5. CUMULATIVE IMPACTS

According to Section 21083 of the California Environmental Quality Act (CEQA), an action may have a significant effect on the environment requiring dsclosure in an Environmental Impact Statement (EIR) if its possible effects are individually limited but "cumulatively considerable." As defined in *CEQA Guidelines* Section 15065(c), cumulatively considerable means the incremental effects of an action are considerable when viewed in connection with the effects of past projects, other current projects, and probable future projects. Evaluation of cumulative effects should reflect the severity of impacts as well as the likelihood of their occurrence, but the level of detail need not be as great as for evaluation of project-specific impacts.

Section 15130 of the *CEQA Guidelines* provides direction regarding cumulative impact analysis as follows:

- An EIR should not discuss cumulative impacts that do not result in part from the proposed action.
- A lead agency may determine that an identified cumulative impact is less than significant, and shall briefly identify facts and analysis in the EIR supporting its determination.
- A lead agency may determine that an action's incremental effect is not cumulatively considerable, and therefore is not significant, and shall briefly describe in the EIR the basis of its determination.
- A lead agency may determine that an action's cumulatively considerable contribution to a significant cumulative impact may be rendered less than cumulatively considerable and therefore residually not significant, if the action implements or funds its fair share of a mitigation measure or measures designed to alleviate the cumulative impact, and shall identify facts and provide analysis supporting its determination.

5.1 CUMULATIVE IMPACT ANALYSIS METHODOLOGY

To analyze cumulative impacts for each environmental factor, a lead agency may elect to use a list of other past, current, and probable future projects, including those outside the control of the agency. A lead agency may also elect to use a summary of projections from adopted planning documents (*Guidelines* § 15130).

Table 5-1 identifies both plans and projects used to conduct the cumulative impact analysis. The table identifies each environmental factor for which cumulative impacts are analyzed, and which plan(s) or project(s) were used in that analysis.

The temporal scope of the cumulative analysis is the year 2020. The physical scope of the analysis generally encompasses the City of Oakland and adjacent jurisdictions.

Table 5-1
Plans and Probable Future Projects Used in Cumulative Impact Analysis

Plan or Project Name Agency	**Description**	**Status**	**Relevant Environmental Factors**
	Plans		
General Plan City of Oakland	City-wide plan	Last updated to include *Estuary Policy Plan* Element in 1999	Land Use Traffic Air Quality Noise Public services
West Oakland Cumulative Growth Scenario Update City of Oakland	Update of existing and future economic and land use assumptions for more than 50 area planned projects (included in Appendix 5)	Update completed January 2002	Land Use Traffic Air Quality
Projections 2002 Association of Bay Area Governments	Demographic projections for nine Bay area counties through 2025	Published 2001	Traffic Air Quality Noise Population/ Employment/ Housing Public services
General Plan City of Emeryville	City-wide plan	Last updated to revise the *Housing* Element in 2001	Land Use Traffic Air Quality Public Services
Alameda Point General Plan Amendment City of Alameda	Re-designation of land uses and adoption of General Plan policies for 1,444 acres	Public Review Draft EIR published November 2001	Land Use Public Services Traffic Air Quality
	Projects		
Vision 2000 Program Port of Oakland	Marine and rail terminals, regional public park	Terminals in operation, park under construction	Land Use Traffic Air Quality Cultural Resources Biology Recreation Surface Water
–50 Foot Navigation Improvements U.S. Army Corps of Engineers (Corps), Port of Oakland	Dredge Oakland Outer and Inner harbors to –50 feet mean lower low water	EIS/R complete Construction approximately 2001–2005	Noise Biology Surface Water
Bay Bridge Replacement California Department of Transportation (Caltrans)	Replacement of the Bay Bridge from Yerba Buena Island to Oakland	EIS complete Construction approximately 2002–2006	Noise Biology Surface Water

Table 5-1
Plans and Probable Future Projects Used in Cumulative Impact Analysis

Plan or Project Name Agency	**Description**	**Status**	**Relevant Environmental Factors**
Main Wastewater Treatment Plant Improvement East Bay Municipal Utility District (EBRPD)	Expansion of treatment plant facilities, capacity, and administration facilities	Undetermined future	Land Use Air Quality Noise
Alameda Point Wildlife Refuge U.S. Fish and Wildlife Service (USFWS)	565 upland acres, 413 submerged acres for a wildlife refuge	EA complete	Land Use Biology
Catellus Mixed Use Development EIR City of Alameda	Mixed use, including affordable housing at former Fleet and Industrial Supply Center (FISC) Annex	EIR complete	Land Use Traffic Air Quality
Oakland Airport Development Program Port of Oakland	Airport expansion: terminals, circulation, parking	EA complete SEIR in progress Construction of some component projects underway	Air Quality Noise
San Francisco Airport Expansion	Airport expansion	EIS/R complete Undetermined future	Air Quality Noise
Reuse of Bay Area Military Bases Multiple agencies	Conversion from military to community uses, including demolitions Oakland: Fleet and Industrial Supply Center, Oakland (FISCO) and Oak Knoll Alameda: NAS and FISCO Annex San Francisco: the Presidio, Hunters Point Naval Annex, and NAS Treasure Island Vallejo: Mare Island Shipyard Novato: Hamilton Army Airfield	In various stages of reuse Build-out: various	Land Use Cultural resources

5.2 CUMULATIVE IMPACT ANALYSIS

Each environmental factor discussed for redevelopment-specific impacts in Chapter 4: Setting and Baseline, Impacts, and Mitigation, is evaluated below relative to cumulative impacts.

5.2.1 Consistency with Plans and Policies

There is no evidence that significant cumulative impacts currently exist relative to fundamental conflicts with applicable plans and policies to which the redevelopment program could contribute. Generally, development within the City and surrounding jurisdictions occurs in accordance with relevant plans and policies, as they may be amended from time to time.

In order for redevelopment to occur as proposed in Chapter 3: Description, amendment of the Oakland General Plan is first required to reflect the redevelopment program; through that amendment process, the redevelopment program would be fully consistent with the General Plan, and would not create cumulative impacts related to consistency with plans and policies.

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5.2.2 Land Use

There is no evidence that significant cumulative land use impacts currently exist relative to community cohesion (physical division of an established community) to which the redevelopment program could contribute. In West Oakland, community cohesion has improved after realignment of I-880 to the boundary of that community, which the freeway formerly bisected. Redevelopment as proposed in combination with past, other current, and probable future actions would not divide or worsen the division of an established community, nor otherwise result in or contribute to impacts related to community cohesion.

Benefits

Large-scale land use changes could result from redevelopment as proposed in combination with past, other current, and probable future projects, including the Vision 2000 Program, and as described in the West Oakland Cumulative Growth Scenario Update, general plans of Oakland and nearby cities. In the broader West Oakland area, redevelopment as proposed in this EIR, in combination with other area redevelopment efforts, would improve land use compatibility throughout West Oakland. This would be a cumulative benefit.

Bay Area military base conversions afford communities opportunities to substantially change land uses. It is presumed that Base reuse efforts, including the proposed redevelopment program, reuse of Alameda Point, and reuse of FISC Alameda for the Catellus Mixed Use Project, would result in uses more compatible—rather than less—with local community character, both a local and region-wide cumulative benefit.

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Impacts and Mitigation

Impact 5.2-1: Contribution to existing land use incompatibilities.

Land use compatibility in West Oakland outside the redevelopment project area is cumulatively impacted. Over time, industrial and commercial land uses have become inter-mixed with

residential uses (HEG 2000; see Section 4.2: Land Use, for a discussion; see Section 4.11: Aesthetics, for photographic documentation). In addition, large areas of industrialized land are located near the West Oakland community, including the OARB, the Port, and EBMUD's Main WWTP. While industrial uses are planned for portions of West Oakland, including redevelopment elements such as the New Intermodal Facility, Port maritime expansion, Light Industrial and Warehousing/Distribution facilities in the Gateway development area, and the expansion of the EBMUD Main WWTP, these industrial uses are separated from unlike uses in West Oakland by the elevated I-880 and West Grand Avenue structures. Due to this physical separation, development of industrial facilities in West Oakland as planned would not result in or substantially contribute to existing land use incompatibilities. The contribution of redevelopment to land use incompatibilities would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

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5.2.3 Transportation and Traffic

There is no evidence that significant cumulative impacts currently exist relative to fundamental conflict with support for alternative transportation to which the redevelopment program could contribute. Compliance with adopted policies, plans, or programs supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks) would not be affected by other projects. Likewise, redevelopment would have no effect on the ability of other projects to comply with adopted policies, plans, or programs supporting alternative transportation. Redevelopment as proposed in combination with past, other current, and probable future projects would not result in reduced support of alternative transportation.

Impact Analysis Methodology

The same methods of analysis as described in Section 4.3 were used for the analysis of transportation impacts of redevelopment in combination with past, other current, and probable future projects. The analysis of traffic impacts reflects build-out assumptions of the Oakland, Alameda, and Emeryville General Plans, and all activities anticipated in the West Oakland Cumulative Growth Scenario Update, included in Appendix 5. In addition, this analysis reflects the Port of Oakland's Vision 2000 program, and the Catellus Mixed use development in Alameda.

Traffic forecasts were based on the 2001 version of the Alameda Countywide Model as required by the Alameda County Congestion Management Agency (CMA). The model provides forecasts of travel demand for 2005 and 2025 based on ABAG's *Projections 2000* socioeconomic forecasts. Two levels of analysis were performed for the analysis of cumulative traffic impacts using the Alameda Countywide Model. A Congestion Management Program (CMP) analysis

was performed using the model with the ABAG land uses for 2005 and 2025.[1] A summary of the CMP analysis is provided in Appendix 4.3.

A more detailed analysis was conducted for purposes of assessing cumulative environmental impacts to the transportation system and the extent to which redevelopment would contribute to cumulative impacts. In the environmental analysis, a cumulative growth approach was developed for the City, using a forecast-based approach — an approach based on regional forecasts of economic activity and demographic trends. The updated cumulative growth scenario for the City considered recent and anticipated future development projects in Oakland, as well as other changes in employment and population. Development projects and other changes in Oakland were identified based on input from City and Port staffs, and analysis of economic and real estate market data and trends. Future development projects were identified to include approved, proposed, and potential development projects expected by the year 2020, including buildout of the OARB area redevelopment project area.

The 2020 employment and population data developed by the method described above were compared against 2025 employment and population in the 2000 ABAG land use dataset, and the former exceeded the latter within the City. The ABAG land use data for the City of Oakland were replaced in the ABAG 2025 land use data set and were used as the basis for the analysis of cumulative conditions, because this scenario was deemed to be a worst case scenario under CEQA.

The Alameda Countywide Model was used with the land use data developed for the City to determine the traffic volumes that would be present with redevelopment in combination with past, other current, and probable future projects. The contribution of redevelopment to cumulative impacts was determined by removing redevelopment traffic (derived from ITE trip generation rates as depicted in Section 4.3) from the cumulative traffic volumes. This environmental impact analysis yielded more conservative results — an assessment of greater cumulative impacts — than the CMP analysis.

The same significance criteria used to evaluate redevelopment-specific impacts were used to evaluate the contribution of redevelopment to existing or anticipated cumulative impacts. These criteria are described in detail in Section 4.3: Transportation and Traffic, with the following addition: redevelopment was considered to make a considerable contribution to cumulative impacts if it contributes five (5) percent or more of the cumulative traffic increase as measured by the difference between existing and cumulative (with project) conditions.

[1] For the CMP analysis, the land uses in the Alameda Countywide Model were modified to reflect the effect of redevelopment. For the analysis of 2005 conditions, the amount of redevelopment in the district expected to be completed by 2005 (375 live-work units) was added to the ABAG land use data and the model results were compared to model results without redevelopment. For 2025 conditions, the entire redevelopment program was coded into the land use dataset and the model results were compared to model results reflecting only existing and approved projects in the traffic analysis zones for the redevelopment project area.

Benefits

As described in Section 4.3, redevelopment would substantially reduce hazards to bicyclists and pedestrians in the redevelopment project area by implementing substantial portions of the Bay Trail. Redevelopment (as mitigated by measures included in Section 4.3) in combination with construction of other portions of the Bay Trail by Caltrans, the City, and the Port would result in a substantial cumulative safety benefit for bicyclists and pedestrians.

The provision of 105 acres of ancillary maritime support within the redevelopment project area in combination with efforts by the Port to provide satellite trucking facilities at strategic locations could have a cumulative benefit in providing relief from truck traffic and parking for nearby areas with incompatible land uses depending on the extent to which those facilities are used for truck parking, container freight handling, and container storage.

The elimination of two railroad/highway crossings on Maritime Street as part of redevelopment in combination with the Public Utility Commission's (PUC's) ongoing program to improve traffic control and/or eliminate railroad/highway crossings would provide a cumulative benefit in improving mobility and safety.

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Impacts and Mitigation

Impact 5.3-1: Increased congestion at intersections exceeding the cumulatively significant threshold.

Redevelopment, in combination with past, other current, and probable future projects as described in the description of methodology, above, would cause the level of service (LOS) to degrade to worse than LOS D at the following intersections located outside the Downtown area:

- West Grand Avenue/Maritime Street during the a.m. and p.m. peak hours;
- West Grand Avenue/I-880 Frontage Road during the a.m. and p.m. peak hours; and
- 7^{th} /Maritime Street.

Redevelopment, in combination with past, other current, and probable future projects, would cause total intersection average delay to increase by four seconds at the Powell Street/I-80 northbound ramps intersection which would otherwise operate at LOS E during the p.m. peak hour.

Redevelopment, in combination with past, other current, and probable future projects would cause total intersection average vehicle delay to increase by more than two seconds at the following signalized intersections that would operate at LOS F during the a.m. peak hour:

- 7^{th} Street/I-880 northbound ramp;

- 12th Street/Brush Street;
- Powell/I-80 northbound; and
- Atlantic Avenue/Webster Street (for this intersection, redevelopment contributes less than five percent of traffic to the impact).

Redevelopment traffic, in combination with past, other current, and probable future projects would add more than ten vehicles to the following unsignalized intersections that would satisfy the Caltrans peak hour volume warrant:

- 3rd Street/Adeline Street during the a.m. peak hour; and
- 3rd Street/Market Street during the p.m. peak hour.

The contribution of redevelopment to impacts at the intersections listed above — except for the Atlantic Avenue/Webster Street Intersection, to which redevelopment contributes less than five percent of the increase in cumulative traffic — would be cumulatively considerable, and the incremental effect of redevelopment is considered significant.

The impact of redevelopment on study area intersections, in combination with past, other current, and probable future projects is summarized in Table 5.2-1.

Table 5.2-1
Unmitigated Intersections Operations for Redevelopment (Cumulative Conditions)

	Without Redevelopment				Cumulative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
Intersection	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
West Grand Avenue/Maritime Street	C	28.5	C	21.1	***F***	***254.6***	***F***	***253.2***
West Grand Avenue/I-880 Frontage Road	D	38.2	C	30.0	***F***	***87.4***	***F***	***160.1***
West Grand Avenue/Mandela Parkway	B	11.1	B	11.9	B	15.2	B	18.8
West Grand Avenue/Adeline Street	A	8.6	B	10.5	B	15.2	B	15.7
West Grand Avenue/Market Street	B	10.8	B	11.5	B	10.7	B	11.2
West Grand Avenue/San Pablo Avenue	B	11.4	B	11.6	B	13.6	B	13.7
West Grand Avenue/MLK Jr. Way[b]	B	15.3	B	17.7	B	13.5	B	16.9
West Grand Avenue/Northgate Avenue[b]	C	23.6	C	20.9	C	24.7	C	24.2
West Grand Avenue/Harrison Street[b]	C	26.5	C	25.2	C	29.0	C	28.7
7th Street/Maritime Street	F	150.6	E	55.9	***F***	***188.5***	***F***	***112.3***
7th Street/I-880 Southbound Ramp	A	3.6	A	2.3	A	4.3	B	10.9
7th Street/I-880 Northbound Ramp	C	34.3	D	36.5	***F***	***82.5***	D	40.0
7th Street/Peralta Street	B	12.7	A	8.7	B	12.1	A	7.9
7th Street/Mandela Parkway	B	16.4	B	16.4	B	15.8	B	15.9
7th Street/Union Street	A	8.0	B	16.7	A	7.8	B	16.1
7th Street/Adeline Street	B	11.7	B	10.3	B	11.7	B	12.5
7th Street/Market Street	C	27.6	C	27.3	D	40.1	C	28.3
7th Street/Harrison Street[b]	B	14.0	C	20.4	B	14.2	C	20.7
7th Street/Jackson Street[b]	C	21.0	C	22.2	D	39.2	C	25.3
6th Street/Jackson Street[b]	B	10.5	B	11.7	B	10.5	B	11.7
5th Street/Union Street/I-880 Ramps	C	30.7	C	29.9	C	32.0	C	30.4
5th Street/Adeline Street	D	42.1	C	32.2	D	53.8	C	34.7

Table 5.2-1
Unmitigated Intersections Operations for Redevelopment (Cumulative Conditions)

Intersection	Without Redevelopment				Cumulative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
I-880 Off Ramp/Market Street	C	21.6	B	20.0	C	22.0	C	20.4
5th Street/Broadway [b]	C	27.8	D	46.6	C	28.5	E	55.7
3rd Street/Adeline Street (unsignalized) [c]	D	26.8	C	17.8	***E***	***42.2***	C	22.1
3rd Street/Market Street (unsignalized) [c]	D	30.5	F	177.0	E	46.1	***F***	***207.3***
14th Street/Mandela Parkway	A	7.8	A	7.8	A	9.1	A	8.4
12th Street/Brush Street [b]	F	83.2	C	25.4	***F***	***87.6***	C	25.4
12th Street/Castro Street [b]	B	16.2	C	21.7	B	16.2	C	21.7
27th Street/SR 24-580 SB Off-Ramp	B	15.5	B	16.0	B	15.1	B	16.5
27th Street/SR 24-580 NB On-Ramp	B	11.2	B	19.1	B	12.9	C	25.3
West MacArthur Blvd/Adeline Street	C	33.5	D	45.6	D	41.4	D	50.6
West MacArthur Blvd/Market Street	B	16.7	C	20.8	B	16.6	C	21.2
Powell Street/I-80 Frontage Road	C	21.8	C	22.4	C	21.8	C	22.4
Powell Street/I-80 NB Ramps	C	28.1	E	71.3	C	28.5	***E***	***75.3***
Powell Street/Christie Street	C	32.9	D	35.7	C	32.9	D	35.8
Powell Street/Hollis Street	C	26.7	E	63.1	C	26.8	E	66.7
Powell Street/San Pablo Avenue	D	37.3	D	45.2	D	38.6	D	46.8
Stanford Avenue/Market Street	C	30.7	C	32.7	C	30.8	C	33.4
Stanford Avenue/MLK Jr. Way	B	18.2	F	98.0	B	18.1	F	97.8
Ashby Avenue/7th Street	D	35.8	D	52.3	D	36.6	D	53.1
Ashby Avenue/San Pablo Avenue	C	34.8	E	60.4	D	36.8	E	63.0
Marina Village/Constitution Way	D	42.4	C	29.3	D	47.0	C	29.6
Atlantic Avenue/Webster Street	F	84.5	D	45.2	***F***	***86.6***	D	46.7
Atlantic Avenue/Constitution Way	D	45.5	D	37.1	D	50.6	D	40.4
Loop Road/GDA Spine Road	-	-	-	-	B	18.1	C	20.2

Source: Dowling Associates 2002
Notes:
Significant impacts of redevelopment are shown in ***Boldface Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.
[c] Significant impacts at unsignalized intersections are based on signal warrants – not delay.

Mitigation: ***West Grand Avenue/Maritime Street.*** Implementation of Mitigation Measure 4.3-1 would reduce cumulative impacts at the Maritime Street/West Grand Avenue intersection during the a.m. peak hour, but would not reduce cumulative impacts during the p.m. peak hour to a level that is less than significant. No feasible mitigation measures have been identified that would reduce cumulative impacts to a level that is less than significant; therefore, residual cumulative impacts at the Maritime Street/West Grand Avenue intersection would be significant and unavoidable.

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Mitigation: ***West Grand Avenue/I-880 Frontage Road.*** Implementation of Mitigation Measure 4.3-2 would reduce cumulative impacts at the West Grand Avenue/I-880 Frontage Road intersection to a level that is less than significant.

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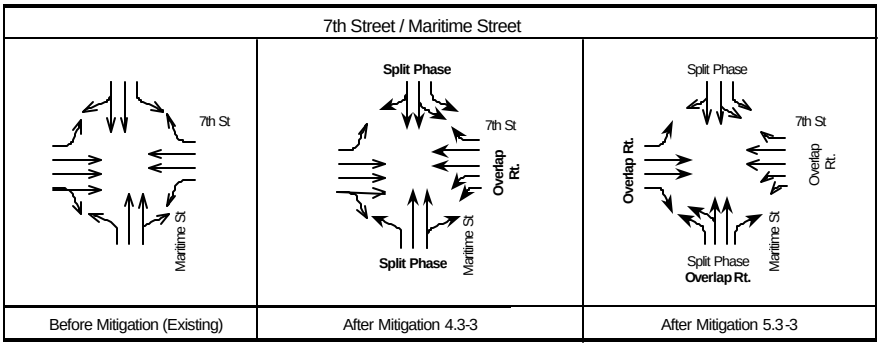
Mitigation: *7th/Maritime Street.* Implementation of Mitigation Measure 4.3-3 would reduce redevelopment-specific impacts at the 7th/Maritime Street intersection to a level that is less than significant, but would not be capable of accommodating all cumulative traffic at this intersection. Implementation of the following measure would reduce cumulative impacts at the 7th /Maritime Street intersection to a level that is less than significant.

Mitigation 5.3-1: *7th/Maritime Street.* Project area developers shall fund a fair share of additional modifications at the 7th /Maritime Street intersection.



Improvements for cumulative effects shall include the following:

1. Revise the northbound Maritime Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through lane
    c. 1 through lane
    d. 1 right-turn lane with overlap signal phasing (green arrow)

2. Revise the eastbound 7th Street lanes to provide:

    a. 1 left-turn lane
    b. 2 through lanes
    c. 1 right-turn lane with overlap signal phasing (green arrow)

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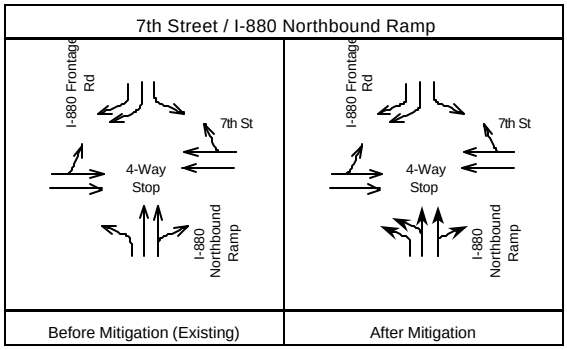
Implementation of the following measure would reduce cumulative impacts at the 7th Street/I-880 northbound ramp intersection to a level that is less than significant.

Mitigation 5.3-2: *7th Street/I-880 Northbound Ramps.* Project area developers shall fund a fair share of modifications at the 7th Street/I-880 Northbound ramp.



Improvements for cumulative effects shall include the following:

1. Revise the northbound I-880 ramp lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through lane
    c. 1 through-right lane

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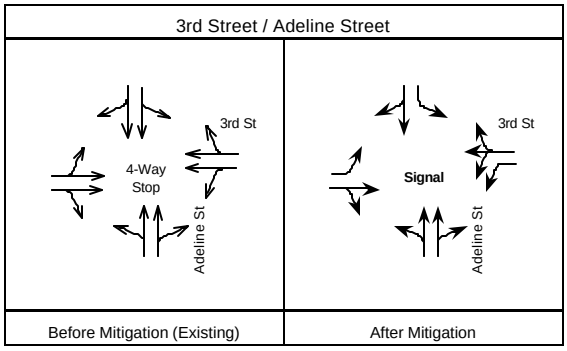
Implementation of the following measure would reduce cumulative impacts at the 3rd/Adeline Street intersection to a level that is less than significant.

Mitigation 5.3-3: *3rd/Adeline Street.* Project area developers shall fund a fair share of the modifications at the 3rd/Adeline Street intersection.



Improvements for cumulative effects shall include the following:

1. Convert the traffic signal that is currently functioning as a flashing beacon to a fully operational traffic signal.
2. Provide permitted phasing for the northbound Adeline Street left-turning movement.
3. Revise the southbound Adeline Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination through right-lane lane

4. Revise the eastbound 3rd Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination through-right lane

5. Revise the westbound 3rd Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through-right lane

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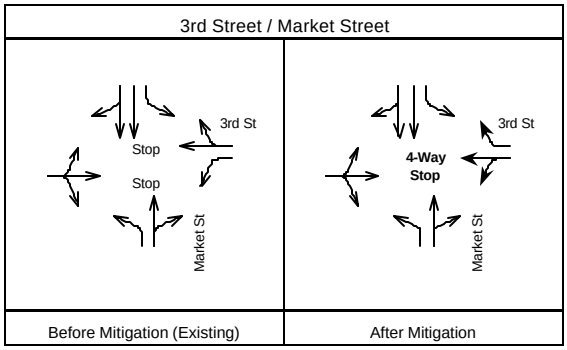
Implementation of the following measure would reduce cumulative impacts at the 3rd/Market Street ramp intersection to a level that is less than significant.

Mitigation 5.3-4: *3rd/Market Street.* Project area developers shall fund a fair share of modifications at the 3rd/Market Street intersection.



Improvements for cumulative effects shall include the following:

1. Install 4-way stop sign control.
2. Revise the westbound 3rd Street lanes to provide:
   a. 1 combination left-through lane
   b. 1 right-turn lane

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Mitigation 5.3-5: *12th /Brush Street.* Project area developers shall fund a fair share of modifications to the 12th/Brush Street intersection to increase the signal cycle length to **102** seconds. Implementation of this mitigation measure would reduce cumulative impacts at the 12th /Brush Street intersection to a level that is less than significant.

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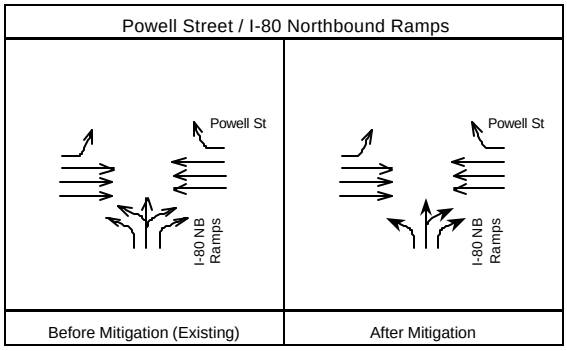
Implementation of the following measure would reduce cumulative impacts at the Powell Street/I-80 northbound ramps intersection to a level that is less than significant.

Mitigation 5.3-6: *Powell Street/I-80 Northbound Ramps.* Project area developers shall fund a fair share of modifications at the Powell Street/I-80 northbound ramps intersection.



Improvements for cumulative effects shall include the following:

1. Revise the northbound I-80 ramp lanes to provide:
   a. 1 left-turn lane
   b. 1 combination through-right lane
   c. 1 right-turn lane

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The effects of the mitigation measures described above are shown in Table 5.2-2.

Table 5.2-2
Intersections Operations After Mitigation (Cumulative Conditions)

	Cumulative				Redevelopment with Mitigation			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
Intersection	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
West Grand Avenue/Maritime Street	F	254.6	F	253.2	D	41.6	F	85.7
West Grand Avenue/I-880 Frontage Road	F	87.4	F	160.1	D	47.1	D	52.4
7th Street/Maritime Street	F	188.5	F	112.3	D	48.7	D	39.8
7th Street/I-880 Northbound Ramp	F	82.5	D	40.0	D	39.8	D	36.5
3rd Street/Adeline Street (unsignalized) [c]	E	42.2	C	22.1	D	37.1	D	26.2
3rd Street/Market Street(unsignalized) [c]	E	46.1	F	207.3	B	8.4	D	34.8
12th Street/Brush Street [b]	F	87.6	C	25.4	E	79.6	C	25.8
Powell Street/I-80 NB Ramps	C	28.5	E	75.3	C	24.3	D	50.4

Source: Dowling Associates 2002
Notes:
Significant impacts of redevelopment are shown in ***Bold Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.
[c] Significant impacts at unsignalized intersections are based on signal warrants – not delay.

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Impact 5.3-2: Increased congestion on the Metropolitan Transportation System (MTS) exceeding the cumulatively significant threshold.

Redevelopment, in combination with past, other current, and probable future projects, would cause some roadway segments on the MTS to operate at LOS F and increase the V/C ratio by more than three percent on segments that would operate at LOS F without redevelopment.

Significant cumulative impacts would occur on the following freeway segments:

- I-80 from the Bay Bridge to east of the I-80/I-580 split
- I-880 connector to I-80 east
- I-880 from I-980 to the segment south of I-238
- I-580 from west of I-980/SR-24 to I-238
- SR-24 east of I-580

The cumulative impact of redevelopment is considered significant.

Mitigation: Implementation of Mitigation Measure 4.3-4 would reduce traffic demand on the MTS, but the residual cumulative impact would remain significant, and is considered unavoidable. No feasible mitigation measures have been identified that would reduce cumulative freeway impacts to a level that is less than significant. Increasing freeway capacity

by adding lanes would not be feasible because of high cost, negative impacts to air quality, and other factors. Moreover, adding lanes is inconsistent with the policies of the responsible regional agencies.

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Impact 5.3-3: Increased traffic hazards.

Redevelopment, in combination with past, other current, and probable future projects, could result in increased traffic hazards to motor vehicles, bicycles, or pedestrians due to inadequate design features, incompatible transportation modes, or increases in transport trucks on neighborhood streets. Construction of other traffic-generating projects such as the new Bay Bridge, build-out of Emeryville and former NAS Alameda, and development of planned portions of the Bay Trail would increase traffic from motor vehicles, bicycles, and pedestrians. The mixing of increased volumes of vehicular and non-motorized modes could result in increased traffic hazards, such as increased potential for conflicts between pedestrians/bikes due to traffic volumes.

Mitigation: Mitigation Measures 4.3-5, -6, and -7 would mitigate the redevelopment-specific and cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

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Impact 5.3-4: Inadequate emergency access.

Construction of the access roadway from Maritime Street through the center of the Gateway development area to the Gateway peninsula could result in less than two emergency access routes for this street which would exceed 1000 feet in length. The cumulative impact of redevelopment in combination with the Bay Bridge Replacement Project could make it infeasible to provide a second road access to the western portion of the Gateway development area, and could result in cumulative impacts to emergency access.

Mitigation: Mitigation Measure 4.3-8 would mitigate the redevelopment-specific and cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

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Impact 5.3-5: Inadequate truck-related parking.

Redevelopment, in combination with past, other current, and probable future projects, including the Vision 2000 Program could result in inadequate parking supply for trucks serving the Port of Oakland. The number of parking spaces required for the Gateway development area and 16th/Wood sub-district will be determined by City Code and a future demand analysis based on specific development projects. The effect of redevelopment, in combination with already approved Port maritime development and the probable development of ancillary maritime

support facilities to serve the expanded Port, could have an increased cumulative effect on the potential for truck operators to park outside the redevelopment project area. The contribution of redevelopment to a possible deficit in truck parking within the project area would be potentially significant, particularly during construction of new Port facilities, which could make unavailable land currently used for parking. The need for additional land outside the Port area is expected to occur in approximately 2010.

Approximately 105 acres have been reserved exclusively for ancillary maritime support (AMS) uses as part of the redevelopment program. Such support is essential to efficient port operation, however, most ports do not provide for truck parking within their port area, as the redevelopment program proposes. Consequently, the Port's allocation of 90 acres and the City's allocation of an additional 15 acres has been considered by BCDC staff as a "laudatory achievement," and that this amount of land, adjacent to the marine terminals and UP Intermodal railyard, is a reasonable amount of land to accommodate AMS. Nevertheless, BCDC staff, the City, Port, and trucking industry agree the City and Port should continue to work with the trucking industry and the West Oakland community to find appropriate amounts and locations of land near but outside the Port to serve trucking needs and minimize the impact of Port-related trucking on the West Oakland community.

The Port commissioned a study (Tioga Group 2001) to explore ways to accommodate truck services that must be located near the Port, while assuring that the adjacent communities are relieved of unnecessary truck traffic. The study used forecasts of cargo segment growth, typical facility designs, industry standards, and working assumptions to estimate the usable acres required for efficient, single-purpose, core services facilities. The resulting estimates as summarized below are approximate minimums that could be achieved under reasonably efficient conditions.

Estimated Core Services Land Requirements

Year	Drayage Tractor Parking	Container /Chassis Parking	Short-term Parking	Truck Services	Heavy Cargo Facilities	Working Reefer Depots	Total Core Service Acres
2000	5	7	1	4	36	18	71
2005	7	8	2	4	44	24	88
2010	9	10	2	7	56	30	114
2015	12	12	5	7	70	38	143
2020	16	14	8	8	85	47	178

Source: Tioga Group 2001.

These estimates are greater than the 105 acres dedicated under the redevelopment program, growing proportionately with cargo volume and reaching a minimum of approximately 178 acres in 2020.

The expected availability of redevelopment project area acreage from different sources over the next two decades is as follows:

Harbor-Area Acreage for Port Services by Source					
Source	**2000**	**2005**	**2010**	**2015**	**2020**
Port Controlled Interim	125	75	50	25	
Maritime Support Center (MSC)		75	75	75	75
Port Additional Lands		15	15	15	15
City Additional Lands		15	15	15	15
Total Acres Available, Redevelopment Project Area	125	180	155	130	105
Source: Tioga Group 2001.					

The supply of harbor area land available for Port services peaks in approximately 2005, and declines thereafter. The ability of the Port to accommodate core services on this harbor area land will depend on parcel configuration and the amount of land taken up by streets, rail trackage, utilities, etc.

Generally, it is anticipated there is enough space within the redevelopment project area to house efficiently configured port services through approximately 2010.

Year	Total Core Service Acres[a]	Harbor-Area Acres[a]	Est. Usable Harbor Area Acres[a] (90%)	Gap[a]
2000	71	125	113	--
2005	88	180	162	--
2010	114	155	140	--
2015	143	130	117	26
2020	178	105	95	84

Source: Tioga Group 2001.
Note: [a] All amounts rounded to nearest acre.

The 105 permanent acres currently planned for such uses will accommodate much — but not all — demand under efficient operating conditions. Additional interim space available during terminal development will help accommodate most Port services to approximately 2010. Starting in about 2010, there will be a shortfall or "gap." Not all Port services will fit on redevelopment project area land, and some will have to be housed at suitable sites elsewhere.

Mitigation 5.3-7: The City and Port shall cooperatively develop a program that combines multiple strategic objectives and implementation tools designed to reduce cumulative truck parking and other AMS impacts.

This program should consider strategies that may include, but should not be limited to the following:

- Pursue truck traffic mitigation steps, information strategies, and rail intermodal strategies.

- Identify potential land swaps and utilize additional small parcels of land in the vicinity of the port, especially for truck parking and support services.

- Prioritize the use of harbor-area land for core services, maximize the efficient use of harbor-area land and facilities, and reduce the impacts in adjacent neighborhoods.

- Promote intensive land use (doing more with less) and extended terminal gate hours.

- Actively encourage relocation of selected services to other Oakland, East Bay, or Northern California (Hinterland Loop) locations.

- Develop multi-user facilities in Oakland or in corridor locations (e.g., Richmond and San Leandro) for both core and non-core services.

Implementation of such a program may take many years, and the success of the program cannot be ascertained at this time. Therefore, this cumulative impact remains significant and unavoidable.

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Impact 5.3-6: Increased ridership on AC Transit during peak weekday hours.

Redevelopment, in combination with past, other current, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, would increase average ridership on AC Transit lines by more than three percent on transit lines serving the redevelopment project area, but the average load factor with the redevelopment program in place would not exceed 125 percent over a peak thirty minute period, and cumulative impacts would be less than significant. Development along the AC Transit lines is not expected to create a substantial increase in the demand for bus transit service. There is adequate capacity on the AC Transit lines serving the redevelopment project area to accommodate the expected increase in demand from redevelopment in combination with other potential developments; are the cumulative impact on AC Transit service would be less than significant.

Mitigation: Mitigation is not warranted.

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Impact 5.3-7: Increased ridership on BART trains.

Redevelopment, in combination with past, other current, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, could increase peak hour average ridership three percent where the passenger volume would exceed the standing capacity of BART trains. Transit oriented development has been proposed near the West Oakland BART station, and the combination of that development in combination with redevelopment of the project area could result in cumulative impacts on BART train service;

therefore, the cumulative impact to BART is considered potentially significant. Implementation of the following measure would reduce cumulative BART ridership impacts to a level that is less than significant.

Mitigation 5.3-8: The City and Port shall work with BART to ensure adequate BART train capacity will be available for riders to and from the redevelopment project area, and possibly fund, on a fair share basis, BART train capacity improvements.

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Impact 5.3-8: Increased waiting time during peak weekday hours at BART fare gates.

Redevelopment, in combination with past projects, other current projects, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, would increase the peak hour average ridership at the West Oakland BART station by three (3) percent where average waiting time at fare gates could exceed one minute. Redevelopment, in combination with the transit oriented development that has been proposed near the West Oakland BART station, would likely result in cumulative impacts on BART service at fare gates; therefore, the cumulative impact is considered potentially significant.

Mitigation: Mitigation Measure 4.3-12 would mitigate the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

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Impact 5.3-9: Increased delays to commercial vessels.

Increased vessel calls due to the redevelopment, in combination with past, other current, and probable future projects, including the Vision 2000 Program, could increase minor delays to commercial vessels plying their trade. Redevelopment, in combination with other probable future Port projects, is projected to increase vessel calls at the Port over 2000 vessel calls by 643 (from about 1,810 to 2,455) in the year 2020. Some of these port calls would occur at New Berth 21, with the remainder distributed in the Inner and Outer Harbors. Vessels using the Inner Harbor turn around in the Inner Harbor turning basin immediately east of the Alameda ferry terminal and about 0.25 mile west of the Oakland ferry terminal. The tug wake from turning the vessels in the basin make ferry movements in the area difficult. Ferry operators are aware of this and they wait until the vessel finished turning before attempting to pass, as is the current protocol. This causes ferry delays of 5 to 10 minutes approximately twice per month. The cumulative impact would be less than significant.

Mitigation: Mitigation is not warranted.

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5.2.4 Air Quality

The cumulative air quality analysis for this proposed redevelopment program follows the CEQA guidelines developed by the Bay Area Air Quality Management District (BAAQMD) (BAAQMD 1996, revised 1999). Those guidelines provide that a proposed action resulting in significant impacts to air quality is also considered to have a significant cumulative impact to air quality (BAAQMD 1996, revised 1999). The proposed action may be a specific development activity or a plan, as in the case of the proposed redevelopment program.

Impacts and Mitigation

Impact 5.4-1: Redevelopment would result in significant cumulative air quality impacts associated with emissions of nitrogen oxides (NO_x), reactive organics gases (ROG), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), and diesel exhaust (almost entirely particulate matter less than 2.5 microns in diameter [$PM_{2.5}$]), the latter defined as a toxic air contaminant by the California Air Resources Board (CARB).

As discussed in Section 4.4: Air Quality, redevelopment would result in significant and unavoidable air quality impacts. These impacts would be associated with NO_x, ROG, CO, PM_{10}, and diesel exhaust from ships, tugboats, cargo-handling equipment, rail yard equipment, trains, transport trucks, delivery trucks, and passenger cars. Approximately 91 percent of the NO_x and 85 percent of the diesel emissions associated with redevelopment could be attributed to Port of Oakland activities (Table 4.4-5). Of these Port-generated emissions, a majority (67 percent of NO_x and 77 percent of diesel exhaust emissions) would be from cargo ships that would use new Port facilities in the redevelopment project area. A majority of gross redevelopment program CO emissions (76 percent) and roughly half of ROG emissions (53 percent) associated with redevelopment could be attributed to passenger car and delivery truck traffic generated by Port activities, the Gateway development area, and the 16th/Wood sub-district (Table 4.4-5).

As indicated above, the BAAQMD guidelines for CEQA state that a proposed action resulting in significant air quality impacts is also considered to have a significant cumulative air quality impact (BAAQMD 1996, revised 1999).

Section 4.4: Air Quality, recommends mitigation measures to reduce significant impacts associated with the proposed redevelopment program. Those measures focus on reducing emissions from redevelopment program construction and remediation activities, reducing emissions from Port of Oakland operations, reducing or off-setting emissions from diesel-burning trucks, and implementation of BAAQMD and CAP TCMs. While these mitigation measures require implementation of emission reduction technology to the maximum extent feasible, they would not reduce air quality impacts of the redevelopment project on a project-specific or cumulative basis to a less than significant level.

As indicated above, the majority of proposed redevelopment program emissions would be from ships and transport trucks (see also Table 4.4-5), and mitigation efforts focus on those sources. It is difficult for the City or the Port of Oakland, however, to control emissions from ship engines because neither the Port, the City nor any other California agency (including CARB and

BAAQMD) have jurisdiction over ship emissions, and the EPA does not have jurisdiction over ships plying international waters. Additionally, while transport truck emissions could be reduced by engine retrofits to cleaner-burning diesel fuel, with add-on exhaust controls such as catalytic oxidizers and soot filters, and other measures recommended for the redevelopment program, there are other strategies that could be implemented to reduce cumulative diesel emissions, but that are outside of the control or jurisdiction of the City or the Port.

A study of feasible mitigation measures for diesel emissions related to Port operations was conducted by the Port of Oakland for the Berths 55-58 EIR (Port of Oakland 1998). That analysis evaluated the technological and economic feasibility of numerous emissions control measures. The feasibility of these measures was evaluated with respect to each type of source that would by mitigated (e.g., ships, tugboats, locomotives, cargo-handling equipment, and transport trucks). Some of the measures were considered technically infeasible. One of the reasons for determining technical infeasibility is if the measure cannot be implemented because it is not within the authority of the lead agency. However, the City and the Port are able to encourage, lobby, and participate in demonstration projects that may advance implementation of emission control technologies that are within the jurisdiction of other agencies. Therefore, the following mitigation measure is recommended to advance emission reductions technologies that might be applied within the redevelopment project area.

Mitigation Measure 5.4-1: The City and the Port shall encourage, lobby, and potentially participate in emission reduction demonstration projects that promote technological advances in improving air quality.

Such encouragement, lobbying, and participation may include the following:

- Retrofitting locomotive engines to meet current federal standards.
- Using reduced sulfur fuels in ships while the ships are in the San Francisco Bay.
- Treating NO_x with selective catalytic reductions.
- Implementing random roadside emissions tests and develop a system of fines for trucks not in compliance with emission regulations.
- Establishing emissions-based berthing fees.
- Buying relatively old, highly polluting cars to take them off the road.

Although these programs may assist in advancing emission reduction technologies or implementing emission reduction methods, the incremental contribution of the redevelopment program would remain cumulative considerable, and the cumulative impact on air quality remains significant and unavoidable.

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5.2.5 Noise

Impacts and Mitigation

Impact 5.5.-1: Construction, including remediation and deconstruction, could result in short-term noise levels in excess of established standards, or that violate the City of Oakland Noise Ordinance at and near the project area, and along construction haul routes.

The –50-Foot Navigation Improvement, the Bay Bridge Replacement, and the EBMUD Main WWTP Expansion projects could be under construction in the vicinity of and concurrently with redevelopment activities. Construction activities occurring within the city limits would be subject to noise limitations under the Oakland Noise Ordinance similar to those of proposed redevelopment. Those outside the City limit are well removed from West Oakland noise-sensitive receptors. Consequently, after accounting for attenuation of noise with distance, and mitigation requirement for the redevelopment program, it is expected that cumulative noise increases from these activities at a given West Oakland receptor would be less than double the sound energy, and would not constitute a significant (greater than 5 dBA) cumulative increase to noise levels.

Mitigation: Mitigation recommended in Section 4.5 for redevelopment program impacts is adequate. Additional mitigation for cumulative impacts is not warranted.

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Impact 5.5-2: Operation of redevelopment facilities would result in long-term increases in ambient noise levels.

Because the primary operational noise sources for the redevelopment project would be vehicle traffic and rail operations, the focus of the cumulative noise analysis is vehicle traffic and rail in the year 2020. It is not expected that operational noise impacts, other than that generated by traffic and rail, from the projects listed in Table 5-1 in concert with the redevelopment project will yield cumulative noise impacts. Table 5.2-3 presents data regarding 2020 cumulative freeway segment noise (based on Dowling Associates, Inc. 2002), and Table 5.2-4 presents similar data for study area intersections (non-freeway roads). In combination with past, other current, and probable future projects, redevelopment would not cause an increase in noise of 5 dBA or more, for morning or afternoon rush periods, at any of the freeway segments.

Table 5.2-3
Cumulative Changes in Traffic Noise Along Freeway Segments

		AM Peak			PM Peak		
Freeway Segment	Travel Direction	Baseline Traffic	Program Traffic	Increase in dB	Baseline Traffic	Program Traffic	Increase in dB
I-80 at the Bay Bridge	East	7,859	436	0.2	12,316	103	0.0
	West	12,022	105	0.0	11,168	421	0.2
I-80 between I-880 and I-580	East	5,736	144	0.1	8,618	785	0.4
	West	9,247	823	0.4	7,942	174	0.1

Table 5.2-3
Cumulative Changes in Traffic Noise Along Freeway Segments

Freeway Segment	Travel Direction	AM Peak Baseline Traffic	AM Peak Program Traffic	AM Peak Increase in dB	PM Peak Baseline Traffic	PM Peak Program Traffic	PM Peak Increase in dB
I-80 East of I-80/I-580 Split	East	8,791	213	0.1	10,170	830	0.3
	West	9,332	855	0.4	9,045	204	0.1
I-880 Connector to I-80 East	North	3,009	213	0.3	2,606	831	1.2
	South	1,968	855	1.6	2,042	204	0.4
I-880 Connector to I-80 West	North	1,897	5	0.0	701	1,206	4.3
	South	1,297	9	0.0	1,629	277	0.7
I-880 North of 7th St.	North	2,988	16	0.0	4,005	18	0.0
	South	2,647	25	0.0	4,200	7	0.0
I-880 South of 7th St.	North	4,249	898	0.8	4,131	231	0.2
	South	2,925	277	0.4	4,221	860	0.8
I-880 North of-980	North	5,210	882	0.7	4,192	213	0.2
	South	2,932	224	0.3	4,625	694	0.6
I-880 South of I-980	North	8,459	830	0.4	8,085	209	0.1
	South	5,968	293	0.2	7,068	784	0.5
I-880 North of I-238	North	8,555	620	0.3	8,032	157	0.1
	South	8,335	232	0.1	9,508	582	0.3
I-880 South of I-238	North	7,555	580	0.3	9,254	145	0.1
	South	10,313	178	0.1	8,558	556	0.3
I-238	East	3,282	54	0.1	5,330	26	0.0
	West	5,878	40	0.0	3,798	12	0.0
I-580 East of I-238	East	6,424	54	0.0	9,135	26	0.0
	West	9,364	40	0.0	6,670	12	0.0
I-580 West of I-238	East	6,966	44	0.0	7,595	249	0.1
	West	6,171	256	0.2	6,621	56	0.0
I-580 East of I-980/SR-24	East	4,283	124	0.1	8,500	671	0.3
	West	7,742	693	0.4	5,634	153	0.1
I-580 West of I-980/SR-24	East	6,752	144	0.1	8,964	785	0.4
	West	8,485	822	0.4	7,916	174	0.1
I-980	East	3,050	15	0.0	6,389	26	0.0
	West	6,310	30	0.0	3,088	11	0.0
SR-24 East of I-580	East	3,976	118	0.1	7,288	515	0.3
	West	7,315	528	0.3	4,340	127	0.1

Source: Traffic information from "Freeway LOS.xls", Dowling Associates, Inc. 2002.

For non-freeway roads, Table 5.2-4 shows the 2020 link volumes also provided by the traffic study (Dowling Associates, Inc. 2002). None of the intersections would generate a noise increase greater than 5 dB.

Table 5.2-4
Cumulative changes in Traffic Noise Along Non-Freeway Roads

	2020 Link Volumes					
	AM Peak			PM Peak		
Intersection	Baseline Traffic	Program Traffic	Increase in dB	Baseline Traffic	Program Traffic	Increase in dB
West Grand/Maritime	1,106	281	1.0	1,479	27	0.1
West Grand/Frontage Road	2,098	27	0.1	2,197	268	0.5
West Grand/Mandela	1,827	137	0.3	1,994	139	0.3
West Grand/Adeline	1,726	129	0.3	2,375	132	0.2
West Grand/Market	1,952	1,016	1.8	1,853	1,035	1.9
West Grand/San Pablo Avenue	2,694	794	1.1	3,103	801	1.0
West Grand/MLK Jr	1,943	797	1.5	2,069	804	1.4
West Grand/Northgate	2,335	798	1.3	2,614	803	1.2
West Grand/Harrision	5,063	258	0.2	5,640	254	0.2
7th/Maritime	3,588	846	0.9	2,263	672	1.1
7th/I-880 SB Ramp	2,002	770	1.4	1,363	1,029	2.4
7th/I-880 North Ramp	1,900	1,236	2.2	1,660	916	1.9
7th/Peralta	919	122	0.5	862	122	0.6
7th/Mandela	1,524	129	0.4	1,535	127	0.3
7th/Union	1,888	128	0.3	1,777	128	0.3
7th/Adeline	2,192	334	0.6	2,048	338	0.7
7th/Market	2,412	330	0.6	2,638	304	0.5
7th/Harrison	3,755	173	0.2	5,162	42	0.0
7th/Jackson	2,177	170	0.3	3,106	41	0.1
6th/Jackson	2,140	170	0.3	2,538	41	0.1
5th/Union/I-880 Ramps	2,287	69	0.1	1,782	179	0.4
5th/Adeline	2,703	237	0.4	2,064	321	0.6
I-880 Off Ramp/Market	1,929	146	0.3	1,773	55	0.1
5th/Broadway	2,612	44	0.1	3,139	178	0.2
3Road/Adeline	1,652	232	0.6	1,383	141	0.4
3Road/Market	1,306	104	0.3	1,467	49	0.1
14th/Mandela	624	329	1.8	546	357	2.2
12th/Brush	3,437	30	0.0	2,026	11	0.0
12th/Castro	1,497	20	0.1	3,462	31	0.0
27th/SR 24-580 Off Ramp	2,563	394	0.6	1,803	278	0.6
27th/SR 24-580 On Ramp	2,005	78	0.2	3,048	356	0.5
San Pablo Avenue/Adeline	3,192	137	0.2	3,738	135	0.2
W MacArthur/Market	2,001	137	0.3	2,872	134	0.2
Powell/I-80 Frontage Road	3,352	52	0.1	4,355	53	0.1
Powell/I-80 NB Ramps	3,772	61	0.1	5,209	94	0.1
Powell/Christie	3,485	52	0.1	4,969	52	0.0
Powell/Hollis	2,534	52	0.1	3,815	52	0.1
Powell/San Pablo Avenue	4,189	52	0.1	4,473	52	0.1
StanfoRoad/Market	2,836	52	0.1	3,387	54	0.1
StanfoRoad/MLK Jr Way	4,418	13	0.0	5,667	14	0.0
Ashby/7th	3,045	103	0.1	3,336	106	0.1
Ashby/San Pablo Avenue	4,328	104	0.1	4,743	104	0.1
Marina Village/Constitution	3,715	103	0.1	4,233	106	0.1
Atlantic/Webster	4,776	103	0.1	4,476	105	0.1
Atlantic/Constitution	3,882	103	0.1	4,028	106	0.1
Loop Road/Redevelopment Spine	n/a	601	n/a	n/a	541	n/a

Source: Traffic information from Dowling Associates, Inc. 2002.

In combination with past, other current an probable future projects and programs, including the Bay Bridge Replacement project, the Oakland Airport Development Program, expansion of San Francisco Airport, and the Vision 2000 Program, as well as build-out of area general plans, redevelopment as proposed is not expected to result in cumulative noise impacts from traffic.

There are two factors considered for cumulative rail impacts – increase in number of trains and the relocation of train activity relative to previous evaluations of noise from rail operations as described in the JIT EIR (Port of Oakland 1998). The approximately 10 percent increase in the number of daily trains to 25.4 would cause train noise levels of 57 dBA CNEL (estimated in the JIT EIR) to increase by less than 1 dBA. Although the New Intermodal Facility would move existing JIT functions (railyard operations) about 60 percent closer to noise-sensitive land use, or approximately 1,100 feet away, it is expected that the noise environment will continue to be dominated by I-880, BART, and aircraft sources, and the contribution of redevelopment to noise levels would not be cumulatively considerable.

Mitigation: Mitigation is not warranted.

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5.2.6 Cultural Resources

There is no evidence that significant cumulative impacts currently exist relative to loss of archaeological or paleontological resources, or human remains to which the proposed redevelopment program could contribute. CEQA and federal cultural resources laws (as described in Section 4.6: Cultural Resources) require effective mitigation of such impacts as they occur on a case-by-case basis through avoidance or data recovery. Therefore, except in rare cases where data recovery may destroy the integrity of a resource, action-specific effects are avoided through site-specific mitigation, and cumulative effects to archaeological and paleontological resources are not significant.

Because archaeological or paleontological resources or human remains are not known to occur in the redevelopment project area, in combination with past projects, other current projects, and probable future projects, redevelopment as proposed would not result in or contribute to impacts on such resources.

Impacts and Mitigation

Impact 5.6-1: Loss of historic resources.

Bay Area redevelopment has resulted in the significant cumulative and permanent loss of historic resources, including buildings, structures, and historic districts. In particular, redevelopment of Bay Area military bases for community use, including FISCO reuse for the Vision 2000 Program, has resulted in, and is expected to continue to result in loss of a portion or all World War II-era resources at specific bases (depending on final reuse plans). These resources document an important time in American history, but due to their design, condition, or

location, are not suited for modern community reuse, and must be demolished to accommodate such reuse. While a great amount of data has been recovered from these structures in order to minimize the effect of their demolition, no region-wide mitigation program exists for the loss of Bay Area military cultural resources, and their permanent and cumulative loss is considered an unavoidable adverse impact. The contribution of proposed redevelopment to cumulative impacts on historic resources would be cumulatively considerable, and the incremental effect of the redevelopment program is considered significant. With application of all feasible mitigation, the impact is reduced, but not to a level that is less than significant, and the residual impact is considered unavoidable and adverse.

Mitigation: Mitigation is recommended in Section 4.6, for redevelopment program impacts. Additional feasible redevelopment-specific and cumulative mitigation is not available.

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5.2.7 Hazardous Materials

There is no evidence that significant cumulative impacts currently exist relative to exposure to hazardous materials to which the redevelopment program could contribute. As elsewhere, hazardous materials in and around the City of Oakland and adjacent jurisdictions for both operations and construction and remediation are required to be handled in accordance with applicable regulations intended to protect public health and safety, as described in Section 4.7: Hazardous Materials. While occasional upset events may occur resulting in release of hazardous materials or wastes, they do not occur at a frequency greater than in other urban areas and must be remedied pursuant to applicable laws. In combination with past projects, other current projects, and probable future projects, redevelopment as proposed could cumulatively increase the quantity of hazardous materials handled in Oakland and adjacent jurisdictions. Because these materials must be handled in accordance with laws intended to protect public health and safety, the potential increase in their transport, use, and disposal does not represent a significant cumulative impact.

Benefits

The project area includes areas of contamination, as described in Section 4.7, as do all other Bay Area military facilities slated for realignment and closure (California Economic Diversification and Revitalization (CEDAR) Program 2000). Implementation of redevelopment, in concert with remediation of contaminants as required by regulatory agencies, would remediate site contamination, a cumulative environmental benefit to Oakland. Throughout the Bay Area, redevelopment of military bases for community use would result in widespread remediation of contamination and hazardous wastes, a substantial cumulative environmental benefit.

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Impact 5.7-1: Increased exposure to hazardous wastes during construction.

Should multiple redevelopment demolition/deconstruction and remediation efforts in structures containing hazardous materials or wastes, or multiple ground-disturbing construction efforts concurrently occur in areas where soils are contaminated with hazardous wastes in and around the redevelopment project area, workers or others could be exposed to an increased cumulative risk of contact or ingestion/inhalation of hazardous wastes. With adherence to existing applicable laws limiting human exposure to hazardous substances as described in Section 4.7, the cumulative impact is considered less than significant.

Mitigation: Mitigation is recommended in Section 4.7 and adherence to existing regulations is required for redevelopment program impacts that would reduce the impact as well as the incremental contribution of redevelopment to a level that is less than significant.

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5.2.8 Population, Employment, and Housing

There is no evidence that significant cumulative impacts currently exist relative to displacement of housing units, or that such impacts are likely to result from implementation of the redevelopment program as proposed. Large-scale clearance of housing units has not occurred in the Bay Area, and in combination with past projects, other current projects, and probable future projects such as the Catellus mixed-use project, reuse of NAS Alameda, and build-out of the Oakland General Plan, redevelopment as proposed is expected to increase—not displace—housing units, and would not result in cumulative impacts to the amount of housing stock.

Benefits

At least 20 percent, and up to 25 percent of the tax increment generated by redevelopment would be set aside to increase, improve, and preserve the supply of low-income housing in the City of Oakland, a substantial benefit to increasing affordable housing stock.

The inclusion of approximately 375 live/work units would augment the available supply of housing in Oakland, a cumulative benefit.

As described in Section 4.8: Population, Employment, and Housing, redevelopment is expected to generate approximately 46,100 new direct and indirect/induced jobs in the Bay Area region. This is a substantial cumulative benefit.

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Impacts and Mitigation

Impact 5.8-1: Substantial population growth.

As in-migration to the Bay Area responded to job generation, the economic expansion of the late 1990s resulted in cumulative population growth that exceeded planning projections regarding both population and housing growth. Population grew at a faster rate than household rate, and demand for Bay Area housing exceeded supply: from 1990 to 2000, the Bay Area region increased population by 12.9 percent, and households (occupied units) by 9.8 percent. For the same period, Oakland increased population by 7.3 percent and households by 4.3 percent. Therefore, while Oakland grew during the 1990s, it did not keep pace with the regional rate of either population or household growth. While the region experienced cumulatively substantial growth in both population and housing, Oakland did not make a cumulatively considerable contribution to that growth (ABAG 2001).

Through 2020, the region is expected to experience more moderate rates of population and household growth than in the recent past, and Oakland is projected to continue to trail the region in its rate of growth of both population and households. From 2000 through the build-out horizon of 2020, the region is not expected to experience unusually high growth; Oakland—including redevelopment as proposed in this EIR—is projected to continue to lag behind the region (ABAG 2001). The contribution of redevelopment to population or housing growth would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

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Impact 5.8-2: Displacement of low-income households.

The Bay Area region has experienced substantial unanticipated population growth in the past decade, leading to a cumulative imbalance of effective housing demand versus supply ("effective demand" is demand that is legally and financially capable of consuming available supply). While most households benefit during times of economic expansion, gentrification—the displacement of existing households of relatively lesser economic means by those of relatively greater economic means—can occur. While not direct physical displacement, gentrification nevertheless results in gradual economic displacement of households of lesser economic means. The expansion of the Bay Area economy during the late 1990s resulted in gentrification in the Bay Area region. As described above, pursuant to the Community Redevelopment Law, monies generated by proposed redevelopment would be set aside to increase, improve, and preserve the supply of low-income housing in Oakland, which would counter-balance the effects of gentrification. In addition, redevelopment as proposed includes substantial housing near the source of new jobs; assuming that new OARB area workers take advantage of newly available nearby housing stock, the contribution of redevelopment to gentrification would not be

cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

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5.2.9 Public Services and Utilities

Impacts and Mitigation: Public Services

Impact 5.9-1: Increased demand for fire-related services.

There is no evidence that cumulative impacts currently exist relative to fire-related services (fire suppression, first responder medical emergency, and hazardous materials response) to which the redevelopment program could contribute. As described in Section 4.9: Public Services and Utilities, more than one fire station serves the redevelopment project area and surrounding area with fire, hazmat, and first responder medical emergency services. Redevelopment in combination with other past, present, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for fire-related services to the extent that response time goals of the Oakland Fire Department could not be met at the redevelopment project area, or other areas served by local stations, a significant cumulative impact. With implementation of mitigation measures as described in Section 4.9 the cumulative impact would be reduced to a level that is less than significant.

Mitigation: Mitigation is recommended in Section 4.9 for redevelopment program impacts that would completely address program-generated increased demand for fire-related services. Additional mitigation is not warranted.

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Impact 5.9-2: Increased demand for police protection services.

There is no evidence that cumulative impacts currently exist relative to police protection services to which the redevelopment program could contribute. While the Port of Oakland generates special traffic and parking enforcement needs related to trucking that could otherwise drain needed area-wide police resources, the Port funds the cost of additional required resources. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for police protection services to the extent that response time goals of the Oakland Police Department could not be met, a significant cumulative impact.

Mitigation: As described in Section 4.9, existing funding mechanisms applied to individual redevelopment activities would allow the City to rectify both redevelopment specific and the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

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Impact 5.9-3: Increased demand for library services.

There is no evidence that cumulative impacts currently exist relative to library services. The Oakland Library system has major facilities in West Oakland outside the redevelopment project area that operate efficiently and serve the community well. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for library service to the extent that new facilities would be required.

Mitigation: As described in Section 4.9, existing funding mechanisms applied to individual redevelopment activities would allow the City to rectify both redevelopment specific and the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

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Impact 5.9-4: Increased demand for hospital services.

There is no evidence that cumulative impacts currently exist relative to hospital services to which the redevelopment program could contribute. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for hospital services to the extent that new facilities would be required. Redevelopment would replace older, less safe facilities with more modern, safer facilities, and it is expected redevelopment would have little, if any, effect on demand for hospital services; the contribution of the project area redevelopment to demand for hospital services would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

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Impact 5.9-5: Increased demand for water.

EBMUD has stated it has sufficient water supplies to serve demand as presented in non-drought years, but cannot serve all demand presented in times of drought, and the water supply is considered cumulatively impacted. Redevelopment as proposed would contribute to this shortage, and the impact is considered significant.

As described in Section 4.9, redevelopment would be required to implement measures that would reduce redevelopment-specific water demand to the extent practicable. In addition, the City of Oakland recently implemented a reclaimed water landscaping ordinance pursuant to the Recycling in Landscaping Act (Government Code §§ 65601-65607) to require both public and private new facilities of a certain size located within water reuse areas to include provision for

the use of reclaimed water for irrigation in accordance with CCR Title 22. This requirement would further reduce the need for potential water within Oakland outside the redevelopment project area. With implementation of redevelopment-specific mitigation measures, and with implementation of Oakland's recently-adopted recycled water ordinance, the contribution of project area redevelopment to water demand would not be cumulatively considerable, and the residual incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.9 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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Impact 5.9-6: Increased sewer flows and demand for sewage transport and treatment services.

There is no evidence that cumulative impacts currently exist relative to sewage transport and treatment services to which the redevelopment program could contribute. As described in Section 4.9, EBMUD has sufficient sewage transport and treatment capacity to serve reasonably anticipated need. Redevelopment in combination with other past, current, and probable future actions could increase demand for sewage transport and treatment services to the extent that new or expanded facilities would be required. As described in Section 4.9, each new action that could increase sewer flows must demonstrate to EBMUD that capacity exists in the sewage transport system for those flows. The capacity of the sewage transport system and treatment system are related, and by demonstrating on a case-by-case basis that the transport system has adequate capacity to accommodate flows, the applicant is also demonstrating the treatment system has adequate capacity. As discussed in Section 4.9, the existing system has capacity to accommodate all flows from the redevelopment program; the contribution of project area redevelopment to sewer demand would not cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant. At the time EBMUD determines new regional transport and treatment facilities are required, it will assess local jurisdictions their fair share of costs of improvements.

Mitigation: Mitigation is not warranted.

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Impact 5.9-7: Increased demand for solid waste services.

There is no evidence that cumulative impacts currently exist relative to solid waste services to which redevelopment could contribute. As described in Section 4.9, both landfills and the transfer station that serve the area have current sufficient capacity to serve existing need and redevelopment as proposed. Both major landfills accepting waste from the redevelopment project area, however, are expected to reach capacity before the build-out horizon. Redevelopment in combination with other past, current, and probable future actions, including the build-out of the Oakland, Emeryville, and Alameda General Plans, as well as nearly any of

the development projects in the East Bay, could increase demand for solid waste services to the extent that new or expanded facilities would be required. Redevelopment as proposed, particularly construction activities, would make a considerable contribution to this demand, and the impact is considered significant. As described in Section 4.9, redevelopment would be required to implement measures that would reduce action-specific demand for solid waste services to the extent practicable. With implementation of these measures, the contribution of project area redevelopment to solid waste demand would not be cumulatively considerable, and the residual incremental effect of the redevelopment program is considered less than significant. In addition, the City of Oakland does and intends to continue to meet its state-mandated goals for source diversion and recycling, further reducing the City's contribution to the cumulative effect.

Mitigation: Mitigation as recommended in Section 4.9 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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Impact 5.9-8: Increased demand for energy.

Evidence exists that cumulative impacts currently exist relative to energy supplies during peak demand. Evidence also exists that sufficient and likely excess energy supplies will exist within the next three years, and the current cumulative impact will be eliminated. Redevelopment will use more energy efficient building design relative to existing facilities, and will facilitate the use of solar energy systems, and the contribution of redevelopment would not be cumulatively considerable. The incremental effect of redevelopment is considered less than significant.

Mitigation: Mitigation is not warranted.

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5.2.10 Recreation and Public Access

The City of Oakland does not meet its goals of 10.0 acres of total and 4.0 acres of urban parkland per 1,000 residents, as stated on the *Open Space, Conservation, and Recreation* Element of the Oakland General Plan (City of Oakland 1996), and a cumulative deficit exists.

There is no evidence that significant cumulative impacts currently exist relative to construction or expansion of recreational facilities that may have an adverse physical effect on the environment, or that such impacts are likely to result from implementation of the redevelopment program as proposed.

Benefits

In combination with existing recreation facilities, those under construction, and planned facilities, at build-out the project area would include approximately 65 acres of parks and other public

open space. With approximately 975 new project area residents due to redevelopment, this amount of parkland is more than six times the OSCAR goal for total parkland per capita and more than 16 times the OSCAR goal for urban total parkland per capita. This would help the City to meet its goals, mitigating the current parkland deficit; this would be a substantial cumulative environmental benefit.

Development of Bay Trail segments and public open space as part of redevelopment and the Bay Bridge Replacement Project would contribute to development of regional public access to and along the Bay. This would be a substantial cumulative environmental benefit.

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5.2.11 Aesthetics

There is no evidence that significant cumulative impacts currently exist relative to creation of light, glare, or shadows, or that such impacts are likely to result from implementation of the redevelopment program as proposed. The City and surrounding jurisdictions are located in an urban environment with substantial nighttime lighting appropriate to the context. As advances in lighting technology progress over time, effective lighting improves, and light scatter is reduced, improving nighttime light and glare.

Visual blight in the redevelopment project area and surrounding community is well established (HEG 2000; Section 4.11: Aesthetics), and a significant cumulative impact exists relative to the degraded visual environment. The redevelopment program would not contribute to this existing cumulative impact.

Benefits

In combination with other Bay Area base conversions, redevelopment as proposed would result in an overall visual setting more rich and less homogeneously industrial in nature. In addition, by improving public access, base conversions would cumulatively increase visual access to San Francisco Bay. This would be a substantial cumulative environmental benefit.

Cumulatively, the need for nighttime illumination would not be substantially different than at present. Modern security lighting, however, is available in designs that minimize off-site scatter of light, and the cumulative visual effect is expected to be a reduction in light and glare. This would be a cumulative environmental benefit.

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5.2.12 Biological Resources

Special-status species are known to or have the potential to occur in the Bay Area region, including plants, as well as avian, terrestrial, and aquatic wildlife species. Because resource

agencies have classified these species as sensitive, meaning their survival or recovery is uncertain, they are considered cumulatively impacted.

Wetlands are an important water quality and biological resource, and are federal and/or state protected waters. California has lost more than 90 percent of its original wetlands, and the Bay Area has lost approximately 92 percent of its original tidal and seasonal wetlands (Save the Bay 2000). Due to these losses, wetlands are considered cumulatively impacted.

Impacts and Mitigation

Impact 5.12-1: Effects to sensitive species.

As described in Section 4.12: Biological Resources, several special-status species are known to or have the potential to occur near the redevelopment project area, including and not limited to, adjacent waters and the proposed Alameda Point Wildlife Refuge. Redevelopment in combination with construction of other current, and probable future projects, including the Vision 2000 Program, 50-foot Navigation Project, and Bay Bridge Replacement Project, could disturb aquatic habitat or increase turbidity, further affecting special-status species.

As described in Section 4.12, redevelopment as proposed includes mitigation measures that would avoid or minimize effects to sensitive species from both construction and operations; the contribution of redevelopment to impacts on sensitive species would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.12 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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Impact 5.12-2: Loss of protected wetlands and waters of the U.S.

Bay Area development has resulted in and will continue to result in the cumulative and permanent loss of wetlands. In addition, fill for transportation facilities, including the Oakland sea and air ports, Bay Bridge, and San Francisco Airport have and will result in loss of Bay waters. Redevelopment as proposed includes mitigation to compensate for the loss of such isolated wetlands, should fill occur, and the contributing redevelopment would not be cumulatively considerable. In addition, redevelopment as proposed includes mitigation for loss of Bay waters. The contribution of redevelopment to the loss of Bay waters may be cumulatively considerable and the impact is considered significant. Mitigation as recommended in Section 4.12 would compensate for the impact, rendering the contribution of redevelopment less than considerable, and the incremental effect of redevelopment is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.12 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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Impact 5.12-3: Redevelopment could increase potential risk of invasive species being established in San Francisco Bay.

Based upon the San Francisco Bay Area Seaport Plan, it is estimated that cargo throughput at San Francisco Bay Ports will increase by over 200% by 2020. This will increase the number of ship calls. The increase in ship calls, therefore will likely result in an unquantifiable increase in the volume of ballast water discharges. As discussed in Section 4.12, there are many uncertainties regarding the quality of those discharges and the corresponding risks of NIS introductions. However, if it is assumed that no substantial improvements are made in ballast water management/treatment and control of hull fouling, then the risk of new NIS introductions from ship traffic bay-wide will be potentially cumulatively significant by 2020.

Seaport Plan Projections of Throughput Capabilities in 2020[a]

Cargo Type metric tons	2020	2000	% Increase
Container	32,567,000	14,334,000	227
Break Bulk	1,146,000	498,000	230
Neo-Bulk	2,117,000	1,290,000	164
Dry Bulk	6,902,000	3,677,000	188
Liquid Bulk	983,000	654,000	150
Total	43,715,000	20,453,000	214

Source: San Francisco Bay Seaport Plan

Note: [a] Includes only ports within BCDC's jurisdiction—excludes Stockton and Sacramento.

As described in Section 4.12, the Port of Oakland would be required to implement measures that would reduce its redevelopment-specific effect with regard to invasive species to less than significant. With implementation of these measures, the mitigated contribution would remain cumulatively considerable.

Mitigation: Although mitigation is recommended in Section 4.12 for redevelopment program impacts, additional feasible redevelopment-specific and cumulative mitigation is not available.

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5.2.13 Geology, Soils, and Seismicity

The Bay Area is a seismically active region, and persons and property within this region are at risk from earthquake damage; as the number of structures and people increase due to redevelopment as proposed in combination with past, other current, and probable future projects comprising people-attracting land uses, the cumulative risk to persons and property increases.

There is no evidence that significant cumulative impacts currently exist relative to erosion of topsoils, exposure to expansive soils, or exposure to sub-grade risks to which redevelopment as proposed would contribute, or that such impacts are likely to result from implementation of the redevelopment program as proposed. The redevelopment project area is primarily fill, which does not represent topsoil; and expansive soils and sub-grade features, should they exist at the project area, would be effectively managed on a case-by-case basis, as described in Section 4.13: Geology, Soils, and Seismicity.

Impacts and Mitigation

Impact 5.13-1: Exposure of persons or property to seismic risk.

By law, new structures must be designed to applicable California Building Code standards, substantially reducing seismic risk. Redevelopment as proposed includes mitigation measures that would further minimize seismic risk. With implementation of these measures, the contribution of project area redevelopment to seismic risk would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.13 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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5.2.14 Groundwater

There is no evidence that significant cumulative impacts currently exist relative to depleted groundwater supplies. Approximately 40 percent of available yield is extracted annually from the East Bay Plain Groundwater Basin (less than 2 percent of total water used in the Plain), well below safe yields (Regional Water Quality Control Board [RWQCB] 1999). Redevelopment would be served by EBMUD, not wells, and would have no effect on groundwater quantity.

Due to the urbanized, largely paved nature of the Oakland and adjacent jurisdiction flatlands, it is assumed that substantial interference with natural recharge may occur. As a largely paved, urbanized area, reuse of redevelopment project area land would result in similar impervious coverage, and as proposed, redevelopment would have no measurable additional effect on groundwater recharge.

Due to its brackish quality, groundwater beneath the majority of the project area (in the Oakland Shoreline/Alameda Point Brackish Shallow Water Groundwater Zone) has been proposed for de-designation as a source of municipal drinking water (RWQCB 1999), and the quality of groundwater is considered cumulatively impacted.

Impacts and Mitigation

Impact 5.14-1: Concurrent operation of multiple remediation wells or construction dewatering activities could further impair groundwater quality.

A described in Section 4.14: Groundwater, it is possible that operation of a well to pump contaminated water to the surface for treatment could create a gradient that causes migration of saline water or other contaminated water into the area. This could also occur with pumping for the de-watering of construction sites. Concurrent operation of proximate multiple pumping activities for redevelopment construction or remediation would increase the probability of this occurring, as well as increasing the intensity of the gradient. Redevelopment as proposed includes mitigation measures that would minimize the effects of remediation wells on groundwater quality. With implementation of these measures, the contribution of redevelopment to groundwater impacts would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.14 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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5.2.15 Surface Water

There is no evidence that significant cumulative impacts currently exist relative to risk from flooding, tsunami, seiche, or excessive run-off; or that such impacts are likely to result from implementation of the redevelopment program as proposed. While portions of the City of Oakland and adjacent jurisdictions within 100-year flood and tsunami inundation zones, these higher-risk areas, including portions of the redevelopment project area, are localized, do not represent a substantial cumulative risk (City of Oakland 1972).

The quality of area receiving waters, specifically the San Francisco Bay, are cumulatively impacted. The U.S. EPA identifies San Francisco Bay as a 303(d) water body under the Clean Water Act, meaning it does not achieve water quality standards (EPA 2001). See Section 4.15: Surface Water, for a discussion of parameters of concern. The EPA identifies sources of parameters of concern as atmospheric deposition, industrial and municipal point, non-point, natural, resource extraction, urban runoff/storm sewer, and ballast water.

In addition, California's Bay Protection and Toxic Cleanup Program classifies the entire San Francisco Bay as a High Priority Candidate Toxic Hot Spot. The reason for this classification is potential risk to human health from consumption of non-migratory aquatic wildlife, primarily due to elevated levels of PCBs and mercury in fish tissue.

Impacts and Mitigation

Impact 5.15-1: Construction-related increases in erosion and sedimentation/turbidity.

The U.S. EPA does not identify San Francisco Bay waters as significantly impacted by turbidity (EPA 2001). Concurrent construction or remediation of multiple subsequent redevelopment activities, or of redevelopment with other in- or near-water projects proximate to the redevelopment project area, including the Bay Bridge Replacement Project and the –50-Foot Navigation Improvement Project, could substantially increase turbidity of receiving waters. This would be considered a potential significant cumulative impact to water quality.

With implementation of mitigation measures described in Section 4.15: Surface Water, the contribution of redevelopment on surface water quality would be minimized to the extent feasible, and would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.15 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

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Impact 5.15-2: Increases in 303(d) pollutants and toxics.

Intensification of (particularly waterfront) land uses, increased vehicle miles traveled, and increased maritime activity resulting from redevelopment and from the Vision 2000 Program, the Bay Bridge Replacement Project, and the –50-Foot Navigation Project, could result in increases in 303(d) water pollutants and toxics and/or local increases in runoff quantities, which could contribute to further impairment of Bay waters. The impacts related to the risk of introduction of exotic invasive species in Bay water are evaluated in Section 4.12: Biological Resources, and in this section under Impact 5.12-3.

With implementation of mitigation measures described in Section 4.15, the contribution of redevelopment to surface water quality impacts would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.15 of this EIR for redevelopment program impacts is adequate, and additional mitigation for cumulative effects is not warranted.

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