long-term parking demand. Alternative 3 would create a smaller demand for parking spaces for short-term parking but a slightly greater demand for long-term parking in Mission Bay North; in Mission Bay South parking demand would be substantially smaller than that from the project.

The parking supply for Alternative 3 is based on the same rates used for Alternative 1 and described in the 1990 FEIR, Table VI.E.29. The parking supply compared to the demand under Alternative 3 yields a parking deficit that is only 242 spaces (5%) less than the deficit described for the proposed project. Therefore, the effects of a parking deficit in Alternative 3 would be very similar to those described for the project.
On-street parking would be able to accommodate some of the excess demand of Alternative 3, similar to the project, but it would be limited enough to discourage some individuals from driving to the Project Area. However, some drivers to and from Mission Bay South may seek available parking in surrounding neighborhoods, including nearby commercial/industrial areas as well as residential areas in the Potrero Hill and Lower Potrero neighborhoods.

Pedestrians and Bicyclists

Table VIII.C.9 shows the non-motorized p.m. peak hour person trips generated by Alternative 3 compared to the proposed project. The most notable result shown in Table VIII.C.9 is the relatively small difference in pedestrian and bicycle trips in Mission Bay South. This is due to the greater amount of residential development included in Mission Bay South under Alternative 3 than in the project. The analysis assumes that trips generated by residential development have a substantially larger pedestrian and bicycle mode share than trips generated by other land uses, as for the project and all other alternatives. Because Mission Bay South under Alternative 3 includes about 3,200 more dwelling units than is proposed in the project, this area would generate a relatively large number of pedestrian and bicycle trips when compared to the project. Overall, Alternative 3 would generate about 13% fewer pedestrian and bicycle trips. In Mission Bay North, where crosswalks could be crowded near the MUNI MMX platform and the Caltrain terminal, Alternative 3 would generate about 28% fewer pedestrians and bicycle trips than would the project; therefore, pedestrian levels of service would remain at acceptable levels.

Air Quality

Regional Air Quality

In Alternative 3, vehicular emissions would be approximately 40% less than those from the proposed project. However, criteria pollutant emissions associated with daily peak vehicle trips would still exceed the significance thresholds established by the Bay Area Air Quality Management District (BAAQMD), and this alternative would not eliminate the significant regional air quality impact of the proposed project. Daily emissions from the Project Area traffic of reactive organic gases (ROG), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM10) were calculated for this alternative. As indicated in Table VIII.C.10, vehicular emissions of ROG, NOx, and PM10 would exceed the 80 lb/day significance threshold. Emissions of ROG were estimated to be 523 lb/day. NOx emission was estimated at 800 lb/day, and PM10 emission was estimated at 1,189 lb/day. In addition, according to the modeling analysis, 7,387 lb/day of CO would be emitted from traffic associated with this alternative, exceeding the 550 lb/day screening threshold of the BAAQMD.
TABLE VIII.C.9
NON-MOTORIZED (Pedestrians and Bicycle) PERSON TRIP GENERATION IN 2015
COMPARISON OF ALTERNATIVE 3 AND PROJECT
(PM Peak Hour)

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Alternative 3</th>
<th>Project</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay North</td>
<td>1,474</td>
<td>2,040</td>
<td>-566</td>
</tr>
<tr>
<td>Mission Bay South</td>
<td>2,718</td>
<td>2,763</td>
<td>-45</td>
</tr>
<tr>
<td>Total</td>
<td>4,192</td>
<td>4,803</td>
<td>-611</td>
</tr>
</tbody>
</table>


Because CO emissions would be more than 550 lb/day, micro-scale analysis of CO concentrations at intersections is appropriate, as provided below.

As with the proposed project, all measures to decrease vehicle trips, as described for transportation, should be implemented. However, even with measures to reduce vehicle trips, the regional air quality impacts would remain significant, as they would under the proposed project.

Local CO Concentrations

Modeling results of local carbon monoxide concentrations at worst-case (maximally exposed) receptor locations were studied at four intersections. Figure VIII.A.4 shows the intersections selected for modeling for all three alternatives. Results indicated that no exceedances of federal or state one-hour or eight-hour standards (e.g., significant impacts) would occur as a result of traffic emissions associated with Alternative 3. Table VIII.C.11 provides the modeling results.

Four of the 13 intersections modeled in the proposed project were selected for analysis for Alternative 3, based on their relatively elevated CO concentrations for the proposed project. Figure VIII.A.4 shows the four intersections selected for comparison to the proposed project. Modeling results indicate that CO concentrations would be slightly less for Alternative 3 compared to the proposed project. Concentrations would be higher for Alternative 3 at the intersections of Fourth and Bryant and Eighth and Townsend. At the Eighth and Townsend Streets intersection, a one-hour exposure concentration of 10.3 parts per million (ppm) was estimated for the alternative. The concentration for this intersection in the proposed project was 9.9 ppm. For the remainder of the intersections modeled for both the project and the alternative, differences in modeling results for one-hour CO
TABLE VIII.C.10
ESTIMATED VEHICULAR EMISSIONS FROM ALTERNATIVE 3 TRAFFIC IN 2015

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BAAQMD Threshold (lb/day)</th>
<th>Vehicular Emissions (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Project</td>
</tr>
<tr>
<td>Reactive Organic Gases (ROG)/a</td>
<td>80</td>
<td>865</td>
</tr>
<tr>
<td>Nitrogen Oxides(NO₅)/a</td>
<td>80</td>
<td>1,324</td>
</tr>
<tr>
<td>Particulate Matter (PM₁₀)/a</td>
<td>80</td>
<td>1,968</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)/b</td>
<td>550</td>
<td>12,228</td>
</tr>
</tbody>
</table>

Notes:
- a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
- b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS version 5 model.

Concentrations ranged from 0.4 to -1.6 ppm. For example, the highest one-hour CO concentrations were indicated at the intersection of Third and King Streets. Concentrations of 14.3 ppm and 12.0 ppm were estimated for the proposed project and Alternative 3, respectively. For eight-hour CO concentrations, differences between results ranged from 0.6 to -1.6 ppm. The greatest difference occurred at the intersection of Third and 16th Streets.

Toxic Air Contaminant Emissions

Alternative 3 has much more housing than the proposed project, Alternative 1, or Alternative 2. Alternative 3 has much less Service/Light Industrial/Research and Development than the corresponding Commercial Industrial and UCSF uses for the proposed project or the Service/Light Industrial/Research and Development/Office uses for Alternative 1 or Alternative 2. Therefore, Alternative 3, on the whole, has much less potential to emit toxic air contaminants from stationary sources than the proposed project or Alternatives 1 or 2. Since vehicle trips associated with Alternative 3 would be approximately 40% less than for the proposed project, toxic air contaminant emissions from vehicles would be correspondingly less for Alternative 3, compared to the project.

Whereas state law provides a mechanism to ensure that the school siting process considers potential exposure to toxic air contaminants, preschool and child care facilities would not be subject to...
California’s school siting process. These facilities could be operated near or among the Service/Light Industrial/Research and Development uses. A measure such as Mitigation Measure F.6 proposed for the project would be needed to ensure that preschool and child care facilities would consult with agencies regarding potential risks and that the BAAQMD would have the opportunity to request updated emissions inventories from facilities emitting toxic air contaminants if a preschool or child care center locates within 1,640 feet of such a facility.

In sum, even though the toxic air contaminant emissions from stationary sources in Alternative 3 would likely be much less than for the proposed project, toxic air contaminant emissions from multiple facilities could combine to increase risks; therefore this SEIR conservatively characterizes toxic air contaminant emissions from Alternative 3 as a potentially significant impact. All of the mitigation measures for the project would be appropriate for Alternative 3, except Measure F.4 could be modified so that the meteorological station would be located near the potential Service/Light Industrial/Research and Development uses in the southern portion of the project area.

Demolition and Construction Air Pollutant Emissions

Criteria Pollutants

Criteria pollutants emissions, primarily in the form of PM_{10}, would be a less-than-significant impact after implementing BAAQMD-approved dust mitigation measures for demolition and construction activities as they would under the proposed project.
Contaminated Soils

As for the proposed project, excavation could result in the generation and release of dust containing toxic air contaminants to the air and adverse impacts on construction workers and the public. Potential impacts for Alternative 3 would be the same as for the project, and would be mitigated through implementation of risk management plans, as explained under "Contaminated Soils and Groundwater," below.

Noise and Vibration

A qualitative analysis of the traffic volumes for the noise study locations shows that Alternative 3 would have lower traffic volumes at most intersections compared to the proposed project with the exception of the intersection of Mariposa and DeHaro Streets. Therefore, this alternative would have correspondingly smaller traffic noise increases. Alternative 3 traffic volumes at the study locations of Potrero Avenue south of Sixteenth Street, and Pennsylvania Street south of Mariposa Street would be the same as those for the proposed project resulting in the same level of noise increase as shown for the project.

A slight increase in project traffic volume was projected for the intersection of Mariposa and De Haro Streets. Noise analysis of project traffic showed that traffic increases would contribute to an increase in peak hour and daily noise levels at existing sensitive receptor and residential locations, as well as at sites of potential future sensitive receptors, but that the contribution would not be noticeable to most individuals at most locations. To further assess the potential traffic noise impacts of Alternative 3, a quantitative analysis was performed at the sensitive receptor location at Mariposa and De Haro Streets.

Traffic volume data for the alternative were analyzed using the same SOUND 32 model that was used for the proposed project. This alternative’s 24-hour $L_{dn}$ would be 65.6 dBA, about 0.9 dBA greater than the traffic noise increase with the proposed project. Alternative 3 traffic plus cumulative traffic in 2015 would increase 24-hour $L_{dn}$ noise levels by up to 2.2 dBA at the church on Mariposa Street at De Haro Street in contrast to the 1.3 dBA increase from traffic in the proposed project. The 1-hour $L_{eq}$ for p.m. peak hour traffic noise under cumulative 2015 conditions with Alternative 3 would be 66.0 dBA, compared with 65.6 dBA under the proposed project traffic conditions. Alternative 3 traffic would contribute about 1.6 dBA to the overall 2.2 dBA 1-hour noise increase. This would be about 0.4 dBA greater than the 1-hour noise increase from the proposed project. As with the project, the change from 64.0 dBA $L_{eq}$ existing traffic noise levels to 66.0 dBA $L_{eq}$ under cumulative
conditions with Alternative 3 would not be noticeable to most individuals and would not interrupt church activities.

As with the proposed project, this alternative's traffic noise impacts would be less than significant. Alternative 3 would have residential uses in most of the Project Area, including in upper stories along Third Street and 16th Street where light rail and heavy rail could cause vibration in Mission Bay South, and along Fourth Street and King Street in Mission Bay North adjacent to light rail tracks. The vibration effects along the Third Street light rail route and along the MUNI Metro Extension tracks in King Street would be the same as those described for the project in residential areas along Third and Fourth Streets. Assuming that the residential buildings would be concrete construction on pile foundations, similar to those expected in the project, vibration effects from light rail vehicles would not be significant.

Freight trains operating in 16th Street would cause greater vibration than would light rail vehicles and would be more noticeable to the residents in buildings facing this street. As described for the project, freight trains use these tracks late at night (generally between 1 a.m. and 4 a.m.) to travel from the main tracks to Port of San Francisco piers south of the Project Area. Because freight rail use is relatively infrequent, as explained for the project in “Vibration” in Section V.G, Noise and Vibration, vibration effects would not be considered to be significant impacts on residents in the area.

The residential buildings located west of Sixth Street and north of Berry Street in Mission Bay North would be adjacent to the Caltrain passenger train tracks and would experience the same vibration effects as for the project. The same mitigation measure, G.2, in Section VI.G, Mitigation Measures: Noise and Vibration, would apply to this block under Variant 3.

Seismicity

Effects of Groundshaking

The Project Area under Alternative 3 would be subject to the same seismic conditions described in the Subsection V.H, Seismicity: Setting: a 67% probability of at least one major earthquake within the 30-year period between 1990 and 2020; anticipated peak ground accelerations in excess of 0.5g; liquefaction and earthquake-induced settlement of some fill.

In this alternative, the entire Project Area would be built out and developed with new buildings to include about 67% more residential space, 80% less commercial/office space, and 80% less retail space than the proposed project. As would be required by the San Francisco Building Code in force
at the time each building permit application was filed, site-specific modeling to establish design parameters for the seismic-restraint systems to be built into foundations and structures in the Project Area would be incorporated to prevent life-threatening damage from structural elements of buildings and utility lines (twisting, breakage, debris shedding) and from associated seismically induced ground failure, such as liquefaction (tilting or settlement). Therefore, the seismicity impact would be less than significant after the proposed project’s mitigation measures were implemented, as it would be under the proposed project. If Fire Station No. 30 is re-used for a fire or fire and police station in this alternative, it would need seismic upgrades.

Seismic Hazard Zones

The Project Area is in a Liquefaction Hazard Zone. Because this alternative would develop all buildings within the Project Area according to San Francisco Building Code, the potential effects of liquefaction would be the same as the less-than-significant impacts of the proposed project. It is assumed in this alternative that, as in the proposed project, the Project Area would be developed with structures on appropriate foundations to accommodate the adverse effects of liquefaction (deformation, tilting, rapid settlement, or collapse). All new construction under San Francisco’s jurisdiction throughout the Project Area would be required to meet the seismic safety provisions of the currently applicable San Francisco Building Code (1995 or future revisions).

Exposure of Concentrated Populations to Seismic Hazards

Because of its substantially lower retail and office development, this alternative would have about 60% of the population of the proposed project. In terms of exposure to seismic hazards, this population would be in the same circumstances as in the proposed project. About 40% fewer people would occupy the Project Area than would under the proposed project. Therefore, this alternative would expose fewer people to seismic risk than the proposed project. As with the proposed project, it is reasonable to assume that the same set of mitigation measures would apply, and that they would reduce the significant impacts of this alternative to less-than-significant levels.

Health and Safety

Like the proposed project, Alternative 3 would increase the use, storage, generation, and disposal of hazardous materials and waste. However, the increase would be substantially smaller with this alternative for two reasons. First, there would be a predominance of residential development under this alternative because the UCSF site would not be built. Second, there would be a much smaller amount of commercial space under this alternative that could use or generate hazardous materials or
VIII. Alternatives to the Proposed Project

C. Alternative 3

Waste—approximately 90% less service/light industrial/research and development space (628,000 sq. ft. for this alternative and 5.6 million gross sq. ft. for the proposed project). The smaller amount of space under this alternative where substantial hazardous materials use and generation could occur could reduce the potential risk within the Project Area, but would not eliminate potentially significant impacts. Legal and regulatory requirements applicable to hazardous materials operations would reduce most of the common and potentially significant health and safety impacts to less than significant levels, as they would under the proposed project. However, the project’s potentially significant impacts would also be significant under this alternative, and the mitigation measures proposed for the project would also apply to this alternative. Significant health and safety impacts are discussed below.

First, although the UCSF site would not be developed, it is possible that some occupants of the industrial space would conduct biomedical or related activities and generate biohazardous waste. In this case, the potential impact could be reduced to less-than-significant levels with mitigation measures identified for the project.

Second, development under this alternative would likely increase the generation of hazardous waste and contribute to existing impacts of hazardous waste disposal. However, the increase in hazardous waste generation would be substantially less than for the proposed project. As with the project, environmental impacts of hazardous waste disposal would be minimized, but not eliminated, by encouraging pollution prevention.

Contaminated Soils and Groundwater

Chemicals of various types and concentrations were found in the soil and groundwater throughout the Mission Bay Project Area. With the exception of petroleum hydrocarbon contamination in a free product area (see “Glossary and Acronyms” at end of Section V.J, Contaminated Soils and Groundwater, for definition) located in the southeast portion of the Project Area in the vicinity of Illinois and Third Streets, concentrations of contaminants in soil or groundwater do not present a human health or ecological risk under existing conditions. In the free product area, potential effects on near-shore aquatic organisms are being managed through additional investigation and any necessary remediation by oil companies responsible for the contamination. This remediation will be carried out regardless of whether the proposed project or this alternative is approved (see “Existing Human Health Risks,” in Section V.J, Contaminated Soils and Groundwater: Setting).

Most of the Project Area would experience soil and groundwater construction-related effects similar to those described for the proposed project, although the locations and extent of activities would vary.
because of differences in land use compared to the proposed project. Potential construction-related effects on the aquatic environment would be similar to those identified for the proposed project.

The area generally south of The Common in Mission Bay South has not been evaluated for residential uses in the assessment of chemicals in soil and groundwater for the project. A mitigation measure would be needed calling for further study of the potential for chemicals found in soil and groundwater to pose risks to residents prior to design and construction for proposed residential buildings in Mission Bay South for Alternative 3, in the area designated Commercial Industrial and Commercial Industrial/Residential for the project. If that study showed that risk would exceed the cancer risk criterion of $1 \times 10^{-5}$ or a Hazard Index of 1, the RMP would need to be revised to include additional features such as remediation of the soil or groundwater by excavation and offsite disposal, soil vapor extraction, placement of an engineered clay cap, or other means appropriate to the chemicals exceeding the risk criteria. For example, special studies and potential additional RMP features may be needed in the area east of Third Street near 16th Street where a petroleum free product plume has been identified and residential uses are proposed in this alternative.

Another specific area of potential concern is in the block designated for community facilities in the southwest corner of Mission Bay South, south of 16th Street east of the freeway structure. Vinyl chloride was detected in groundwater in one monitoring well south of 16th Street immediately east of the I-280 freeway structure. If a child care center were proposed in this area, or in other locations south of the major park in Mission Bay South, Measure J.2 in Section VI.J, Mitigation Measures: Contaminated Soils and Groundwater, calling for a special study and either remediation or relocation of the child care center for the project would apply in this alternative.

To reduce potential hazards to human health and the environment during construction, Risk Management Plans are proposed to be prepared for development activities that would occur in Mission Bay North and Mission Bay South based on proposed land uses; the RMPs would be reviewed by the RWQCB. Measures identified in the RMPs, which would be modified to reflect the primarily residential land uses under this alternative, would reduce the risks that might result from construction and from use of locations that would be developed and occupied during construction under this alternative.

The amount of site development work resulting in impervious surfaces would be similar to the proposed project. To the extent that the creation of impermeable surfaces would reduce the amount of exposed soil and infiltration of rainwater that could affect contaminant concentrations in groundwater, this alternative could provide a similar reduction in potential releases of residual contaminants to the environment as would be provided by the project.
The wetlands proposed on the Bay shore east of Third Street in this alternative would probably require remediation of the petroleum free product. The wetlands could require excavation of the portion of soil in the free product area that is located where wetlands are proposed, as well as a cover of at least three feet of clean wetlands-quality soil that would be required by the RWQCB, in order to provide an appropriate substrate and aquatic environment. (See “China Basin Channel Vegetation and Wildlife,” below.) If adequate removal of the free product could not be accomplished, some kind of containment divide or diversion structure could be necessary to divert groundwater and the floating petroleum product away from the wetlands area. These measures may be more extensive and more costly than those approved by the RWQCB for the free product area under the existing ongoing review process. If not included in the final remediation plans approved by the RWQCB, further remediation in the portion of the free product area proposed for wetlands in Alternative 3 could require excavation and removal of some soils contaminated with petroleum hydrocarbons, with off-site disposal. Off-site disposal, if deemed necessary, would include transport by an appropriately licensed hazardous waste transporter to an approved disposal facility, following state and federal requirements described in “Regulatory Framework,” under Section V.I, Contaminated Soils and Groundwater: Setting. As noted there, under “Hazardous Waste Handling Requirements,” soils can be removed from one area of the site and relocated on other areas of the site.

Hydrology and Water Quality

As with Alternative 1 and Alternative 2, it is assumed that development under Alternative 3 would be served by a combined sewer system. As with the project, land uses under this alternative would include businesses such as wet laboratories that could potentially release chemicals into the City’s combined sewer system that could cause the City to exceed permit limits. This alternative would have less potential for development of research and development space. Mitigation Measure K.2 would apply to this alternative as it would for the project. Alternative 3 would be developed less intensively than under the proposed project and potentially could result in less pollutant loading.

As for the project, no new toxicological effects to aquatic organisms in San Francisco Bay and no new effects on sediment quality would result from changes in municipal wastewater effluent, treated CSOs, or direct stormwater discharges under this alternative. In addition, water-contact recreation would not be substantially impacted by increased treated CSOs, as with the project.

The cumulative impacts of this alternative would be similar to those of the proposed project, in that cumulative impacts would be less-than-significant, but as with the project, the SEIR conservatively finds that this alternative would contribute to a potentially significant cumulative impact on the near-shore waters of San Francisco Bay. Because no direct stormwater discharges would occur under this
alternative, Mitigation Measure K.4 would not apply to this alternative. Only Mitigation Measure K.3 would apply to this alternative for this cumulative impact.

Alternative 3 would have about 20 acres more open space than the proposed project, and would have two wetland areas in the South of Channel area similar to those proposed in 1990 FEIR Alternative B. The retention of land for wetlands would provide an opportunity to implement some of the alternative wastewater treatment technologies discussed in “Alternative Wastewater Treatment Technologies” in Section V.K, Hydrology and Water Quality: Impacts, where the wetlands could be used to treat stormwater for the Project Area before discharge to the City’s combined sewer system. Mitigation Measure K.4 does not apply to this alternative. A feasibility analysis would need to be performed before a decision is made regarding using the wetlands as an alternative treatment method.

Erosion and sedimentation impacts from construction would be similar to those of the proposed project. A construction Storm Water Pollution Prevention Plan would be required to be developed and implemented (as would be the case for the proposed project) to reduce significant impacts to less-than-significant levels. The plan would need to include measures specifically addressing potential erosion and sedimentation related to conservation of the wetlands. Other measures that must be included in the Storm Water Pollution Prevention Plan are specified in Mitigation Measure K.1. As with the proposed project, Mitigation Measure K.5 would reduce non-construction stormwater quality impacts prior to Project Area build-out to less-than-significant levels.

**China Basin Channel Vegetation and Wildlife**

Alternative 3 would have potentially significant, but mitigable, construction impacts (similar to those of the proposed project) from in-channel construction but would have a substantially beneficial biologic resources impact with the net creation of 19.77 acres of wetlands. The Channel edge treatments for Alternative 3 would be the same on the north edge of the Channel as those presented for Alternative B of the 1990 FEIR, with a hard edge composed of decking and gabions. This treatment would result in the loss of existing salt marsh wetlands on the north side of the Channel (totaling 0.14 acre). The additional structures that would be placed in the Channel to support the decking and gabions would increase the impacts caused by resuspension of contaminated sediments and would increase mitigation requirements to contain and isolate work areas to keep suspended sediments from spreading.

Alternative 3 proposes creation of a total of 20 acres of wetlands in two sites: at the south edge of the Channel between Fourth and Sixth Street, and in the area east of Third Street. This would substantially compensate for the loss of 0.14 acre of wetland associated with Channel edge treatments.
Although some of these areas may be contaminated, and excavation for the wetlands would expose the contamination, the created wetlands would be of higher quality than the existing wetlands along the Channel edge (also on contaminated substrates), because the Regional Water Quality Control Board criterion requires wetland cover of at least 3 feet of clean wetland soils as backfill. This would ensure that the newly created wetland habitats would be free of contamination, at least initially. Quality would also be higher than existing wetlands because plantings over larger areas would increase habitat diversity. This alternative would, therefore, be a substantial beneficial impact for biological resource values, with adverse impacts far outweighed by benefits. Disposing of contaminated soils off site would be subject to applicable regulations intended, at least in part, to protect vegetation and wildlife. Proper disposal of contaminated soils is discussed in “Regulatory Framework,” in Section V.J, Contaminated Soils and Groundwater: Setting.

Community Services and Utilities

Fire Protection

Alternative 3 assumes a level of development for the Project Area that has approximately 67% more residential development than the proposed project and about 80% fewer employees in 2015. There would be about 80% less retail development. The combined office and service/light industrial/R&D gross square footage for this alternative would be approximately 80% less than the proposed project (see Table VIII.1). The number of emergency, fire, and false alarm incidents generated by this alternative could reasonably be expected to be more than with the proposed project because residents would occupy the Project Area 24 hours a day as opposed to workers, who would generally leave the area at the end of the business day. This finding is consistent with Alternative B as analyzed in the 1990 FEIR./58/

Alternative B consisted of similar land uses and a similar number of employees and residents as this alternative. Alternative B was found to have the highest number of projected fire suppression incidents and, therefore, the greatest impact on the fire department of the three alternatives analyzed in the 1990 FEIR. Therefore, this alternative would be likely to require additional resources, similar to those needed for the 1990 FEIR Alternative B at full build-out. (Additional resources needed for Alternative B included an engine company and a truck company.)/59/ To satisfy demand created by Alternative 3, the alternative would include a mitigation measure to require a new engine company, truck company, and fire station. The impact of this alternative would, therefore, be the same as that of the proposed project. However, fewer hazardous materials incidents would be likely to occur because there would be about 80% less office, research and development, service, and light industrial space.
Expansion of the high-pressure water system (also known as the Auxiliary Water Supply System, or AWSS) and installation of cisterns or suction inlets would be necessary to provide adequate fire-fighting capability to the interior of the Project Area in this alternative. The AWSS is used exclusively for fire-fighting, and expansion of this high-pressure system into the interior of the Project Area is part of the proposed project. Cisterns and suction inlets are used for fire-fighting as a backup supply of water to the AWSS. Suction inlets are included in the proposed project. Expansion of the AWSS and installation of cisterns or suction inlets in the interior of the Project Area are not, however, included as part of this alternative. To reduce the potential impacts caused by insufficient fire-fighting water supply, AWSS and cistern or suction inlet systems should be included as described in Mitigation Measures D.4 and D.5 of the 1990 FEIR. 

This alternative would include 5.6 acres in the South of Channel area for community facilities, which could include a police and/or fire station. Fire Station No. 30 could be rehabilitated for use or a new station could be constructed. This is 1.9 acres more than would be included for the proposed project.

Police Protection

This alternative’s demands for police personnel and resources would be similar to those for the proposed project. The resident population would be considerably larger (about 18,600 total, or approximately 67% more) with this alternative. There would, however, be about 6,550 employees (approximately 80% fewer than the proposed project). The total resident and employee population would be approximately 25,200. Using the same ratio of police personnel per number of residents and employees that was used for analysis of the proposed project, an estimated 38 police personnel, or approximately 40% less than the estimated 62 police personnel needed for the proposed project, would be needed under this alternative to provide a level of police service comparable to the citywide level. As with the proposed project, interior building space would be needed for these additional personnel, either in an existing or new police station in or near the Project Area. The amount of space would be about 40% less (about 4,560 gross sq. ft. compared to 7,440 gross sq. ft.), as would the number of squad cars (about eight) and parking spaces.

This alternative, although smaller in the number of gross square feet of commercial use, would have a greater residential population, and would add substantial new development to an underdeveloped area, increasing demand on citywide police services. It is likely that with a larger residential population in the Project Area, demand on the San Francisco Police Department would range from a minimum of 38 additional personnel as calculated above to approximately the same, or slightly more, demand as generated by the proposed project. This is because the mix of land uses for this alternative (less commercial and more residential development) would generate different types and quantities of
incidents. Residential development would involve 24-hour-a-day occupancy and use, as opposed to many commercial uses, such as offices and retail, which would generally be inactive during the night hours. Residential development would also tend to generate additional types of incidents that would require police involvement, such as domestic violence. In addition, this alternative would have more parks and open space than the proposed project, and would include the development of wetlands, which, as discussed in the 1990 FEIR, could increase the potential for issues involving transients in the area who may gather in such places.

It is unlikely that additional police personnel needed could be accommodated at existing police stations. This alternative would include 5.6 acres in Mission Bay South for community facilities, which could include a police and/or fire station. An approximately 1.5-acre site adjacent to and including the site of the Fire Station No. 30 at Third and Mission Rock Streets may be considered among those potentially available for a relocated Southern Station. If the Southern Station were to be expanded and/or relocated, it could accommodate some of the additional demand for space.

Public Health Services

This alternative would be likely to generate more demand for some public health services, and less demand for other services, than the proposed project would. The residential population of the Project Area would be about 67% larger under this alternative than under the proposed project. Demand could be more for personal health care services and mental health services because these services would probably be used more by residents than employees in the area.

In this alternative, there would be approximately 80% less retail development and 80% less office and R&D space than in the proposed project (see Table VIII.1). Demand on the Bureau of Environmental Health Management for inspection and oversight service would be less than under the proposed project because there may be fewer retail establishments serving food and fewer firms that would be likely to use hazardous materials.

Recreation and Parks

Residential demand for open space would be greater for Alternative 3 than for the proposed project because this alternative would have 67% more residents than the proposed project. Employee demand would be about 80% less. An estimated 68 acres of open space would be provided through 2015 with this alternative (see Figure VIII.C.1), compared with approximately 47 acres for the proposed project. Of the 68 acres, about 20 would be wetlands; the remaining acreage would be parkland.
The 68 acres of open space that are part of this alternative would need to meet residential demand of approximately 18,600 residents, a ratio of approximately 3.7 acres per 1,000 residents, with an employee demand of about 1 acre.\textsuperscript{64} The proposed project’s 47 acres of open space would provide a ratio of approximately 4.3 acres per 1,000 residents, with an employee demand of 4.2 acres. Although the total amount of open space provided by this alternative would be more than the amount proposed by the project, it would be less than the proposed project when measured in acres per 1,000 residents.

Comparison of open space impacts based on the service area analysis done for the proposed project is not possible, since there is no plan at this time for the location of types of recreational facilities that would be provided in Alternative 3 open space. This information would be necessary to determine whether open space planned for this alternative would be more or less likely to satisfy the needs of Project Area employees and residents than open space provided by the proposed project.

Schools

Alternative 3 projects a resident population of approximately 18,600, or about 67\% more than that of the proposed project, by the year 2015. Therefore, this alternative would be expected to generate 67\% more school-age students than the proposed project (2,760 compared with 1,615). The estimated number of students at each school level would be as follows: approximately 1,250 elementary-school-age students, 670 middle-school-age students, and 840 high-school-age students.\textsuperscript{65}

Like the proposed project, this alternative would include a site for a public school. If an elementary school were developed, it is unlikely that all new elementary-school-age students with this alternative could be accommodated on-site. Middle school and high school students would not be accommodated on-site. Therefore, as with the proposed project, the City and County of San Francisco would need to develop additional classroom space to accommodate students generated by the proposed project. Demand would be greater with this alternative than with the proposed project because there would be more new students and a greater number of the elementary school students residing in the Project Area would need to be accommodated at school facilities off-site.

Options that could be considered by the SFUSD to increase the capacity of the school district include implementing year-round schools, using portable classrooms, or building new permanent classrooms at an existing or new school site. If new schools were constructed, Alternative 3 could potentially require the construction of two to three elementary schools, one middle school, and one high school, whereas the proposed project would require only one entire elementary school with some additional
facilities for other elementary, middle, and high school students. The additional numbers of middle- and high-school students in this alternative would be enough to warrant their own school facilities; the additional elementary school students would require another one or two schools more than the proposed project. While constructing new schools might cause significant impacts at those locations, it is too speculative to identify impacts at this time from construction of additional school facilities without knowing what action or actions the SFUSD would take to accommodate the additional students, whether SFUSD would choose to accommodate the additional students in a manner that would result in physical changes to the environment, or exactly where those actions would occur.

Any new facilities proposed by SFUSD would undergo appropriate environmental review for site-specific physical environmental impacts.

Development that would occur with Alternative 3 would be subject to the same one-time development impact fee as the proposed project. As discussed in “Schools: Impacts” in Section V.M, Community Services and Utilities, this fee is collected for the school district at the time building permits are issued. It is $1.72/sq. ft. for residential development, and varies from $0.08/sq. ft. to $0.24/sq. ft. for different types of commercial development. The development impact fees were set by the state legislature and are reviewed every two years by the state Allocation Board. The San Francisco Board of Education then must set the fees within the State’s constraints. The fees do not necessarily increase annually. Total fees would be more than those collected for the proposed project despite less commercial development, because there would be more residential development, which would generate a higher fee than commercial space. Alternative 3 would generate about $16.3 million in school fees, whereas the project would generate approximately $11.2 million. If a 500-student elementary school costs about $12.6 million in 1998 dollars, fees generated from this alternative would cover the cost of one elementary school and a fraction of another school.

Solid Waste

Alternative 3 would generate approximately 12,000 tons of solid waste per year through 2015, which is about 60% of the projected solid waste generation for the proposed project at build-out (19,000 tons/year). At San Francisco’s current diversion rate (35%), this alternative would contribute about 7,000 tons of solid per year to the Altamont Landfill. With a diversion rate of 50%, as required by state law in the year 2000, this alternative would contribute approximately 6,000 tons of waste to the landfill annually. As with the proposed project, development under this alternative is assumed in the Altamont Landfill Capacity Projections and would not affect the expected lifespan of San Francisco’s landfill contract with Waste Management of Alameda County, due to expire between 2012 and 2016. Under this alternative, the disposal companies could potentially require additional staff and collection equipment to serve the Project Area, as they would under the proposed project.
VIII. Alternatives to the Proposed Project
C. Alternative 3

Water Supply

Alternative 3 would use an estimated 2.2 million gallons per day (mgd) of water in 2015, which would represent approximately 75% of the water demand for the proposed project (2.9 mgd). The reclaimed water demand for this alternative would be approximately 0.42 mgd, or about 40% of the reclaimed water demand as for the proposed project (0.98 mgd).

As with the proposed project, the low-pressure and high-pressure water systems would require expansion in order to provide adequate service to the central portion of the Project Area. The City's proposed reclaimed water system would require a new system of pipelines throughout the Project Area, as would be the case under the proposed project.

Sewers and Wastewater

Alternative 3 would generate approximately 1.9 mgd of sewage through 2015, which is about 75% of the estimated daily sewage generation for the proposed project (2.5 mgd). Under this alternative, unlike the proposed project, the Central Bay Basin would continue to use the City's combined sewer system (see Figure V.K.2, in Section V.K, Hydrology and Water Quality). Analysis by the San Francisco Public Utilities Commission staff indicates that the City's combined sewer system probably has adequate capacity to accommodate the increased stormwater volumes created by development from the proposed project in Mission Bay without additional storage sewer capacity. Further analysis of detailed, project-level, drainage plans of the combined sewer system for the Project Area, once they were developed, would be needed for confirmation. Therefore, it is unlikely that this alternative would not require the construction of additional storage sewer capacity. Expansion and upgrades to the existing combined sewer system in the Central/Bay Basin would be required to serve new development in that area. Growth in the North Basin and Mariposa Basin (Figure V.K.2) would require the same extensions of the existing combined sewer system to previously unserviced areas as would occur under the project. Construction of new sewer lines would have impacts related to contaminated soils similar to those described for project construction in Section V.J, Contaminated Soils and Groundwater: Impacts.

This alternative proposes to construct approximately 20 acres of wetlands in the South of Channel area, including a 13.2-acre wetland on the southern edge of the Channel (see Figure VIII.C.1). Construction of the 13.2-acre wetland would require the removal of the existing Channel Street storage sewer and a portion of the Fourth Street sewer line. A new storage sewer would need to be constructed south of the wetland to replace the stormwater storage capacity; some temporary construction effects may result from the replacement of the storage sewer.
Energy Capacity and Infrastructure

Energy demand would be less under this alternative than under the proposed project despite the greater number of dwelling units, because there would be significantly less commercial development. North of the Channel, there would be about 23% more residential development, but 88% less retail development. South of the Channel, there would be more than twice the number of dwelling units, but almost five times less commercial development.

Because the Mission Bay Project Area is an underdeveloped area, any substantial amount of new development would require some amount of new infrastructure or upgrades to existing infrastructure. Therefore, although energy demand would be less than for the proposed project, it could be possible that some upgrades would be necessary.

Telecommunications

This alternative would likely generate less demand for telecommunications services because, despite more residential development, there would be less commercial development by the year 2015, as discussed in “Energy Capacity and Infrastructure.” Because the Project Area is an underdeveloped area, any substantial amount of new development may still require new infrastructure or infrastructure upgrades.

SUMMARY OF MITIGATION MEASURES

The significant impacts of Alternative 3 for visual quality and urban design; air quality including toxic air contaminants; seismicity; health and safety; contaminated soils and groundwater; and hydrology and water quality would be similar to or the same as those of the proposed project. Therefore, mitigation measures for these environmental issues under Alternative 3 would be the same as those described in Chapter VI for the project. Mitigation to replace wetland habitat identified for the project would not be necessary under this alternative.

Hydrology and water quality mitigation measures for Alternative 3 would be the same as for the project, but Mitigation Measure K.4 would not apply. This is because no direct stormwater discharges to near-shore waters would occur that could cumulatively impact near-shore water quality. Potential cumulative impacts to near-shore water quality would only occur from treated combined sewer overflows.
Traffic impacts for this alternative would be somewhat reduced, and fewer intersections would degrade to LOS E or F than with the project. Most mitigation measures described for the project would also be applicable to the alternative, although Fourth and King Streets would not need mitigation, and only one of the two measures identified for the Third and King Streets intersection would be needed to improve the intersection to LOS D or better. Impacts on regional transit service would be somewhat less than those of the project; as with the project, mitigation would be needed for cumulative effects on AC Transit. Impacts on MUNI service would be similar to those of the project because demand would be nearly the same, but with more transit users traveling inbound to the Project Area than with the proposed project. Therefore, MUNI mitigation measures described for the project would be applicable to this alternative.

Regarding toxic air contaminants, Mitigation Measure F.4 would be modified so the meteorological station would be located near the potential Service/Light Industrial/Research and Development/Office uses, since UCSF is not assumed as part of the alternative.

This alternative's significant unavoidable project and cumulative impacts would be the same as those of the proposed project (see Chapter IX, Other Statutory Sections, e.g., intersection, bridge/ramp, vehicular air pollutant emissions, toxic air contaminants, hazardous waste generation and disposal, water quality), although their magnitude may vary.

D. OTHER ALTERNATIVES CONSIDERED

Over the last 15 years, several development proposals have been presented to the City and public for Mission Bay. This section briefly describes the history of project proposals for the Project Area, including the range of variants and alternatives examined during prior CEQA environmental review and this SEIR process. The proposed project has evolved from this history of project proposals and represents a proposal that project sponsors believe best achieves their objectives, including marketability (see “Project Sponsors and Their Objectives” in Chapter III, Project Description). The various reasons for project sponsors’ rejection of past project proposals, variants, and alternatives are still current today. However, two of the past proposals that are reasonable today have been carried forward into this SEIR’s analysis of alternatives to the proposed project. Alternative 1 in its entirety is based on the zoning from the Mission Bay Specific Plan and Article 9 of the Planning Code. The Project Area’s current zoning is also part of Alternative 2 for Mission Bay South. This SEIR’s Alternative 3 is the 1990 FEIR’s Alternative B. In this manner, prior proposals have played a role in formulating the current proposed project and the range of reasonable alternatives assessed in this SEIR.
In July 1981, Southern Pacific (then-owner of most land in Mission Bay) presented a preliminary development program to the City for 6,000 residential units; 1,600 hotel rooms; 5 million gross square feet (gross sq. ft.) of office space; 2.5 million gross sq. ft. of commercial use, warehouse, secondary office, and showroom space; 400,000 gross sq. ft. of retail space; and 310,000 gross sq. ft. of recreational space. The project was to be known as Mission Bay, after the bay that formerly existed on the site. That plan elicited substantial debate. In April 1983, Southern Pacific submitted a revised proposal that included 7,000 housing units, 11.7 million gross sq. ft. of office space, 4.3 million gross sq. ft. of research and development space, 500,000 gross sq. ft. of retail and hotel space (with building heights up to 42 stories), and 40 acres of parks, waterways, and plazas. Both proposals were identified by the Planning Department as inconsistent with the City’s General Plan Elements that called for housing, local employment, and maritime use in the Project Area.

In August 1984, the City announced a tentative understanding with Santa Fe Pacific Realty Corporation (then-title holder to most land in Mission Bay) on land use guidelines for Mission Bay. Those guidelines included: no buildings over eight stories; at least 7,577 residential units, of which at least 30% would be affordable; up to 2.6 million gross sq. ft. of research and development space; up to 4.1 million gross sq. ft. of office space; up to 200,000 gross sq. ft. of retail space; parks, lagoons, canals, waterways, and public open spaces; no impairment of rail access for businesses and port use; relocation of the Caltrain commute station to Seventh and Channel Streets, while retaining a right-of-way to downtown; MUNI Metro extension to 16th Street; and a 19-acre park on port property. In May 1986, the City added a ballpark at Seventh and Townsend Streets, a 500-room hotel, and 124 additional housing units to the guidelines for Mission Bay development.

In May 1985, the San Francisco Planning Department began preparing an “implementable development plan for a mixed-use Mission Bay community.” The Department and its consultants began working with community representatives, other government agencies, and Santa Fe Pacific Realty Corporation to develop objectives and policies and a preferred plan for Mission Bay.

The resulting report, The Mission Bay Plan, Proposal for Citizen Review, published in January 1987, provided a land use program and a plan, social and economic programs, design guidelines, and land use controls. The Mission Bay Plan area encompassed 294 to 309 acres, depending on whether port land east of Third Street near Piers 50 to 54 would have been included.

Santa Fe Pacific Realty Corporation (renamed Catellus Development Corporation in June 1990) submitted an application for Environmental Evaluation on September 22, 1986 (City Planning File No. 86.505E). An Environmental Impact Report for the Mission Bay project was prepared. A Draft
EIR was published in August 1988, and a Draft EIR Supplement was published in March 1989. The Mission Bay Final EIR was certified in August 1990.75/

The 1990 Mission Bay EIR analyzed three development alternatives for the project area at an equal level of detail, and twelve variants on those alternatives. Alternatives A and B were integrated mixed-use development programs. Alternative A consisted of 4.1 million gross sq. ft. of office space; 3.6 million gross sq. ft. of service, light industrial, and research and development (S/LI/RD) space; a 500-room hotel; 7,700 dwelling units; 250,000 gross sq. ft. of retail space; and 125,000 gross sq. ft. of community facilities. A variant of Alternative A, Variant 12, which included about 500 more residential units, more office and retail space, less S/LI/RD space, and 10.8 acres of reclaimed wetlands, was ultimately approved. Alternative 1 for this SEIR assumes the land use districts that were codified in the City Planning Code, Article 9, Mission Bay Districts, and that most resemble Variant 12.

Alternative B contained more housing and open space, and less commercial space, than Alternative A. Alternative B consisted of 1.0 million gross sq. ft. of office space, 420,000 gross sq. ft. of S/LI/RD space, 10,000 dwelling units, 300,000 gross sq. ft. of retail space, and 293,000 gross sq. ft. of community facilities. Alternative B also included three wetlands. Alternative 3 for this SEIR assumes build-out of the land use program of Alternative B within the current Project Area.

Alternative N, the no project alternative, presented a development scenario likely to occur in the future under then-existing M-2 (Heavy Industrial) zoning with no master development program for the area. Alternative N consisted of 5.0 million gross sq. ft. of industrial uses, 1.05 million gross sq. ft. of port-related industrial uses, 1.0 million gross sq. ft. of office, 100,000 gross sq. ft. of retail, and 42,000 gross sq. ft. of community facilities. Alternative 1 for this SEIR is based on recent projections reflecting current zoning and is different than Alternative N's land use program.

In addition to the three alternatives (A, B, and N), 12 variants of the alternatives were evaluated in the 1990 FEIR. Each variant was based on one or more of the alternatives, with certain changes, as summarized below.

Six variants involved changes in land use and density. Those variants would have:

- Added 1,000 housing units to Alternative N;
- Replaced residential, open space, and S/LI/RD uses east of Third Street in Alternative B with port-related/M-2 uses;
VIII. Alternatives to the Proposed Project

D. Other Alternatives Considered

- Reduced housing in Alternative B from 10,000 units to 7,700 units;
- Replaced some S/LI/RD in Alternative A with retail, personal service, and community facility uses;
- Replaced some S/LI/RD in Alternative A with offices; and
- Increased height limits from 110 feet to 220 feet for some residential structures along Fifth Street in Alternative B.

Four variants involved changes in other aspects of development. They would have:

- Allowed offices as a primary S/LI/RD use in Alternatives A and B;
- Varied the amount and size of affordable housing units in Alternatives A and B;
- Kept the Caltrain terminal in its present location in Alternatives A and B; and
- Reduced seismic hazards in all alternatives.

Two variants were alternative land use programs. They were based on:

- A proposal submitted by a coalition of community groups at one of the public hearings on the 1990 Mission Bay FEIR; and
- An application for a development agreement submitted by the project sponsors in May 1989.

The San Francisco City Planning Commission certified the 1990 FEIR on August 23, 1990. In September 1990, the Planning Commission adopted California Environmental Quality Act (CEQA) findings, including an explanation of reasons for rejection of various alternatives, and a mitigation monitoring program, approved the Mission Bay Plan (a specific plan) as part of the San Francisco Master Plan, and adopted conforming amendments to other elements and area plans of the Master Plan. In September 1990 and February 1991, the Commission adopted resolutions recommending to the Board of Supervisors that it 1) adopt amendments to the City Planning Code and Zoning Map to add Article 9 to the City Planning Code and Mission Bay districts to the Zoning Map, and 2) approve a development agreement with Catellus Development Corporation. In February 1991, the Planning Commission amended the Mission Bay Plan and the San Francisco Board of Supervisors adopted CEQA findings and a mitigation monitoring program, approved the Mission Bay development proposal, executed a development agreement, and adopted amendments to the San Francisco City Planning Code and Zoning Map implementing the Mission Bay Plan. On January 10, 1992, the Planning Commission adopted the Master Tentative Map and Public Improvement Report.
Although approved, the Mission Bay project analyzed in the 1990 FEIR was never built. The City’s office market slowed down during the recession of the early 1990’s, and construction was never started. On April 14, 1996, Catellus formally terminated its Development Agreement with the City and County of San Francisco, pursuant to the Agreement’s termination clause.

E. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Sections 21002 and 21081 require lead agencies to adopt feasible mitigation measures or feasible environmentally superior alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects of proposed projects. A project may be approved in spite of its significant effects if specific social, economic, or other conditions make such mitigation measures or alternatives infeasible. When the environmentally superior alternative is the No Project Alternative, CEQA Guidelines Section 15126(d)(4) requires the EIR to identify an environmentally superior alternative among the other alternatives. The California Courts of Appeal have upheld the requirement to examine an environmentally superior alternative when the adoption of all feasible mitigation measures would leave an unmitigated significant impact of the project.76/

This EIR evaluates a No Project/Expected Growth Alternative, a Redevelopment North/Expected Growth South Alternative, and an Residential/Open Space Development Alternative. All of the alternatives would result in the same project and cumulative significant unavoidable adverse impacts identified for the project (traffic, vehicular air pollution emissions, potential combined toxic air contaminants, cumulative hazardous waste generation and disposal, cumulative water quality, possible off-site school facility impacts). However, there are differences among the alternatives and the project with respect to these impacts. In general, the alternatives would reduce these identified impacts (because of reduced intensity of development) but not to a level of insignificance.

The alternatives would involve some impacts that are different from project impacts. Some of those impacts could be mitigated, and mitigation measures are suggested. The applicable mitigation measures would vary among the alternatives, as described in the Alternatives section. Certain of the impacts caused by the project would be avoided in one or more of the alternatives. Accordingly, mitigation measures would not be required for those alternatives.

Alternative 3 is identified as the environmentally superior alternative. While it would not avoid the unavoidable significant impacts associated with the project, it would reduce most of them. Additional mitigation would be required to avoid impacts from existing hazardous wastes on wetlands and residential uses associated with Alternative 3. Alternative 3 also was evaluated at full buildout, as with the project analysis, while Alternatives 1 and 2 were evaluated at partial buildout in 2015.
Alternatives 1 and 2 at full buildout would generate greater impacts than identified for the analysis year of 2015.

NOTES: Alternatives to the Proposed Project

1. California Public Resources Code, Section 21000 et seq.

2. California Code of Regulations, Title 14, Section 15000 et seq., known as the State CEQA Guidelines.

3. State CEQA Guidelines Section 15126(d).


5. State CEQA Guidelines Section 15126(d)(2).

6. "Service/Light Industrial/Research and Development" is a land use term developed for the 1990 FEIR that expresses the type of Mission Bay Commercial Industrial development anticipated at the time of that document's preparation. Office uses were added to the Service/Light Industrial/Research and Development designation to provide more flexibility in the eventual location of office uses for the approved project.

7. Service enterprises would be businesses supporting Mission Bay, downtown, and nearby business areas. Service enterprises generally would occupy lower-floor space and would include vehicle/equipment leasing and rental; building maintenance and protection/security; and data processing, communications, delivery, and reproduction services.

Light industrial/research and development/office enterprises would occupy higher-density development space, with more emphasis on amenities and design. A mix of functions would be possible in a single building. Such enterprises would include technology-oriented manufacturing companies; research and development facilities for communications, biotechnology, computer and other electronics products companies; and support offices for manufacturing, distribution, or research and development functions.

8. San Francisco Planning Department, Mission Bay Final Environmental Impact Report, Planning Department File No. 86.505E, State Clearinghouse No. 86070113, certified August 23, 1990, Table VI.E.29, p. VI.E.185.*

9. City and County of San Francisco, Planning Department, Mission Bay Plan: Proposal for Adoption, January 1990, as amended September 1990 and February 1991, Chapter 4, Implementation, P. 11. In general, the open space assumed under this alternative follows from the Mission Bay Plan (housing/open space linkage of 1 acre per 150 constructed residential units). However, the Mission Bay Plan does not precisely indicate the timing and location of open space development. Since development would occur in both Mission Bay North and South, under this alternative, opens space development would occur in both areas too.

10. Note that under the existing zoning, UCSF could potentially construct a few individual buildings to meet some of its space need.
11. City Planning Code Section 983 (e)(1) provides that most non-conforming uses and noncomplying structures may continue operations in the Project Area for a period of 10 years, plus possible extensions, from February 1991.


13. The *Mission Bay Plan* provided for a total of 8,500 housing units. Of this total, 7,600 were located south of the Channel and 900 were located north of the Channel. See City and County of San Francisco, Planning Department, *Mission Bay Plan: Proposal for Adoption*, January 1990, as amended September 1990 and February 1991, p. 3-11 and Figure 9, following p. 3-12.


16. An updated jobs/housing analysis is used in this comparison, not the jobs/housing analysis incorporated in the 1990 FEIR and used to evaluate the development agreement variant and EIR alternatives at that time. Regional economic relationships and demographic conditions have changed since the mid-1980's when the original analysis was completed. The updated analysis puts both development outcomes on an equal footing for comparative purposes in this SEIR.


19. Parking supply for the No Project/Expected Growth Alternative is calculated based on the 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185, at 1 space for each 1,000 sq. ft. of office/research and development floor area; retail at 1 space per 1,000 sq. ft.; hotel at 0.4 spaces per room; warehouse at 1 space per 1,000 sq. ft. and residential at 1 space per dwelling unit.

20. In addition, to account for a possible shift in traffic patterns, CO concentrations at the intersections of Seventh and Townsend Streets and Potrero and 16th Streets were also analyzed, but not included in the comparison between the proposed project and this alternative because the analysis showed that there was no substantial differences in traffic increases at these intersections.


22. City and County of San Francisco, Planning Department, *Mission Bay Plan*, pp. 3-42 to 3-4.*

23. City and County of San Francisco, Planning Department, *Mission Bay Plan*, pp. 3-42 to 3-47.*

25. An approximate citywide level of service of 1 police officer per 657 people was estimated in “Police Protection: Impacts,” in Section V.M, Community Services and Utilities. Using this ratio, Alternative 1, with a combined resident and worker population of 20,200, would generate demand for approximately 30 additional police personnel.

26. a.) Employee demand for open space in the 1990 FEIR was estimated based on the Downtown Plan’s requirement that commercial developments provide 1 square foot of open space for every 50 gross sq. ft. of building space (1990 FEIR, p. VI.D.71, and San Francisco General Plan, Downtown Plan, p. II.1.15). An employee density factor of 1 employee per 290 gross sq. ft. was used to convert this to a standard of 0.14 acre of open space per 1,000 employees.

b.) Employee demand for open space is not necessarily additive to residential demand, but instead could be satisfied by employees using the same parks that residents use, provided they were within a reasonable distance of business uses. Therefore, employees are not added to residents when calculating acres provided per 1,000 population.

27. These numbers were arrived at by subtracting 50% from the estimates of school age children calculated in “Schools,” in Appendix L, Community Services and Utilities.


   Residential Development $1.72 per square foot
   Non-Residential Development
   Office $0.24 per square foot
   Retail/Service $0.13 per square foot
   Light Industrial $0.22 per square foot
   Warehouse $0.09 per square foot
   Lodging $0.08 per square foot


30. Assumes residential units are 840 sq. ft.

31. Timothy Tronson, Director of Facility Planning, San Francisco Unified School District, telephone conversation with EIP Associates, February 13, 1998. A 500-student elementary school is about 56,000 sq. ft. at $225 per sq. ft. Calculation assumes elementary school size is proportional to the number of students.

32. California Assembly Bill 939 (Public Resources Code Section 40000 et seq.) requires cities to divert 50% of solid waste through recycling, composting, and source reduction activities by the year 2000.


35. 1990 FEIR, Table IV.E.29, p. VI.E.185.*

36. City and County of San Francisco, Planning Department, Mission Bay Plan: Proposal for Adoption, January 1990, as amended September 1990 and February 1991, Chapter 4, Implementation, p. 11. In general, the open space assumed under this alternative follows from the Mission Bay Plan (housing/
open space linkage of 1 acre per 150 constructed residential units). However, the Mission Bay Plan does not precisely indicate the timing and location of open space development. Since development would occur in both Mission Bay North and Mission Bay South under this alternative, it is assumed that open space development would occur in both areas too.

37. Of the total housing units provided for in the Mission Bay Plan, 900 were located north of the Channel and 7,600 were located south of the Channel. See City and County of San Francisco, Department of City Planning, Mission Bay Plan: Proposal for Adoption, January 1990, as amended September 1990 and February 1991, Figure 9, following p. 3-12.*

38. Of the total housing units provided for in the Mission Bay Plan, 900 were located north of the Channel and 7,600 were located south of the Channel. See City and County of San Francisco, Department of City Planning, Mission Bay Plan: Proposal for Adoption, January 1990, as amended September 1990 and February 1991, Figure 9, following p. 3-12.*


40. Parking supply for the No Project/Expected Growth Alternative is calculated based on the 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185, at 1 space for each 1,000 sq. ft. of office/research and development floor area; retail at 1 space per 1,000 sq. ft.; hotel at 0.4 space per room; warehouse at 1 space per 1,000 sq. ft.; and residential at 1 space per dwelling unit.

41. In addition, to account for a possible shift in traffic patterns, CO concentrations at the intersections of Seventh and Townsend Streets, and Potrero and 16th Streets were also analyzed, but not included in the comparison between the proposed project and this alternative, because the CO analysis showed that no difference in CO concentrations would be caused at these intersections.


43. City and County of San Francisco, Planning Department, Mission Bay Plan, pp. 3-42 through 3-47.


45. An approximate citywide level of service of 1 police officer per 657 people was estimated in “Police Protection: Impacts,” in Section V.M, Community Services and Utilities. Using this ratio, Alternative 2, with a combined resident and worker population of approximately 16,600, would generate demand for approximately 25 additional police personnel.

46. See endnote 26, which discusses estimates of employee demand for open space.

47. These numbers were arrived at by subtracting 4% from the estimates of school-age children calculated in “Schools,” in Appendix L, Community Services and Utilities.


<table>
<thead>
<tr>
<th>Type</th>
<th>Fee per square foot</th>
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<tbody>
<tr>
<td>Residential Development</td>
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</tr>
<tr>
<td>Non-Residential Development</td>
<td>$0.24</td>
</tr>
<tr>
<td>Office</td>
<td>$0.24</td>
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</table>

Residential Development
Non-Residential Development
Office

$1.72 per square foot

$0.24 per square foot
VIII. Alternatives to the Proposed Project

<table>
<thead>
<tr>
<th>Use</th>
<th>Cost per Square Foot</th>
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</thead>
<tbody>
<tr>
<td>Retail/Service</td>
<td>$0.13</td>
</tr>
<tr>
<td>Light Industrial</td>
<td>$0.22</td>
</tr>
<tr>
<td>Warehouse</td>
<td>$0.09</td>
</tr>
<tr>
<td>Lodging</td>
<td>$0.08</td>
</tr>
</tbody>
</table>


50. Assumes residential units are 840 sq. ft.

51. Timothy Tronson, Director of Facility Planning, San Francisco Unified School District, telephone conversation with EIP Associates, February 13, 1998. A 500-student elementary school is about 56,000 sq. ft. at $225 per sq. ft. Calculation assumes elementary school size is proportional to the number of students.

52. California Assembly Bill 939 (Public Resources Code Section 40000 et seq.) requires cities to divert 50% of solid waste through recycling, composting and source reduction activities by 2000.


55. The number of parking spaces is based on parking rates for the land uses proposed in Alternative 3 from the 1990 FEIR, Volume Two, Table VI.E.29, p. VI.E.185.*

56. An updated jobs/housing analysis is used in this comparison, not the jobs/housing analysis incorporated in the 1990 FEIR and used to evaluate this alternative (Alternative B) in the earlier EIR. Regional economic relationships and demographic conditions have progressed since the mid-1980's when the original analysis was completed. The updated analysis puts all development outcomes on an equal footing for comparative purposes in this SEIR.

57. 1990 FEIR, Volume Two, p. V.20.*

58. 1990 FEIR, Volume Two, p. VI.D.40.*


60. 1990 FEIR, Volume Two, pp.VI.D.115-VI.D.116.*

61. An approximate citywide level of service of 1 police officer per 657 people was estimated in “Police Protection: Impacts,” in Section V.M, Community Services and Utilities. Using this ratio, Alternative 3, with a combined resident and worker population of approximately 25,200, would generate demand for approximately 38 additional police personnel.


63. For consistency with Project Area boundaries, acreage of open space does not include the China Basin Channel or port property, which were included in the 1990 FEIR.

64. See endnote 26, which discusses estimates of employee demand for open space.
These numbers were arrived at by increasing the estimates of school-age children calculated in "Schools," in Appendix J, Community Services and Utilities, by 71% to account for the larger residential population in this alternative.


Residential Development $1.72 per square foot
Non-Residential Development
  Office $0.24 per square foot
  Retail/Service $0.13 per square foot
  Light Industrial $0.22 per square foot
  Warehouse $0.09 per square foot
  Lodging $0.08 per square foot

The estimate that total fees would be more for this alternative than for the proposed project is based on a rough calculation of the total fees that could be collected for the proposed project compared to those for Alternative 3. This calculation is approximate, and was done for comparison purposes only.

Assumes residential units are 840 sq. ft.

Timothy Tronson, Director of Facility Planning, San Francisco Unified School District, telephone conversation with EIP Associates, February 13, 1998. A 500-student elementary school is about 56,000 sq. ft. at $225 per sq. ft.


1990 FEIR, Volume Two, p. VI.D.120.*

San Francisco Planning Commission, Resolution No. 12040 Attachment A, Mission Bay Findings, adopted September 27, 1990. These findings discuss reasons for rejection of alternatives and variants.

The 1990 FEIR is incorporated by reference into this Subsequent EIR. Pertinent information from the 1990 FEIR is summarized throughout this document.


A copy of this report is on file for public review at the Office of Environmental Review, Planning Department, 1660 Mission Street, San Francisco.
IX. OTHER STATUTORY SECTIONS

A. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

This chapter identifies impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project, or other mitigation measures that could be implemented, as described in Chapter VI, Mitigation Measures.

Significant unavoidable adverse effects can be classified into two categories. The first includes impacts that would be attributable to the project itself, and the second includes cumulative impacts to which the project would contribute an increment. Project-specific impacts have been projected with relative certainty, given the detailed information presented herein, regarding the environmental setting and the project proposal. Cumulative effects are by their nature less certain, because their analysis depends on a prediction of possible future environmental changes well beyond the scope of the current project. The following is a list of the significant unavoidable effects that have been identified in this analysis:

- project and cumulative traffic intersection impacts, primarily affecting intersections at or near I-280 and I-80 in the South of Market area.
- cumulative bridge/on-ramp impacts (lengthening of peak congestion)
- project and cumulative regional air quality impacts from increased vehicular emissions, e.g., exceedance of BAAQMD's significance thresholds for reactive organic gases and oxides of nitrogen, which are ozone precursors, and for particulate matter.
- potentially significant project impacts from toxic air contaminants from mobile sources, from individual stationary sources (because adequate buffers between potential stationary sources and sensitive receptors cannot be shown), from the combined risk due to emissions from multiple facilities, and from cumulative risks.
- cumulative hazardous waste generation and disposal impacts.
- cumulative water quality impacts (although the project’s contribution to cumulative water quality impacts could be reduced to less-than-significant levels if mitigation measures are imposed).
B. IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

*CEQA Guidelines* (Sections 15126(f) and 15127) require that a Draft EIR must identify significant irreversible environmental changes if the following could occur:

- The project would involve a large commitment of non-renewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The project would wastefully consume resources, such as energy.

As discussed in this SEIR, the redevelopment of the Mission Bay Project Area would intensify the development of a range of land uses in the Project Area consistent with an urban environment. Although not necessarily irreversible, the commitment would be difficult to change in the short-run. It would commit some future generations to the same land uses. Overall, the conclusions of this SEIR regarding irreversible impacts are not substantially different from those of the 1990 FEIR/1/, except that the loss of backland for nearby piers, discussed then as a potential impact, is no longer an issue or impact because the land exchange for property near Pier 70 has since occurred, providing backland in an area closer to the Port's intermodal container facilities at Pier 80.

Implementation of the project would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for automobiles and construction equipment during construction and from on-going use of the site./2/

The consumption or destruction of other non-renewable and slowly renewable resources would also result during construction, occupancy, and use of the site. These resources include, but are not limited to: lumber, concrete, sand and gravel, asphalt, masonry, metals, and water. The project would also irreversibly use water and solid waste disposal resources during construction and operation.

Irreversible damage could occur in that the project would develop an area that is subject to substantial seismic hazard, similar to other areas in the City underlain by fill. Development of more business and residences in the area would increase the employee and resident population, resulting in exposure of larger numbers of people to death and injury in the event of a major earthquake in the Bay Area. However, because the 1995 San Francisco Building Code, along with the most stringent codes from
either the San Francisco Building Code, the Uniform Building Code, or the California Building Code in effect at the time of building permit issuance would be followed for new construction, the project’s structures would reduce seismic risks to a less-than-significant impact.

A risk exists that an accident involving hazardous materials could occur, with the possibility that irreversible damage could result. This risk is discussed in Section V.I, Health and Safety: Impacts. The required preparation of Risk Management Plans would minimize this risk.

NOTES: Other Statutory Sections


2. See the discussion of Energy in the Initial Study (Appendix A).

* A copy of this report is on file for public review at the Office of Environmental Review, Planning Department, 1660 Mission Street, San Francisco.
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Attn: Craig Goldblatt

CITY AND COUNTY OF SAN FRANCISCO

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City and County of San Francisco
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Attn: Barbara Kaufman, President
XI. Draft SEIR Distribution List

Bureau of Energy Conservation
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Attn: John Deakin, Director

City and County of San Francisco
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City and County of San Francisco
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XI. Draft SEIR Distribution List

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Sierra Club
730 Polk Street
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<th>Organization</th>
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<td>SOMA Consortium</td>
<td>1107 Minna Street #575</td>
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<td>SOMA Neighborhood Improvement</td>
<td>Yerba Buena &amp; SOMA Consortium Coordinator</td>
<td>109 Minna Street, Suite 575</td>
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<td>Jim Aldrich</td>
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<td>William Allin</td>
<td>Karen Alschuler</td>
<td>SMWM</td>
<td>San Francisco, CA 94107</td>
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<td>District Manager Government Affair</td>
<td>AT&amp;T</td>
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<td>Mary Anne Miller</td>
<td>1239 42nd Avenue</td>
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<td>David Bahlman, Executive Director</td>
<td>The Foundation for San Francisco’s Architectural Heritage</td>
<td>2007 Franklin Street</td>
<td>San Francisco, CA 94103</td>
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<td>Wayne Beasley</td>
<td>Project Director</td>
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<td>Juan Begazo</td>
<td>Gueta Bell</td>
<td>96 Homestead Street</td>
<td>San Francisco, CA 94114</td>
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<tr>
<td>800 Wilshire, 2nd Floor</td>
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<td>Dawne Bernhardt</td>
<td>Dan Billings</td>
<td>Parkview Association PUD</td>
<td>San Francisco, CA 94107</td>
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<td>566 Vallejo St., #21</td>
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<td>3 Fontinella Terrace</td>
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</tbody>
</table>
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<th>Name</th>
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<td>Bernie Choden</td>
<td>85 Cleary Court, #11</td>
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<td>Gordon Chong</td>
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<td>David Cincotta</td>
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<td>Berkeley, CA 94708</td>
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<td>Charlene Clarke</td>
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<td>Jennifer Clary</td>
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<td>133 Buchanan, #3</td>
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<td>Raymond Collins, Jr.</td>
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<td>Orsee Design Associates</td>
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<td>Pat Dawe</td>
<td>587 Center Dr.</td>
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<td>Potrero Hill Merchants Assn.</td>
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XI. Draft SEIR Distribution List

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<td>Clay Mansfield, Chair</td>
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<td>Comer Marshall</td>
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<td>Elizabeth Martin</td>
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<td>Winston Mathis</td>
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<td>Potrero Hill Neighborhood House</td>
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<td>Jake McGoldrick</td>
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<td>Nan McGuire</td>
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<td>Stella Schott</td>
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<td>San Francisco, CA 94127</td>
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<tr>
<td>Mary Woods</td>
<td>1165 Vallejo</td>
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<td>Asian, Inc.</td>
<td>1670 Pine Street</td>
<td>San Francisco, CA 94109</td>
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<td>Lee Meyerzone</td>
<td>Economic Opportunities Council Dist. 5</td>
<td>San Francisco, CA 94103</td>
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<td>Peter Mezey</td>
<td>Presidio Hts. Assn. of Neighbors</td>
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<td>3382 Clay Street</td>
<td>San Francisco, CA 94118</td>
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<tr>
<td>Ron Miguel</td>
<td>President</td>
<td>Planning Association for the Richmond</td>
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<td>Ron Miguel</td>
<td>600 De Haro Street</td>
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<td></td>
<td>Ron Miguel</td>
<td>San Francisco, CA 94107</td>
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<tr>
<td>Paul Miller</td>
<td>Environmental Science Associates</td>
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<td>Paul Miller</td>
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<td></td>
<td>Paul Miller</td>
<td>225 Bush Street</td>
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<td></td>
<td>Paul Miller</td>
<td>San Francisco, CA 94104</td>
</tr>
</tbody>
</table>
XI. Draft SEIR Distribution List

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San Francisco, CA 94107

Janet Jacobs
Project Director
Sustainable San Francisco
P.O. Box 460236
San Francisco, CA 94146

San Francisco Bicycle Coalition
1095 Market, Suite 215
San Francisco, CA 94103

MEDIA

KPOO - FM
P.O. Box 6149
San Francisco, CA 94101
Attn: Leland S. Meyerzone

San Francisco Bay Guardian
2700 - Nineteenth Street
San Francisco, CA 94110
Attn: Patrick Douglas, City Editor

San Francisco Chronicle
925 Mission Street
San Francisco, CA 94103
Attn: Ed Epstein

San Francisco Business Times
275 Battery Street, Suite 940
San Francisco, CA 94111
Attn: Tim Turner

San Francisco Independent
1201 Evans Avenue
San Francisco, CA 94124

San Francisco Business Times
1390 Market Street, Suite 318
San Francisco, CA 94102
Attn: Bill Shiffman

San Francisco Examiner
P.O. Box 7260
San Francisco, CA 94120
Attn: Gerald Adams

The Sun Reporter
1366 Turk Street
San Francisco, CA 94115

LIBRARIES

Stanford University Libraries
Jonsson Library of Government Documents
State & Local Documents Division
Stanford, CA 94305

Government Publications Department
San Francisco State University
1630 Holloway Avenue
San Francisco, CA 94132

Institute of Government Studies
109 Moses Hall
University of California
Berkeley, CA 94720

Government Documents
(2 copies; 1 to Potrero Branch)
City Library - Civic Center
100 Larkin Street
San Francisco, CA 94102
Attn: Kate Wingerson

Hastings College of the Law - Library
200 McAllister Street
San Francisco, CA 94102-4978
PROJECT AREA TENANTS AND OWNERS

Tenants and property owners in the Project Area, approximately 60 people, were sent notices of availability of the Draft SEIR and Draft SEIR public hearing. A complete copy of the distribution listing is available in the Planning Department office at 1660 Mission Street, as part of File No. 96.771E.
LAND USE PROGRAM ANALYZED AS THE PROJECT IN THE DRAFT EIR
SEE INSIDE FRONT COVER FOR THE COMBINATION OF PROJECT FEATURES AND VARIANTS AS ADOPTED