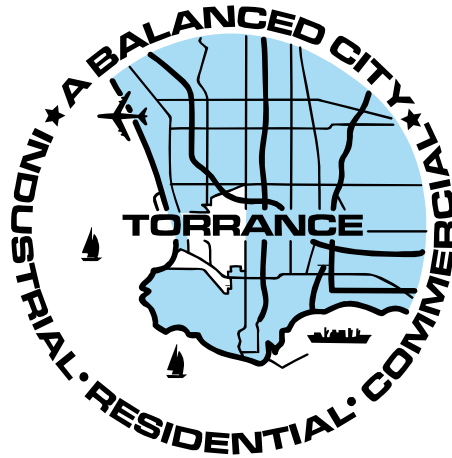

Addendum to the Torrance General Plan Update Environmental Impact Report for the Housing Corridor Overlay

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March 14, 2023

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- B. California Air Resources Board Air Quality and Land Use Handbook, April 2005
- C. Traffic Impact Assessment Guidelines for Land Use Projects, January 2021
- D. Potential Technical Studies for Future Development Proposals Within Proposed HCO Areas



1.0 INTRODUCTION

The Housing Corridor Overlay (herein referenced as the “project,” “proposed project,” or “proposed modification”) involves adoption and implementation of the zoning overlay. Following a preliminary review of the proposed project, the City of Torrance has determined that the proposed project is subject to the guidelines and regulations of the *California Environmental Quality Act (CEQA)*.

This document is an Addendum to the *City of Torrance Plan Update Environmental Impact Report (General Plan Update EIR, GPU EIR)* certified in April 2010.

The *GPU EIR* and this Addendum serve as the environmental review for the project components: 1) Housing Corridor Overlay, 2) Municipal Code Amendment LUS23-00002, 3) General Plan Amendment GPA23-00001, and 4) Zone Change and Zoning Map Amendment ZON23-00001, as required by the *California Environmental Quality Act (CEQA)* [Public Resources Code Section 21000 et seq.] and the *CEQA Guidelines* (14 California Code of Regulations Sections 15000-15387).

Pursuant to the provisions of *CEQA* and the *CEQA Guidelines*, the City of Torrance (City) is the Lead Agency. This Addendum addresses the potential environmental impacts associated with the adoption of the 1) Housing Corridor Overlay, 2) Municipal Code Amendment LUS23-00002, 3) General Plan Amendment GPA23-00001, and 4) Zone Change and Zoning Map Amendment ZON23-00001, which will be considered by the City during the project’s review and approval process along with the prior CEQA documentation.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

This environmental document has been prepared in conformance with *CEQA (California Public Resources Code [PRC] Section 21000 et seq.)*; *CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.)*; and the rules, regulations, and procedures for implementation of CEQA, as adopted by the City of Torrance.

In accordance with *CEQA Guidelines* Sections 15051 and 15367, the City of Torrance (City) is identified as the Lead Agency for the proposed project. Under *CEQA (Public Resource Code Sections 21000-21177)* and pursuant to *CEQA Guidelines* Section 15063, the City is required to undertake the preparation of an Initial Study to determine if the proposed project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration. Such determination can be made only if “there is no substantial evidence in light of the whole record before the Lead Agency” that such impacts may occur (*PRC* Section 21080(c)).

The environmental documentation, which is ultimately selected by the City in accordance with *CEQA*, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions relevant to the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.



If applicable, the environmental documentation and supporting analysis are subject to a public review period. During this review, agency and public comments on the document relative to environmental issues should be addressed to the City. Following review of any comments received, the City will consider these comments as a part of the project's environmental review and include them with the environmental documentation for consideration by the City.

1.2 PURPOSE OF AN INITIAL STUDY

The purposes of an Initial Study are to:

1. Identify environmental impacts;
2. Provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or a negative declaration;
3. Enable an applicant or lead agency to modify a project, mitigating adverse impacts before an EIR is required to be prepared;
4. Facilitate environmental assessment early in the design of the project;
5. Document the factual basis of the finding in a negative declaration that a project would not have a significant environmental effect;
6. Eliminate needless EIRs;
7. Determine whether a previously prepared EIR could be used for the project; and
8. Assist in the preparation of an EIR, if required, by focusing the EIR on the effects determined to be significant, identifying the effects determined not to be significant, and explaining the reasons for determining that potentially significant effects would not be significant.

CEQA Guidelines Section 15063 identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project
- Identification of the environmental setting
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries
- Discussion of ways to mitigate significant effects identified, if any
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study



1.3 RESPONSIBLE AND TRUSTEE AGENCIES

Certain projects or actions undertaken by a Lead Agency require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Such other agencies are referred to as Responsible Agencies and Trustee Agencies. Pursuant to *CEQA Guidelines* Sections 15381 and 15386, as amended, Responsible Agencies and Trustee Agencies are respectively defined as follows:

“Responsible Agency” means a public agency, which proposes to carry out or approve a project, for which [a] Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of *CEQA*, the term “responsible agency” includes all public agencies other than the Lead Agency, which have discretionary approval power over the project. (Section 15381)

“Trustee Agency” means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. Trustee Agencies include; The California Department of Fish and Wildlife, The State Lands Commission; The State Department of Parks and Recreation and The University of California with regard to sites within the Natural Land and Water Reserves System. (Section 15386)

As soon as the Lead Agency has determined that an Initial Study would be required for a project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies as to whether an EIR or a Negative Declaration should be prepared for the project. Following receipt of any written comments from those agencies, the Lead Agency considers any recommendations of those agencies in the formulation of the preliminary findings. Following completion of this Initial Study, the Lead Agency initiates formal consultation with these Responsible and Trustee Agencies and other governmental agencies, as required under *CEQA* and its implementing guidelines.

For this project, the City of Torrance is the Lead Agency and has the sole responsibility of processing and approving the project. There are no Responsible or Trustee Agencies that have oversight, approval, or permit responsibility associated with the project, or require consultation with the City of Torrance. In addition, no other agency is required to approve the Housing Corridor Overlay.

1.4 CONSULTATION

Tribal consultation was coordinated by the City per the requirements of AB 52 and SB 18 as part of the *CEQA* NOP process in April 2021 for the 2021-2029 Housing Element. All tribal contacts provided by the Native American Heritage Commission (NAHC) were contacted. No comment letters on the NOP were received by local tribes requesting consultation as the project would not involve any ground disturbing activities. Given that the project is implementing the 2021-2029 Housing Element and also will not involve any ground disturbing activities, tribal consultation was not conducted.



1.5 INCORPORATION BY REFERENCE

Pertinent documents relating to this Initial Study have been cited in accordance with *CEQA Guidelines* Section 15150, which encourages incorporation by reference as a means of reducing redundancy and length of environmental reports. The following documents are hereby incorporated by reference into this Addendum. Information contained within these documents has been utilized for this Initial Study. These documents are available for review at the City of Torrance Community Development Department, Planning Division located at 3031 Torrance Boulevard, Torrance, California 90503, and online, if available, with the links provided below.

The City of Torrance General Plan. *The City of Torrance General Plan (Torrance General Plan, General Plan)* was adopted on April 6, 2010 (Resolution No. 2010-29), and is a long-range planning document that guides decisions related to land use. The *General Plan* includes the following elements: Land Use Element, Circulation and Infrastructure Element, Safety Element, Noise Element, and Housing Element.

[General Plan | City of Torrance \(torranceca.gov\)](https://www.torranceca.gov/)

2021-2029 Housing Element. The City Council adopted the 2021-2029 Housing Element (6th Cycle) on June 14, 2022 (Resolution No. 2022-55). The City of Torrance was assigned a RHNA of 4,939 units for the 2021-2029 RHNA period. Torrance is a built-out community with a long-standing goal of maintaining a balance of commercial, industrial, and residential land uses. The extremely limited amount of remaining vacant land creates a significant challenge for the City to promote a variety of individual choices regarding tenure, type, location, and affordability of housing throughout the community that accommodates the 6th Cycle RHNA, while maintaining the balance of land uses that is important to maintain a desirable quality of life for existing and future residents, and a healthy economy.

This Housing Element builds upon the other Elements and is consistent with the General Plan's policies and proposals. The Housing Element draws upon the development capacity levels given in the Land Use Element to determine the appropriate location for affordable housing development. Several programs identified in 2021-2020 Housing Element identify revisions to the Land Use Element needed to maintain internal General Plan consistency. The City's housing opportunity sites inventory includes 464 candidate housing sites, 321 of which are new to the 6th Cycle RHNA 2021-2029 Housing Element. Consideration of 143 of the 464 sites was previously evaluated under the 5th Cycle Housing Element CEQA compliance document, which consisted of an Addendum to the 2010 General Plan Final EIR.

[Housing Element Update | City of Torrance \(torranceca.gov\)](https://www.torranceca.gov/)

The City of Torrance General Plan Update Environmental Impact Report. *The City of Torrance General Plan Update Environmental Impact Report (GPU EIR)*, State Clearinghouse Number [SCH No.] 2008111046 evaluates the environmental effects associated with the adoption and implementation of the *General Plan Update (GPU)* initiated by the City of Torrance.

Initial Study Conclusions. An Initial Study was prepared in November 2008, and concluded no or less than significant impacts as summarized in Draft EIR Chapter 8.0, Impacts Found Not To Be Significant. Thus, the following topics and impacts were not analyzed in the EIR: Aesthetics (Impact I.b), Agriculture Resources (Impacts II.a, II.b, and II.c), Biological Resources (Impacts IV.e, and IV.f), Geology and Soils (Impact VI.e), Land Use (Impact IX.c), and Population and Housing (Impacts XII.b and XII.c).



Addendum to the Torrance General Plan Update Environmental Impact Report for the Proposed Housing Corridor Overlay

GPU EIR Conclusions. The *General Plan Update Environmental Impact Report (GPU EIR)* analyzed the update to the *Torrance General Plan*, which included revisions to the current general plan land use map and to elements required by the State of California.

The *GPU EIR* reviewed the following topics: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services (Fire Protection and Emergency Services, Police Protection, School Services, Library Services), Recreation, Transportation and Traffic, and Utilities and Service Systems.

The *GPU EIR* concluded the following significant and unavoidable impacts:

- Air Quality – Impacts 5.2-1, 5.2-2, 5.2-3, and 5.2-5
- Noise – Impacts 5.11-2, 5.11-3, and 5.11-5

The *GPU EIR* concluded all other impacts were less than significant.

The City Council certified the *GPU EIR* on April 6, 2010 (Resolution No. 2010-30), as well as adopted a Statement of Overriding Considerations for significant, unavoidable impacts, and adopted a Mitigation Monitoring and Reporting Program.

The Draft and Final EIR documents are available for review at the Community Development Department.

2021-2029 Housing Element Initial Study and Negative Declaration. The Initial Study and Negative Declaration (IS/ND) analyzed the impacts associated with the 2021-2029 City of Torrance Housing Element (6th Cycle), and concluded all impacts would result in either less than significant impacts or no impact. The IS/ND includes Attachment A, Figures, and Attachment B, Standard Mitigation Measures. Attachment B identifies Standard Mitigation Measures, Conditions and Requirements that are applicable to all future ground disturbing land development projects in the City. The City Council adopted the 2021-2029 Housing Element (6th Cycle) on June 14, 2022 (Resolution No. 2022-55).

[Housing Element Update | City of Torrance \(torranceca.gov\)](https://www.torranceca.gov/housing-element-update)

City of Torrance Climate Action Plan. The *City of Torrance Climate Action Plan (Climate Action Plan, CAP)*, dated December 2017, was prepared by the South Bay Cities Council of Governments (SBCCOG). The *Climate Action Plan* is a guide which set greenhouse gas emission reduction goals and established strategies to achieve these outcomes over the next 20 years. The strategies included in the plan are voluntary, however the City has committed to the targets outlined in the Plan. The targets are consistent with California’s AB 32 goals and will help the State meet its long term goal of 80% below 1990 levels by 2050.

[Climate Action Plan | City of Torrance \(torranceca.gov\)](https://www.torranceca.gov/climate-action-plan)



Addendum to the Torrance General Plan Update Environmental Impact Report for the Proposed Housing Corridor Overlay

Torrance Municipal Code. The *Torrance Municipal Code (Municipal Code)*, codified through Ordinance No. 39016, May 24, 2022 consists of codes and ordinances adopted by the City. These include standards intended to regulate land use, development, health and sanitation, water quality, public facilities, and public safety.

Division 8 of the *Municipal Code*, Building and Safety, specifies rules and regulations for construction, alteration, and building for uses of human habitation and occupation, as well as regulates and controls the division of land within the city. Division 9 of the *Municipal Code* identifies land uses permitted and prohibited according to the zoning category of particular parcels and establishes the development standards and regulations for each zone.

[Torrance Municipal Code \(codepublishing.com\)](https://www.codepublishing.com)



2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

REGIONAL LOCATION

The City of Torrance is in southwestern Los Angeles County, in the highly urbanized South Bay region. The South Bay consists of the cities and communities of Compton, Gardena, Carson, El Segundo, Hawthorne, Hermosa Beach, Manhattan Beach, Lawndale, Redondo Beach, Palos Verdes Estates, Lomita, Rolling Hills, Rolling Hills Estates, Rancho Palos Verdes, San Pedro, Wilmington, Harbor City, portions of Long Beach, and Torrance, as shown in [*Exhibit 2-1, Regional Vicinity Map*](#).

Communities directly adjacent to Torrance include Rolling Hills Estates and Palos Verdes Estates to the south, Redondo Beach to the west, Gardena and Lawndale to the north, and Carson and Los Angeles to the east. The Pacific Ocean forms a small portion of the western border of the City. Interstate 405 (I-405) transects the northern portion of the City, and provides regional access, along with Interstate 110 (I-110).

Major roadways serving the City include 182nd Street, 190th Street, Anza Avenue, Arlington Avenue, Artesia Boulevard, Carson Street, Crenshaw Boulevard, Del Amo Boulevard, Hawthorne Boulevard (State Route 107 [SR-107]), Lomita Boulevard, Madrona Avenue, Pacific Coast Highway (SR-1), Palos Verdes Boulevard, Prairie Avenue, Redondo Beach Boulevard, Sepulveda Boulevard, Torrance Boulevard, Van Ness Avenue and, Western Avenue (SR-213).

PROJECT LOCATION

The Housing Corridor Overlay (HCO) is applicable to seven separate geographic areas encompassing approximately 106 acres within the City of Torrance. Refer to [*Exhibit 2-2, Citywide HCO Map*](#) in Section 2.5.1.

2.2 ENVIRONMENTAL SETTING

2.2.1 EXISTING LAND USES

Torrance has been fully urbanized for many years, and development includes a mix of housing types, major employment districts with commercial and industrial uses, park and recreational amenities, and convenient transportation choices.

2.2.2 SURROUNDING LAND USES

The neighboring cities and communities are also fully urbanized with a mix of residential, commercial, industrial, public institutional, and open space uses.



Exhibit 2-1 Regional Vicinity Map



----- City Boundary

Source: City of Torrance General Plan Update EIR (May 2011)



2.3 GENERAL PLAN AND ZONING DESIGNATIONS

GENERAL PLAN DESIGNATIONS

The existing General Plan designations for the sites within the proposed HCO area include Low Density Residential (R-LO), Low-Medium Density Residential (R-LM), Medium Density Residential (R-MD), Commercial Center (C-CTR), General Commercial (C-GEN), Residential Office (R-OF), Business Park (I-BP), and Light Industrial (I-LT).

ZONING DESIGNATIONS

The existing Zoning designations for the sites within the proposed HCO area include Downtown Torrance District (DT), Limited Multiple Family Residential (R3), Retail Commercial (C1), Conditional Commercial (C5), Open Area, Planting-Parking (P1), Light Manufacturing (M1), Light Manufacturing (M1-PP), Limited Manufacturing (ML (M1-PP), and Heavy Manufacturing (M2).

Refer to [Table 2-1](#) for a summary of the existing General Plan and Zoning Designations for each of the sub-area sites.

**TABLE 2-1
HCO SUB-AREA ACREAGE & EXISTING GENERAL PLAN AND ZONING DESIGNATIONS**

HCO Sub-Area	Acreage	General Plan Designations	Zoning Designations
Sub-Area 1			
Gramercy Place	10.5	Low-Medium Density Residential (R-LM) Low Density Residential (R-LO)	Light Manufacturing (M1)
Prairie Avenue	1.0	Low-Medium Density Residential (R-LM)	Limited Manufacturing (ML (M1-PP)
Spencer Street	4.3	General Commercial (C-GEN)	Conditional Commercial (C5)
Subtotal	15.8		
Sub-Area 2			
Border Avenue	32.2	Commercial Center (C-CTR) Residential Office (R-OF) Medium Density Residential (R-MD)	Downtown Torrance District (DT) Light Manufacturing (M1) Limited Multiple Family Residential (R3) Retail Commercial (C1)
Subtotal	32.2		
Sub-Area 3			
Western Avenue	8.1	Business Park (I-BP)	Light Manufacturing (M1)
Maricopa Street	38.1	Business Park (I-BP)	Light Manufacturing (M1-PP)
Lomita & Madison	12.1	Light Industrial (I-LT)	Heavy Manufacturing (M2) Open Area, Planting-Parking (P1)
Subtotal	58.3		
TOTAL	106.3		



2.4 HOUSING CORRIDOR OVERLAY GOALS AND PLANNING FRAMEWORK

The Housing Corridor Overlay (HCO) is intended to provide new opportunities and development options for housing within strategic locations in the City of Torrance. The HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders.

New housing opportunities are key to enabling the City to address the Housing Element 6th Cycle Regional Housing Needs Assessment (RHNA) allocation. The locations within the HCO have been selected based on proximity to commercial areas, transportation corridors, and for the potential for transformative development in their local context. These areas are geographically distributed throughout the City and many are identified in the General Plan Land Use Element as priorities for new housing opportunities.

GOALS

The primary goals of the HCO are listed below:

- Enable housing and mixed-use development at a variety of income levels that will support the community and economic aims of the City;
- Establish development and design standards that contribute to community character and quality building designs;
- Streamline project applications in areas identified by the City;
- Promote reinvestment and redevelopment in the identified areas of the community; and
- Provide options for housing development while not precluding existing commercial or industrial land uses or declaring existing uses nonconforming.

PLANNING FRAMEWORK

The Housing Corridor Overlay is a tool that is voluntary in nature, meaning that the underlying base zoning designation for an individual property where the overlay applies will remain in place. A property owner has the discretion to develop their property according to the standards of the base zoning designation, or the HCO. Information on the development process and procedures are detailed in HCO Chapter 3, Administration and Implementation.



2.5 PROJECT COMPONENTS

The project includes the following components: 1) Housing Corridor Overlay, 2) Municipal Code Amendment LUS23-00002, 3) General Plan Amendment GPA23-00001, and 4) Zone Change and Zoning Map Amendment ZON23-00001.

2.5.1 HOUSING CORRIDOR OVERLAY

The Housing Corridor Overlay document includes the following chapters:

Chapter 1 – Introduction

Chapter 2 – Land Use and Development Standards

Chapter 3 – Administration and Implementation

Chapter 4 – Appendices

- A. General Plan Land Use Element Text and Map Amendments
- B. Zoning Code Text and Map Amendments
- C. Background Research and Analysis Report
- D. Pro Forma Feasibility Studies
- E. List of Standard Mitigation Measures

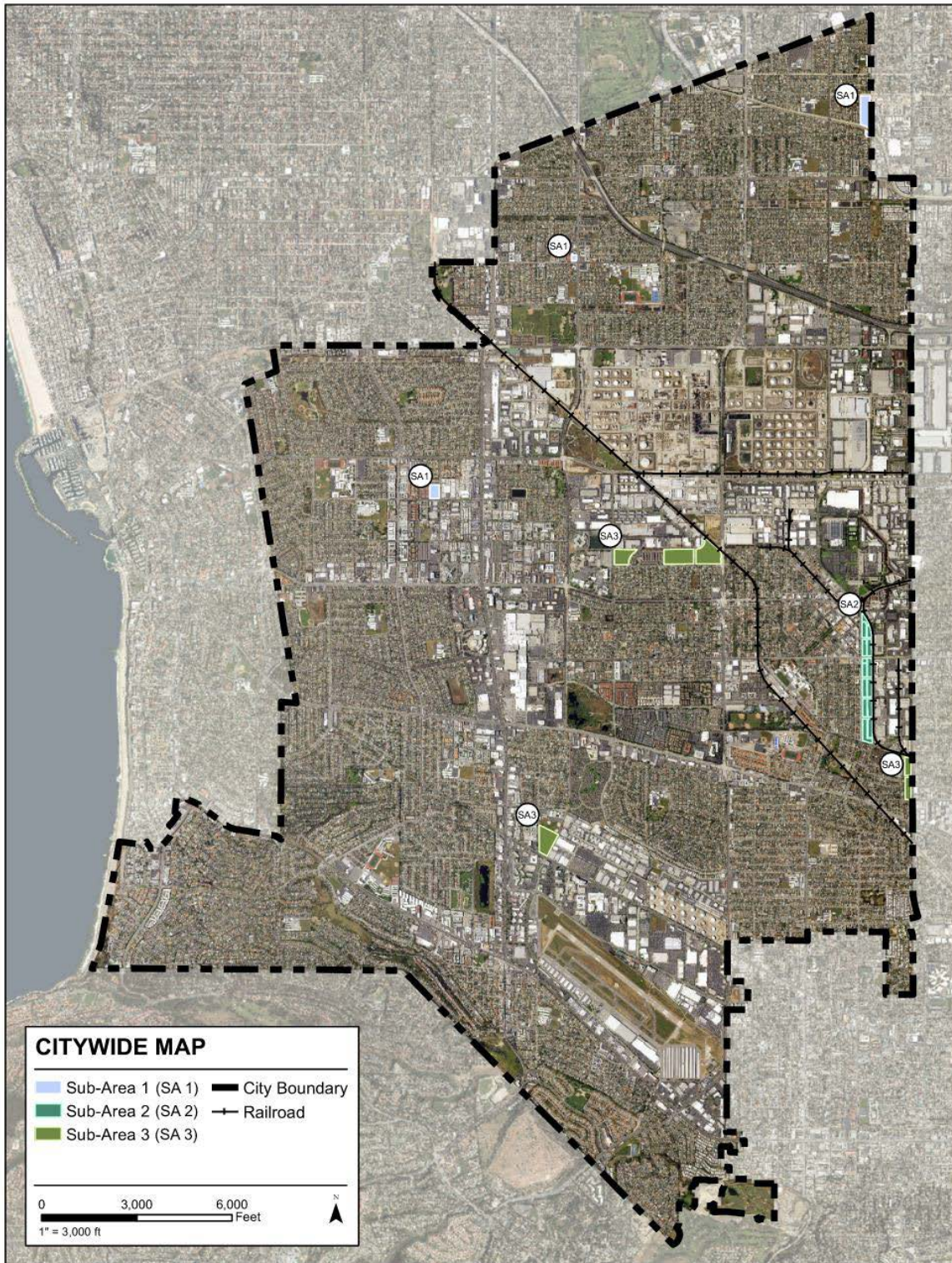
Land Use and Development Standards

The Housing Corridor Overlay is applicable to seven separate geographic areas within the City (refer to [Exhibit 2-2, Citywide HCO Map](#)). These areas were selected due to their proximity to commercial areas, adjacency to primary City corridors, and access to public transit lines. Detailed maps of the seven geographic areas are provided in the Overlay Sub-Areas section, which follows [Exhibit 2-2](#).

For the purposes of contextually and sensitively responding to the unique characteristics of these areas, different sub-areas have been established to inform development approaches.



Exhibit 2-2 Citywide HCO Map



Source: RRM Design Group (May 2022)



Overlay Sub-Areas

The parcels identified within the sub-areas are currently developed with urban uses.

SUB-AREA 1

Sub-Area 1 is intended to allow for appropriately scaled and context-sensitive residential developments. Generally located in the northern portion of the City, the Sub-Area 1 properties are characterized by smaller lot configurations and located adjacent to primary corridors and transit lines. It is envisioned to provide new opportunities for residential development with potential for mixed-use and live/work options. Enhanced streetscapes provide a walkable and enjoyable pedestrian environment. This designation is applied to the Gramercy Place, Prairie Avenue, and Spencer Street locations as identified below. Refer [Exhibit 2-3](#), [Exhibit 2-4](#), and [Exhibit 2-5](#).

LOCATIONS

GRAMERCY PLACE

Located south of 166th Street and east of Gramercy Place, Sub-Area 1 applies to parcels just south of 166th Street and continues south along Gramercy Place to the south side of the drainage channel. It contains parcels that front directly onto Gramercy Place, with a few that front onto 166th Street. The area contains fourteen parcels totaling 10.5 acres.

PRAIRIE AVENUE

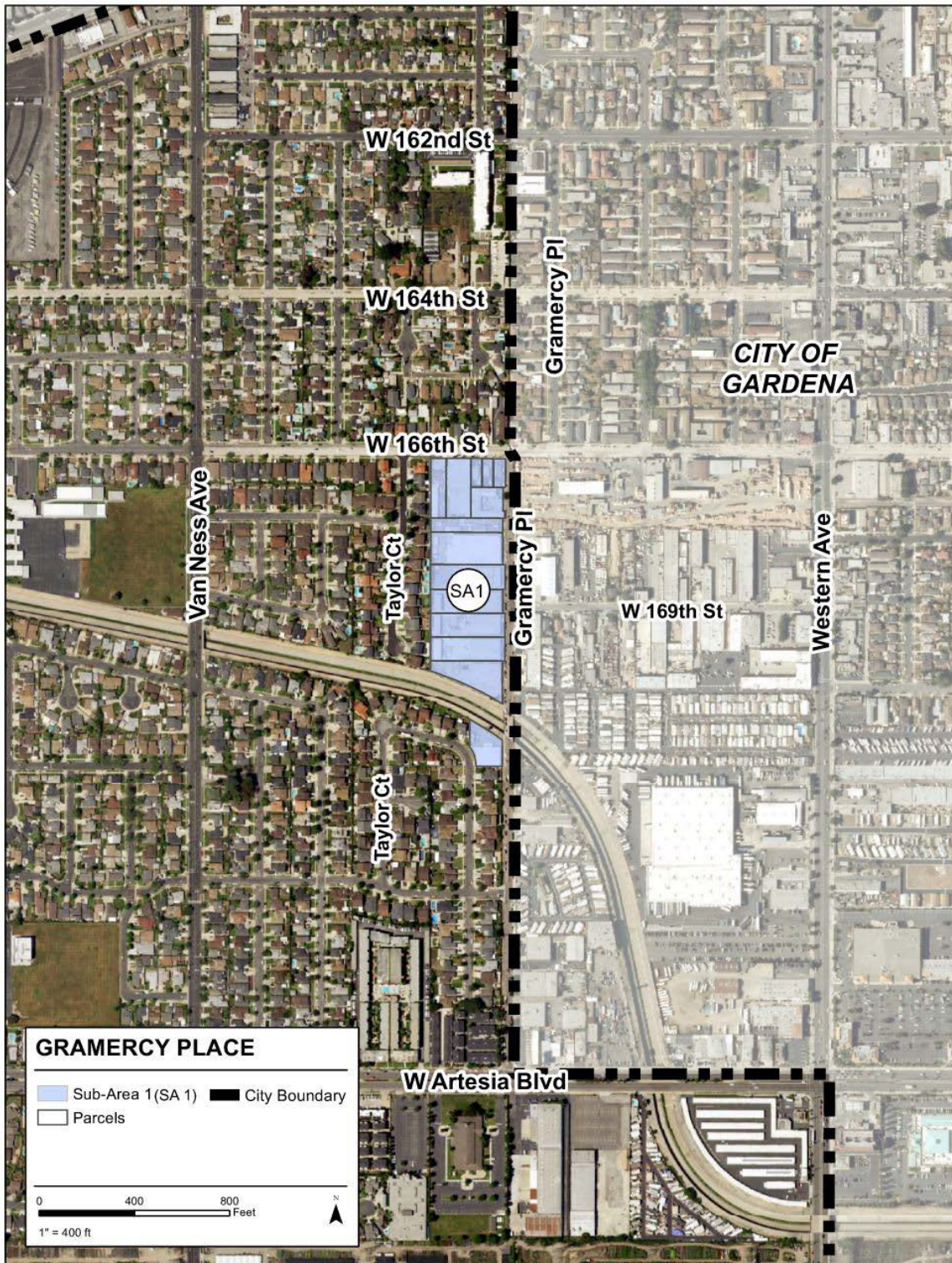
Located at the northwest corner of the Prairie Avenue and W. 182nd Street intersection, application within Sub-Area 1 is limited in area. It contains two parcels that either front onto Prairie Avenue and/or W. 182nd Street. The area contains two parcels totaling 1.0 acres.

SPENCER STREET

Located south of Del Amo Boulevard and west of Hawthorne Boulevard (State Route 107), Sub-Area 1 applies to parcels along Earl Street and Spencer Street at the northwest intersection corner. It contains parcels that front directly onto Spencer Street and Earl Street. The area contains eleven parcels totaling 4.3 acres.



Exhibit 2-3 HCO: Gramercy Park



Source: RRM Design Group (May 2022)



Exhibit 2-4 HCO: Prairie Avenue



Source: RRM Design Group (May 2022)



Exhibit 2-5 HCO: Spencer Street



Source: RRM Design Group (May 2022)



SUB-AREA 2

Sub-Area 2 is intended to allow for transformative Downtown and Downtown-adjacent residential developments. Mixed-use development with residential uses, low- to medium-rise apartments or condominiums, and live-work units are suitable for this context. Part of this sub-area was identified by the 2010 General Plan as a location appropriate for “more efficient and productive use of land resources, potential innovative mixed-use projects, and attractive and compatible new housing”; additionally, part of this sub-area is included within the boundaries of the Downtown Torrance Revitalization and Connectivity Plan. This designation is applied to the Border Avenue location as identified below. Refer to [*Exhibit 2-6*](#).

LOCATIONS

BORDER AVENUE

Located on the southern tip of Downtown Torrance, Sub-Area 2 applies to parcels between Cabrillo Avenue and Border Avenue, from 213th Street to the north continuing to Plaza del Amo to the south. The area contains 134 parcels totaling 32.2 acres.

SUB-AREA 3

Sub-Area 3 is intended to provide medium- and high-density residential development on a mix of parcel types with excellent locations next to transit. The average lot size for locations in Sub-Area 3 are large, allowing for some design flexibility around the constraints of infill development. Generally, this sub-area is envisioned to provide new opportunities for medium- and high-rise apartments and condominiums adjacent to primary corridors and transit lines with some opportunity for mixed-use developments. Refer to [*Exhibit 2-7*](#), [*Exhibit 2-8*](#), and [*Exhibit 2-9*](#).

LOCATIONS

WESTERN AVENUE

The Western Avenue location lies just within the City’s Eastern edge, bordering the City of Los Angeles. Western Avenue forms the City’s eastern boundary between Artesia Boulevard and 238th Street, and the study area extends along Western Avenue between Plaza Del Amo and 228th Street, just north of Sepulveda Boulevard. The area contains nine parcels totaling 8.1 acres.

MARICOPA STREET

The Maricopa Street location is located northwest of the Maricopa Street and Crenshaw Boulevard intersection, bounded on the north by 208th Street and on the west by Maple Avenue. The Torrance Transit Center just north of the study area is currently under construction and will serve as a key multi-modal transportation hub not only for the City of Torrance, but for the entire South Bay region. Future housing development in this location should build at higher densities to capitalize on the planned access to high-quality, high-frequency transit. The area contains eight parcels totaling 38.1 acres.

LOMITA & MADISON

The Lomita & Madison location is a single parcel of 8.3 acres at the northeast corner of the Lomita Boulevard and Madison Street intersection. The area contains one parcel totaling 12.1 acres.



Exhibit 2-6 HCO: Border Avenue



Source: RRM Design Group (May 2022)



Exhibit 2-7 HCO: Western Avenue



Source: RRM Design Group (May 2022)



Exhibit 2-8 HCO: Maricopa Avenue



Source: RRM Design Group (May 2022)



Exhibit 2-9 HCO: Lomita Boulevard and Madison Street



Source: RRM Design Group (May 2022)



USE AND DEVELOPMENT STANDARDS

HCO Section 2.2 establishes the use and development standards applicable to the various sub-area zones within the HCO. These development standards apply to new development within the HCO, as well as to existing residential properties that can be re-developed or renovated to compliance standards. Additional regulations and references to the *Torrance Municipal Code* are also noted in the right-hand column of the HCO tables.

ALLOWABLE USES

HCO Section 2.2 establishes the allowable uses within the HCO. All uses which are permitted or conditionally permitted within the underlying base zoning district remain permitted or conditionally permitted respectively. The primary uses allowed within the HCO are residential, while supportive non-residential uses are also allowed in horizontal and vertical mixed-use projects. *Table 2-2, Housing Corridor Overlay – Allowable Uses*, identifies the majority of the residential, eating and drinking establishments, offices, and service uses as permitted by-right or permitted with a minor use permit.

DEVELOPMENT STANDARDS

HCO Section 2.2 establishes basic development standards for projects within the HCO.

MINIMUM UNIT SIZES

HCO Section 2.2 establishes the following minimum unit sizes for residential units. These minimum unit sizes replace the standards established by Division 9, Article 20 (Living Areas) of the *Torrance Municipal Code*.

ADDITIONAL STANDARDS

In addition, HCO Section 2.2 establishes the following standards:

- Parking Reductions
- Site and Building Design Standards
- Mixed-Use Design Standards
- Compatibility Standards
- Performance Standards

The Compatibility Standards are intended to address impacts of the interface between new residential land uses and existing industrial land uses. These serve as “good neighbor” standards for the Housing Corridor Overlay. The Compatibility Standards apply to residential uses proposed adjacent to existing Industrial zoning districts (Light Manufacturing (M-1), Heavy Manufacturing (M-2), Limited Manufacturing (M-L)) the City of Torrance and Industrial zoning districts of adjacent City or County jurisdictions.



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**TABLE 2-2
HOUSING CORRIDOR OVERLAY – ALLOWABLE USES**

<i>Permitted By-Right (P)</i> <i>Permitted with a Minor Use Permit (M)</i> <i>Permitted with a Conditional Use Permit (C)</i>				
	Sub-Area 1	Sub-Area 2	Sub-Area 3	Additional Regulations/ Notes
All mixed-use projects shall dedicated at least 10% of the gross floor area for non-residential uses.				
Residential				
Multiple Family Residence	P	P	P	
Single Family Residence	P	P	P	
Two Family Residence	P	P	P	
Senior Citizen Housing	P	P	P	
Eating and Drinking Establishments				
Restaurants, Class I (Full Service)	C	C	C	Beer and wine with full-service restaurants is conditionally permitted.
Restaurants, Class II (Fast-Food)	M	M	M	Drive-through restaurants not permitted.
Restaurants, Class III (Take-Out)	M	M	M	Drive-through restaurants not permitted.
Restaurants, Class IV (Limited Service, Bakery, Coffee, Deli, Dessert Shop)	M	M	M	Drive-through restaurants not permitted.
Offices				
Offices, Professional	P	P	P	
Offices, Medical or Dental	P	P	P	
Service Uses				
Banks, Credit Unions, and Financial Services	P	P	P	
Personal Services	P	P	P	
Veterinary Clinics and Animal Hospitals	P	P	P	Overnight boarding not permitted.
Source: City of Torrance Housing Corridor Overlay, Table 2-1 (March 2023)				

COMMUNITY BENEFITS AND INCENTIVES

HCO Section 2.3 provides optional opportunities for increased development intensity concurrent with the delivery of community benefits in order to satisfy the demand for public amenities that come with new residential development. The HCO Community Benefits and Incentives are available to all properties within the HCO.



However, if a density bonus is granted in accordance with Senate Bill 1818, a developer or property owner may not also elect for bonuses established in the HCO Community Benefits and Incentives.

BY-RIGHT USES

Each HCO sub-area has an established density allowed by-right. A developer or property owner may elect to increase the density of allowable dwelling units per acre, subject to the delivery of specific community benefits.

By-right development is not subject to the City's discretionary review process and is exempt from the requirements of the California Environmental Quality Act (CEQA). As such, qualifying projects will undergo a ministerial plan check review process by the City, including a standard application review and compliance with development standards.

Projects deemed eligible for ministerial approval would not subject to a CEQA review process or a public review/comment process, and cannot be appealed.

BENEFITS AND INCENTIVES

The HCO Community Benefits and Incentives is based on a point system. Each community benefit type is assigned a number of points, and a project may earn points from multiple categories. The number of points is then translated into an increased residential density.

The Community Development Director is responsible for reviewing requests and determining points awarded to an applicant when community benefits are provided and a density increase is requested.

HCO Table 2-4 summarizes the community benefits and incentives.

APPLICATION

The HCO is an overlay tool that is voluntary in nature, meaning that the underlying base zoning designation for an individual property where the HCO applies will remain in place. At the property owner's discretion, a property may be developed under the existing base zoning designation or elect to apply the HCO designation to guide the development of their property. For more information on development process and procedures, refer to HCO Chapter 3 – Administration and Implementation.

2.5.2 GENERAL PLAN AMENDMENT AND ZONE CHANGE

As required by State law, municipalities are mandated to ensure their General Plan Land Use designations and Zoning designations are consistent with one another to allow for orderly development. As part of the HCO effort, modifications to relevant properties' General Plan Land Use designations will be required to ensure consistency with the existing or proposed Zoning designations, while also allowing for property owner discretion of applying the HCO. Refer to Table 2-3, HCO: Existing and Proposed General Plan and Zoning Designations.



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**TABLE 2-3
HCO: EXISTING AND PROPOSED GENERAL PLAN AND ZONING DESIGNATIONS**

HCO Geographic Area	Land Area (Acres)	Existing General Plan Designations	Proposed General Plan Designations	Existing Zoning Designations	Proposed Zoning Designation	Existing Overlay	Proposed Overlay
<i>SUB-AREA 1</i>							
Gramercy Place	10.5	Low-Medium Density Residential (R-LM) Low Density Residential (R-LO)	Medium Density Residential (R-MD) Low-Medium Density Residential (R-LM)	Light Manufacturing (M1)	No Change		Housing Corridor Overlay
Prairie Avenue	1.0	Low-Medium Density Residential (R-LM)	No Change	Limited Manufacturing (ML (M1-PP))	No Change	Precise Plan (PP) for all parcels	Housing Corridor Overlay
Spencer Street	4.3	General Commercial (C-GEN)	No Change	Conditional Commercial (C5)	No Change	IRP for some parcel	Housing Corridor Overlay
<i>Subtotal</i>	<i>15.8</i>						
<i>SUB-AREA 2</i>							
Border Avenue	32.2	Commercial Center (C-CTR) Residential Office (R-OF) Medium Density Residential (R-MD)	No Change	Downtown Torrance District (DT) Light Manufacturing (M1) Limited Multiple Family Residential (R3) Retail Commercial (C1)	No Change		Housing Corridor Overlay
<i>Subtotal</i>	<i>32.2</i>						
<i>SUB-AREA 3</i>							
Western Avenue	8.1	Business Park (I-BP)	No Change	Light Manufacturing (M1)	No Change		Housing Corridor Overlay
Maricopa Street	38.1	Business Park (I-BP)	No Change	Light Manufacturing (M1-PP)	Light Manufacturing (M1)		Housing Corridor Overlay
Lomita & Madison	12.1	Light Industrial (I-LT)	No Change	Heavy Manufacturing (M2) Open Area, Planting-Parking (P1)	No Change	Precise Plan (PP) for all parcels	Housing Corridor Overlay
<i>Subtotal</i>	<i>58.3</i>						
TOTAL	106.3						



GENERAL PLAN AMENDMENT

The General Plan Amendment includes modifications to General Plan Land Use Element text and figures:

- Revise Figure LU-1, General Plan Land Use Policy to reflect HCO
- Add DMU | Downtown Mixed Use designation to Table LU-1
- Add DMU | Downtown Mixed Use text to Section 1.3.2, Commercial Land Use Designations
- Add DMU | Downtown Mixed Use designation to Table LU-2
- Add HCO Housing Corridor Overlay to Table LU-3 for the following designations:
 - R-LM (Low Medium Density Residential)
 - R-MD (Medium Density Residential)
 - R-MH (Medium High Density Residential)
- Add DMU | Downtown Mixed Use designation to Table LU-3
- Add HCO text to Study Area 2: Western Avenue South
- Add HCO text to Study Area 3: Border Avenue
- Add HCO text to Section 4.1.3, Old Torrance following paragraph 3
- Add HCO text to Section 4.1.4, Commercial Corridors, within paragraph 2
- Add HCO text to 5.1, Mixed-Use in Torrance, within the first sentence, and new paragraph following the second paragraph
- Revise Figure LU-17: Industrial Districts in Torrance, to reflect changes to zoning implemented through the HCO

2.5.3 MUNICIPAL CODE AMENDMENT

HOUSING CORRIDOR OVERLAY

The City is proposing the following amendments to *Torrance Municipal Code* Division 9, Land Use, Chapter 1:

- Creation of new of Article 51, HCO Housing Corridor Overlay



2.6 PROJECT APPROVALS

The City of Torrance is the Applicant.

The Housing Corridor Overlay project requires the following City of Torrance legislative/discretionary approvals:

- Housing Corridor Overlay
- Municipal Code Amendment
- General Plan Amendment
- Zone Change and Zoning Map Amendment



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3.0 SUPPLEMENTAL ENVIRONMENTAL CHECKLIST FORM

FOR USE WHEN THE CITY IS REVIEWING SUBSEQUENT DISCRETIONARY ACTIONS PURSUANT TO A PREVIOUSLY APPROVED OR CERTIFIED ENVIRONMENTAL DOCUMENT.

1.	Project Title: Housing Corridor Overlay
2.	Lead Agency Name and Address: City of Torrance 3031 Torrance Boulevard, Torrance, CA 90503
3.	Contact Person and Phone Number: Mr. Gregg Lodan, Planning Manager P: 310.618.5990 E: GLODAN@TorranceCA.gov
4.	Project Location: The City of Torrance is in southwestern Los Angeles County, in the highly urbanized South Bay region. The South Bay consists of the cities and communities of Compton, Gardena, Carson, El Segundo, Hawthorne, Hermosa Beach, Manhattan Beach, Lawndale, Redondo Beach, Palos Verdes Estates, Lomita, Rolling Hills, Rolling Hills Estates, Rancho Palos Verdes, San Pedro, Wilmington, Harbor City, portions of Long Beach, and Torrance, as shown in <i>Exhibit 2-1, Regional Vicinity Map</i> . Communities directly adjacent to Torrance include Rolling Hills Estates and Palos Verdes Estates to the south, Redondo Beach to the west, Gardena and Lawndale to the north, and Carson and Los Angeles to the east. The Pacific Ocean forms a small portion of the western border of the City. Interstate 405 (I-405) transects the northern portion of the City, and provides regional access, along with Interstate 110 (I-110). The Housing Corridor Overlay (HCO) is applicable to seven separate geographic areas encompassing approximately 106 acres within the City of Torrance (refer to <i>Exhibit 2-2, Citywide HCO Map</i>).
5.	Project Sponsor’s Name and Address: City of Torrance 3031 Torrance Boulevard, Torrance, CA 90503
6.	General Plan Designation: Not Applicable (Citywide)
7.	Zoning: Not Applicable (Citywide)
8.	Previous Environmental Document: Please describe the previously adopted ND or MND or the previously certified EIR (include the date the document was adopted or certified, the date the project was approved by the City, the date the NOD was filed with the County, and a summary of potentially significant effects identified in the CEQA document). <i>Torrance General Plan Update EIR.</i> The <i>Torrance General Plan Update EIR (GPU EIR)</i> concluded the following significant and unavoidable impacts: <ul style="list-style-type: none">▪ Air Quality – Impacts 5.2-1, 5.2-2, 5.2-3, and 5.2-5▪ Noise – Impacts 5.11-2, 5.11-3, and 5.11-5



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The GPU EIR concluded all other impacts were less than significant. The City Council certified the GPU EIR on April 6, 2010 (Resolution No. 2010-30), as well as adopted a Statement of Overriding Considerations for significant, unavoidable impacts, and adopted a Mitigation Monitoring and Reporting Program.

2021-2029 Housing Element Initial Study and Negative Declaration. The Initial Study and Negative Declaration analyzed the impacts associated with the 2021-2029 City of Torrance Housing Element (6th Cycle). The City Council adopted the 2021-2029 Housing Element (6th Cycle) on June 14, 2022 (Resolution No. 2022-55).

9. Description of the Project:
Refer to Section 2.5, Project Components.

10. Surrounding Land Uses and Setting:
Refer to Section 2.2.2, Surrounding Land Uses.

11. Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).
Refer to Section 2.5, Permits and Approvals.

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Tribal consultation was coordinated by the City per the requirements of AB 52 and SB 18 as part of the CEQA NOP process in April 2021 for the 2021-2029 Housing Element. All tribal contacts provided by the Native American Heritage Commission (NAHC) were contacted. No comment letters on the NOP were received by local tribes requesting consultation as the 2021-2029 Housing Element would not involve any ground disturbing activities.

Given that the HCO is implementing the 2021-2029 Housing Element and approval of the HCO does not involve ground disturbing activities, tribal consultation was not conducted.



4.0 ENVIRONMENTAL ANALYSIS

EVALUATION OF ENVIRONMENTAL IMPACTS

In accordance with *CEQA*, *Public Resources Code* Sections 21000-21178.1, this Modified Initial Study has been prepared to analyze whether any new or more significant environmental impacts could occur from implementation of the proposed project. The purpose of this Initial Study is to inform the decision makers, affected agencies, and the public of potential environmental impacts associated with the implementation of the proposed project. This section analyzes the potential environmental impacts associated with the proposed project.

- 1) A finding of “No New Impact/No Impact” means that the potential impact was fully analyzed and/or mitigated in the prior CEQA document and no new or different impacts will result from the proposed activity. A brief explanation is required for all answers except “No New Impact/No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No New Impact/No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No New Impact/No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) A finding of “New Mitigation is Required” means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document and that new mitigation is required to address the impact.
- 3) A finding of “New Potentially Significant Impact” means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document that cannot be mitigated to below a level of significance or be avoided.
- 4) A finding of “Reduced Impact” means that a previously infeasible mitigation measure is now available, or a previously infeasible alternative is now available that will reduce a significant impact identified in the previously prepared environmental document.
- 5) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 6) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analyses Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis. Describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the proposed action.



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- c) Infeasible Mitigation Measures. Since the previous EIR was certified or previous ND or MND was adopted, discuss any mitigation measures or alternatives previously found not to be feasible that would in fact be feasible or that are considerably different from those previously analyzed and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternatives.
 - d) Changes in Circumstances. Since the previous EIR was certified or previous ND or MND was adopted, discuss any changes in the project, changes in circumstances under which the project is undertaken and/or "new information of substantial importance" that cause a change in conclusion regarding one or more effects discussed in the original document.
- 7) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 8) Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 9) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 10) The explanation of each issue should identify:
- a) the significance criteria or threshold, if any, used to evaluate each question;
 - b) differences between the proposed activity and the previously approved project described in the approved ND or MND or certified EIR; and
 - c) the previously approved mitigation measure identified, if any, to reduce the impact to less than significance.



NEW SIGNIFICANT ENVIRONMENTAL EFFECTS OR SUBSTANTIALLY MORE SEVERE SIGNIFICANT ENVIRONMENTAL EFFECTS COMPARED TO THOSE IDENTIFIED IN THE PREVIOUS CEQA DOCUMENT

The subject areas checked below were determined to be new significant environmental effects or to be previously identified effects that have a substantial increase in severity either due to a change in project, change in circumstances or new information of substantial importance, as indicated by the checklist and discussion in [Section 4.1](#) through [Section 4.20](#).

	Aesthetics		Land Use and Planning
	Agriculture and Forestry Resources		Mineral Resources
	Air Quality		Noise
	Biological Resources		Population and Housing
	Cultural and Tribal Cultural Resources		Public Services
	Energy		Recreation
	Geology and Soils		Transportation
	Greenhouse Gas Emissions		Utilities and Service Systems
	Hazards and Hazardous Materials		Wildfire
	Hydrology and Water Quality		Mandatory Findings of Significance

The following acronyms will be used in this section:

- General Plan Update (GPU)
- General Plan Update Environmental Impact Report (GPU EIR)
- Housing Corridor Overlay (HCO)



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4.1 AESTHETICS

Would the project, except as provided in Public Resources Code Section 21099:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Have a substantial adverse effect on a scenic vista?			✓	
B. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			✓	
C. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
D. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			✓	
Note: Certain projects within a transit priority area need not evaluate aesthetics (<i>Public Resources Code Section 21099</i>).				

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Scenic Vistas

The relatively flat topography of the City of Torrance creates opportunities for many views of the community and surrounding natural features. The hillsides along the City’s western and southern boundaries create scenic opportunities. The distant San Gabriel Mountains can be viewed to the north. In addition, the hillsides of the Riviera neighborhood provide panoramic views of the Pacific Ocean that are valuable to the residents of the community.

Unique Scenic Resources

Torrance has numerous tree corridors in the City. Many trees were planted in the early decades of the 1900’s as street trees in residential neighborhoods and windbreaks on what was once agricultural land. The eucalyptus trees that parallel Torrance Boulevard between Madrona Avenue and Border Avenue average over sixty feet in height and eighty years in age. Eucalyptuses of similar age and height line segments of Pacific Coast Highway between Crenshaw Boulevard and Calle Mayor, along Plaza Del Amo from Carson Street to Arlington Avenue, and in the Walteria area. Downtown Torrance contains acacias, palms, camphors, jacarandas, and California pepper trees dating back to the establishment of the area. In the Hollywood Riviera neighborhood, there are excellent examples of pine, eucalyptus, palm, and bottle brush trees planted in the late 1920’s.

The *GPU EIR* noted that the most prominent scenic vistas within the City of Torrance are views of the San Gabriel Mountains from various locations throughout the City and determined that impacts could occur as a result of constructing structures substantially higher than existing structures on vacant land. However, the *GPU EIR* also



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found that new buildings in the areas identified for additional development by the *GPU* would be restricted to a maximum building height of 40 feet, which would preclude significant impacts to scenic vistas. The *GPU EIR* determined that because Torrance is built out, implementation of the *GPU* would not involve development of substantial areas of vacant land.

The *GPU EIR* concluded less than significant impacts to a scenic vista with implementation of regulatory requirements and standard conditions of approval.

Scenic Resources

The City of Torrance is served by one interstate and four state highways. The San Diego Freeway (I-405) and Pacific Coast Highway (SR-1) traverse the City in an east–west direction. Western Avenue (SR-213), and Hawthorne Boulevard (SR-107) traverse the City in a north–south direction. These segments of I-405, SR-1, SR-213, and SR-107 have not been officially designated as scenic highways by the California Department of Transportation.

The Initial Study for the *GPU EIR* indicated there are there are no officially designated or eligible scenic highways that serve the City of Torrance, as thus the *GPU* would have no impact on scenic resources within a state scenic highway. As a result, this issue was not evaluated in the *GPU EIR*.

The *GPU EIR* concluded no impacts with respect to scenic resources, including trees, rock outcroppings, and historic resources within a State Scenic Highway.

Visual Character

Development in accordance with the *GPU* could negatively affect the numerous tree corridors in the City. The *Municipal Code* recognizes the value of trees to the community and requires that, “no person may cut, trim, remove, prune, plant, injure or interfere with any tree upon any street, park, alley or public place of the City without first obtaining a permit from the Public Works Director.” The *GPU* provides additional policies preserving specimen trees and encourages the development and implementation of a comprehensive citywide street tree program. Additionally, the *GPU* encourages planting of new trees and preserves existing street trees in residential neighborhoods.

While the *GPU* would increase development and alter the visual environment and character of the City of Torrance, future development projects would undergo environmental and design review to ensure visual compatibility with and enhancement of the surrounding environment. Furthermore, future development would be guided by *GPU* policies, especially the Land Use Element and the Community Resources Element which encourage the enhancement of the existing community character. *GPU* policy areas include, but are not limited to, encouraging the maintenance and upgrading of existing development; preserving, protecting, and maintaining open space, parks, and recreation facilities; requiring that new development be visually and functionally compatible with existing residential neighborhoods and industrial and commercial areas; requiring the provision of on-site open space in new developments; enhancing tree corridors; encouraging the planting of new trees and preserving existing street trees; and making the preservation of scenic vistas an integral factor in land development decisions. Therefore, with adherence to the *Municipal Code* and review of projects to ensure consistency with *GPU* policies, implementation of the *GPU* would not substantially degrade the existing visual character and quality of Torrance.



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The *GPU EIR* concluded that with implementation of regulatory requirements and standard conditions of approval, impacts to visual character and quality would be less than significant.

Light and Glare

Buildout in accordance with the *GPU* would generate new sources of light and glare that could affect day or nighttime views in the City. Although Torrance is predominantly developed, implementation of the *GPU* would allow for the development of underutilized parcels and vacant land. New development would incrementally contribute to lighting and glare impacts to the existing built environment.

The *Torrance Municipal Code* contains standards addressing the reduction of glare throughout its design policies related to: building surfaces; lighting in residential areas, the City's historic districts, public spaces, pedestrian areas, and recreational open space; sign policies; and screening and buffering of commercial corridors and industrial areas. The general plan update recognizes the adverse effects of light and glare on a community and proposes policies to reduce those effects. Policies in the Community Resources Element encourage regulations for private lighting that minimize or eliminate light pollution, light trespass, and glare and require that nonresidential uses adjacent or near residential neighborhoods provide shielding or other protections from outdoor lighting and lighted signage. Adherence to the *Municipal Code* and *GPU* policies will ensure that light and glare from new development would be minimized and that significant impacts would not occur.

The *GPU EIR* concluded that adherence to the *Municipal Code* and *GPU* policies would ensure that light and glare from new and existing development would be minimized and that impacts would be less than significant.

IMPACT ANALYSIS

A. WOULD THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON A SCENIC VISTA?

The City of Torrance is a largely built out community with a mix of residential, commercial, and industrial uses. The most prominent scenic vistas within the City of Torrance are views of the San Gabriel Mountains from various locations throughout the City, as well as panoramic views of the Pacific Ocean from the Riviera neighborhood hillsides.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.



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Adoption and implementation of the proposed HCO would not have adverse impacts relative to the scenic vistas. Thus, impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT SUBSTANTIALLY DAMAGE SCENIC RESOURCES, INCLUDING, BUT NOT LIMITED TO, TREES, ROCK OUTCROPPINGS, AND HISTORIC BUILDINGS WITHIN A STATE SCENIC HIGHWAY?

No scenic vistas, trees, rock outcroppings, or state scenic highways occur within the City of Torrance.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed HCO would not have adverse impacts relative to the scenic resources on state scenic highways. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. IN NONURBANIZED AREAS, WOULD THE PROJECT SUBSTANTIALLY DEGRADE THE EXISTING VISUAL CHARACTER OR QUALITY OF PUBLIC VIEWS OF THE SITE AND ITS SURROUNDINGS? (PUBLIC VIEWS ARE THOSE THAT ARE EXPERIENCED FROM PUBLICLY ACCESSIBLE VANTAGE POINT). IN AN URBANIZED AREA, WOULD THE PROJECT CONFLICT WITH APPLICABLE ZONING AND OTHER REGULATIONS GOVERNING SCENIC QUALITY?

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed HCO would not substantially alter the visual character of the City. Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials,



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Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures visual character impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT CREATE A NEW SOURCE OF SUBSTANTIAL LIGHT OR GLARE WHICH WOULD ADVERSELY AFFECT DAY OR NIGHTTIME VIEWS IN THE AREA?

The majority of the City is built out with urban land uses and established development with lighting. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			✓	
B. Conflict with existing zoning for agricultural use, or a Williamson Act contract?			✓	
C. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?			✓	
D. Result in the loss of forest land or conversion of forest land to non-forest use?			✓	
E. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Agriculture Resources

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). The Initial Study for the *GPU EIR* determined there no areas within the City are designated Prime, Unique or Farmland of Statewide Importance, and thus, implementation of the *GPU* would not result in any impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). As a result, impacts to farmland were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded no impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland).



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Zoning for Agricultural Use or Williamson Act Contract. The City of Torrance is an urbanized environment, and the City is fully developed and contains minimal vacant land. No land in the City is zoned or otherwise designated for agricultural use, no farmland exists in the City of Torrance, and Torrance does not have a County-designated Agricultural Opportunity Area. Thus, the Initial Study for the *GPU EIR* determined that implementation of the *GPU* would not result in any conflicts with existing zoning for agricultural use or a Williamson Act contract. As a result, impacts due to zoning or Williamson Act contract conflicts were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded no impacts to conflicts with zoning for agricultural use or a Williamson Act contract.

Farmland Conversion to Non-Agricultural Use. The City of Torrance is an urbanized environment, and the City is fully developed and contains minimal vacant land. No farmland exists in the City of Torrance and Torrance does not have a County designated Agricultural Opportunity Area. Thus, the Initial Study for the *GPU EIR* determined that implementation of the *GPU* would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to a non-agricultural use. As a result, impacts to farmland were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded no impacts relative to conversion of farmland to a non-agricultural use.

Forestry Resources

Thresholds relative to Forestry Resources were added to the *CEQA Guidelines* Appendix G after the *GPU EIR* was certified in 2011, and thus the *GPU EIR* did not evaluate the following thresholds.

Rezoning of Forest Land or Timberland or Loss/Conversion of Forest Land to Non-Forest Uses. The *GPU EIR* did not evaluate impacts due to conflicts with zoning for forest lands or timberland zoned Timberland Production or impacts due to the loss of forest land or the conversion of forest land to non-forest use. However, the *GPU EIR* contained enough information that with the exercise of reasonable diligence, information about the *GPU*'s potential effects on such forest lands was readily available to the public.

The *GPU EIR* did not identify any impacts due to a conflict with zoning for forest land or timberland zoned Timberland Production, nor were any impacts identified associated with the loss of forest land or conversion of forest land to non-forest uses.

IMPACT ANALYSIS

A. WOULD THE PROJECT CONVERT PRIME FARMLAND, UNIQUE FARMLAND, OR FARMLAND OF STATEWIDE IMPORTANCE (FARMLAND), AS SHOWN ON THE MAPS PREPARED PURSUANT TO THE FARMLAND MAPPING AND MONITORING PROGRAM OF THE CALIFORNIA RESOURCES AGENCY, TO NON-AGRICULTURAL USE?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. No properties in Torrance are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.



Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT CONFLICT WITH EXISTING ZONING FOR AGRICULTURAL USE, OR A WILLIAMSON ACT CONTRACT?

The City and surrounding area are developed and urbanized. No agricultural land exists or is zoned for agricultural use within the City, and no property within the City is under a Williamson contract. The proposed HCO does not include any site-specific development designs or proposals. Therefore, the proposed project would not affect any land zoned for agricultural uses and would not conflict with a Williamson Act Contract. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. WOULD THE PROJECT CONFLICT WITH EXISTING ZONING FOR, OR CAUSE REZONING OF, FOREST LAND (AS DEFINED IN PUBLIC RESOURCES CODE SECTION 12220(G)), TIMBERLAND (AS DEFINED BY PUBLIC RESOURCES CODE SECTION 4526), OR TIMBERLAND ZONED TIMBERLAND PRODUCTION (AS DEFINED BY GOVERNMENT CODE SECTION 51104(G))?

There is no zoning designation for forest land in the City of Torrance, and no areas within the City are classified as forest or timberland as defined by *Public Resources Code* Section 4526. Forestry operations do not occur within the City. Also, no property within the City supports trees capable of 10 percent native tree cover of any species, including hardwoods, under natural conditions, or that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The majority of the City is built out with urban land uses and established development. The proposed HCO areas are not designated or zoned by the City as forest land. Therefore, the proposed project would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production. No impacts to “forest land” or “timberland” would result from the proposed project. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



D. WOULD THE PROJECT RESULT IN THE LOSS OF FOREST LAND OR CONVERSION OF FOREST LAND TO NON-FOREST USE?

Refer to Response 4.2.C.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

E. WOULD THE PROJECT INVOLVE OTHER CHANGES IN THE EXISTING ENVIRONMENT, WHICH, DUE TO THEIR LOCATION OR NATURE, COULD RESULT IN CONVERSION OF FARMLAND, TO NON-AGRICULTURAL USE OR CONVERSION OF FOREST LAND TO NON-FOREST USE?

The City contains no forest land, nor is any property within the City zoned for agriculture. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. Therefore, the proposed project would not result in changes to the environment that lead to the conversion of farmland to a non-agricultural use or forest land to a non-forest use. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Conflict with or obstruct implementation of the applicable air quality plan?			✓	
B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
C. Expose sensitive receptors to substantial pollutant concentrations?			✓	
D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Applicable Air Quality Plan

The *GPU EIR* determined that the *GPU* would not be consistent with the South Coast Air Quality Management District’s (SCAQMD’s) Air Quality Management Plan (AQMP) because air pollutant emissions associated with buildout of the City would cumulatively contribute to the nonattainment designations in the South Coast Air Basin (SoCAB). Furthermore, *GPU* buildout would exceed current estimates of population, employment, and vehicle miles travelled (VMT) for the City, and therefore these emissions are not included in the current regional emissions inventory for the SoCAB.

The *GPU EIR* concluded that the *GPU* would be inconsistent with the AQMP, resulting in a significant and unavoidable impact for which mitigation was not available.

Air Quality Standards

The *GPU EIR* made the following findings with respect to violation of an air quality standard, contribution to an existing or projected air quality violation, and a cumulatively-considerable net increase of criteria pollutants.

Construction-Related Impacts. The *GPU EIR* determined that construction activities associated with *GPU* buildout would generate short-term emissions that exceed SCAQMD’s regional significance thresholds for Volatile Organic Compounds (VOCs), Carbon Monoxide (CO), nitrogen oxide (NOx), inhalable particles with diameters that are generally 10 micrometers and smaller (PM₁₀), and inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM_{2.5}); cumulatively contribute to the SoCAB’s nonattainment designations for Ozone (O₃), NOx, PM₁₀, and PM_{2.5}; and potentially elevate concentrations of air pollutants at sensitive receptors.



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The *GPU EIR* concluded that with the implementation of mitigation (Air Quality Mitigation Measure 2-1), construction-related emissions impacts would be lessened, but impacts associated with the *GPU* would remain significant and unavoidable.

Operational-Related Impacts. The *GPU EIR* determined that operational activities associated with *GPU* buildout would generate long-term operational phase emissions that exceed the SCAQMD's thresholds for VOCs, NO_x, PM₁₀, and PM_{2.5}.

The *GPU EIR* concluded that no mitigation was available to reduce operational-related emissions, thus, impacts associated with the *GPU* would remain significant and unavoidable.

Sensitive Receptors

Increase in Traffic Congestion. The *GPU EIR* analyzed whether the *GPU* would expose sensitive receptors to elevated pollutant concentrations and if the *GPU* would cause or contribute significantly to elevated pollutant concentration levels.

Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. Typically, for an intersection to exhibit a significant CO concentration, it would operate at level of service (LOS) E or worse without improvements. *GPU EIR* Table 5.2-9 shows the intersections that are projected to operate at LOS E or worse without improvements. Seven intersections were modeled because they would experience levels of traffic congestion that are most conducive to the formation of CO hot spots. *GPU EIR* Table 5.2-10 lists the one-hour and eight-hour CO concentrations that would occur at these intersections at buildout of the *GPU* Land Use Plan. Based on the CALINE4 analyses, traffic generated CO concentrations is not anticipated to exceed any of the State one-hour or eight-hour CO AAQS at these intersections. Consequently, sensitive receptors in the area would not be substantially affected by CO emissions generated at *GPU* buildout.

The *GPU EIR* concluded that localized air quality impacts to sensitive receptors related to mobile-source emissions were concluded to be less than significant.

Sensitive Land Uses in the Vicinity of Substantial Pollutant Generators. The *GPU EIR* determined that new development constructed in accordance with the *GPU* has the potential to expose sensitive receptors to substantial concentrations of air pollutant emissions, including diesel particulates:

- Within proximity to roadway segments that experience volumes greater than 100,000 vehicles per day (including I-405) and within proximity to industrial/warehousing areas has the potential to expose sensitive receptors to substantial pollutant concentrations from diesel exhaust and other Toxic Air Contaminants (TACs).
- Within 500 feet of freeways and other high-volume roadways (i.e., roads that carry more than 100,000 vehicles per day in urban areas).
- In close proximity to localized air quality emission sources, such as distribution centers and rail yards.
- Within 1,000 feet of distribution centers with 100 trucks per day (or more than 300 hours per week of transport refrigeration unit operation).



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In conclusion, the *GPU EIR* determined that placement of sensitive uses near major pollutant sources would result in significant air quality impacts from the exposure of persons to substantial pollutant concentrations.

While much of the City has been developed, the *GPU* would potentially intensify the density of development in the City, including areas adjacent to industrial areas and freeways. If new sensitive development, consistent with the *GPU*, were placed in the vicinity of any of these sources, then sensitive receptors could be exposed to significant concentrations of air pollutants. In accordance with CEQA, new development would be required to assess the localized air quality impacts from placement of new sensitive uses within the vicinity of such sources. Placement of sensitive uses near major pollutant sources would result in potential significant air quality impacts from the exposure of persons to substantial pollutant concentrations.

The *GPU EIR* concluded that with the implementation of mitigation (Air Quality Mitigation Measure 2-2), impacts to sensitive land uses in the vicinity of pollutant generators would be lessened, but impacts would remain significant and unavoidable.

Odors

The *GPU EIR* found that construction activity associated with the *GPU* would require the operation of equipment that may generate exhaust from either gasoline or diesel fuel, and that construction and development also would require the application of paints and the paving of roads, which could generate odors from materials such as paints and asphalt. As these odors are short-term in nature and quickly disperse into the atmosphere, the *GPU EIR* concluded that impacts would be less than significant.

With respect to operational-related emissions, the *GPU EIR* found that future residential and commercial development would involve minor odor-generating activities, such as backyard barbeque smoke, lawn mower exhaust, application of exterior paints for home improvement, cooking odors (e.g., restaurant exhaust vents), paint odors from auto body shops, etc. These types and concentrations of odors were noted as being typical of residential communities and not considered to result in a public nuisance.

The *GPU EIR* also further noted that individual projects, including commercial, industrial, and residential projects associated with the *GPU* are also required to comply with SCAQMD Rule 402 to prevent occurrence of public nuisances.

The *GPU EIR* concluded that with the implementation of regulatory requirements and standard conditions of approval, odor impacts would be less than significant.



IMPACT ANALYSIS

- A. **WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN?**
- B. **WOULD THE PROJECT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD?**

The City of Torrance is located within the South Coast Air Basin (SoCAB), which is a non-attainment area for Federal and State criteria air pollutants, including O₃, PM₁₀, and PM_{2.5}.

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be reviewed to ensure that potential pollutant emissions do not conflict with or obstruct implementation of the applicable air quality plan, result in a cumulatively considerable net increase of any criteria pollutant, or be inconsistent with Federal, State, and local air quality standards; the applicable Air Quality Management Plan; and the *GPU* goals, policies, and standards relative to air quality.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws, regulations, and air quality standards; applicable Air Quality Management Plan; SCAQMD rules and programs; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); *GPU EIR* Mitigation Measures 2-1 and 2-2; and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. The previously noted goals, policies, actions, laws, regulations, standards, rules, and programs along with mitigation measures ensure proposed project impacts are reduced to the maximum extent practicable, and that air quality plan and ambient air quality standard impacts remain as significant and unavoidable.

GPU EIR Mitigation Measures

The *GPU EIR* identified the following mitigation measures, which would be applicable to future development proposals in the City.



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Construction Emissions

- 2-1 The City of Torrance Building Department shall require that all new construction projects incorporate feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:
- Requiring fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
 - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
 - Applying water every four hours to active soil-disturbing activities.
 - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
 - Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or more restrictive exhaust emission limits.
 - Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
 - Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
 - Using super-compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on the South Coast Air Quality Management District's website: http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf.

Air Quality Compatibility

- 2-2 The City of Torrance shall evaluate new development proposals in the City for potential air quality incompatibilities according to the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective* (April 2005). New development that is inconsistent with the recommended buffer distances shall only be approved if feasible mitigation measures, such as high-efficiency minimum efficiency reporting value filters have been incorporated into the project design to protect future sensitive receptors from harmful concentrations of air pollutants as a result of proximity to existing air pollution sources.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. WOULD THE PROJECT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS?

Land uses that are considered more sensitive to changes in air quality than others are referred to as sensitive receptors. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods.



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The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws, regulations, and air quality standards; applicable Air Quality Management Plan; SCAQMD rules and programs; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); *GPU EIR* Mitigation Measure 2-2; and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. The *GPU EIR* identified Mitigation Measure 2-2 to reduce impacts to residential and other sensitive land uses; however, impacts were concluded to be significant and unavoidable. Thus, adoption and implementation of the proposed project would not directly result in the exposure of persons to substantial pollutant concentrations.

The previously noted goals, policies, actions, laws, regulations, standards, rules, programs, and mitigation measure ensure proposed project impacts are reduced to the maximum extent practicable, and that air quality impacts to sensitive receptors remain as significant and unavoidable.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE?

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed project would not directly result in the exposure of persons to other emissions or odors. Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws, regulations, and air quality standards; applicable Air Quality Management Plan; SCAQMD rules and programs; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); *GPU EIR* Mitigation Measures 2-1 and 2-2; and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils,



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Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. The previously noted goals, policies, actions, laws, regulations, standards, rules, and programs along with mitigation measures ensure proposed project impacts relative to emissions or odor impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.4 BIOLOGICAL RESOURCES

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
D. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	
E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
F. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Sensitive Species, Sensitive Natural Communities, Riparian Habitats, or Federally Protected Wetlands; Candidate, Sensitive, or Special Status Species; Riparian Habitat or Other Sensitive Natural Community; and Wetlands

The Madrona Marsh Preserve is the last known remnant of the historic natural vernal wetland complex in Los Angeles County. The preserve contains four habitat associations: vernal marsh, vernal pool, alkaline margin, and back dune system; the back dune system is part of the former El Segundo Dune System that historically occupied coastal areas along much of the Santa Monica Bay. The Madrona Marsh Preserve would be designated as Public/Quasi-Public/Open Space by the GPU and as such, would not be designated for development.

The bluffs above Torrance Beach that were revegetated with native plant species in 2003 would be designated Public/Quasi-Public/Open Space. The bluffs would not be designated for development and would continue to be preserved as open space.

The Dominguez Channel and the Torrance Lateral drainage channel do not provide native habitat or riparian habitat.



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The *GPU EIR* concluded that with implementation of regulatory requirements and standard conditions of approval, impacts to sensitive species, sensitive natural communities, riparian habitats, or federally protected wetlands would be less than significant.

Wildlife Movement Corridors

Nearly the entire City is built out with urban land uses, and there is little native habitat available for wildlife movement remaining in the City. Thus, there are no major or regional officially designated wildlife corridors passing through the City.

The Madrona Marsh Preserve and the Torrance Beach Bluffs, which currently contain wildlife habitat, would each be designated as Public/Quasi-Public/Open Space in the *GPU*. This designation provides for open space, land owned by public agencies and jurisdictions, and land owned by private entities for uses that serve the community, such as utilities. These two areas would not be designated for development and would continue to preserve these areas as wildlife habitat. Thus, the *GPU* would not adversely impact use of these areas for wildlife movement, such as by migrating birds. Separately, developed land uses in the City contain ornamental landscaping including trees and shrubs. Such vegetation could be used by migrating birds protected by the Migratory Bird Treaty Act (MBTA).

The City lies within the Pacific Flyway, a bird migration route extending from the Arctic to South America. Two categories of birds use the Flyway: waterfowl, such as ducks and geese; and shorebirds (or waders) such as sandpipers, avocets, stilts, and plovers. Waterfowl using the Flyway would be most likely to use one place in the City, Madrona Marsh Preserve. Shorebirds using the Flyway would be most likely to use one place in the City, Torrance Beach. The *GPU* designated these places as Public/Quasi-Public/Open Space, and as such, these places would not be designated for development.

The *GPU EIR* concluded that with implementation of regulatory requirements and standard conditions of approval, impacts to wildlife movement corridors would be less than significant.

Conflict with Biological Resources /Tree Policies

The Initial Study for the *GPU EIR* determined that the City of Torrance did not have any local ordinances or policies for the preservation of trees that would conflict with the proposed *GPU* and concluded that no impact would occur. As a result, impacts due to a conflict with policies or ordinances protecting biological resources, including trees, were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded no impacts regarding conflicts with biological resources policies.

Habitat or Natural Community Conservation Plan

The Initial Study for the *GPU EIR* determined there were no Habitat Conservation Plans or Natural Community Conservation Plans in effect within the City. The Initial Study concluded that the *GPU* would have no impact on an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As a result, impacts due to a conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded no impacts regarding conflicts with habitat or natural community conservation plans.



IMPACT ANALYSIS

A. WOULD THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT, EITHER DIRECTLY OR THROUGH HABITAT MODIFICATIONS, ON ANY SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL STATUS SPECIES IN LOCAL OR REGIONAL PLANS, POLICIES, OR REGULATIONS, OR BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME OR U.S. FISH AND WILDLIFE SERVICE?

The majority of the City is built out with urban land uses and established development. As such, the City provides limited habitat supportive of special status plant or wildlife species, primarily in the Madrona Marsh Preserve or the Torrance Bluffs. The closest HCO sub-areas to Madrona Marsh Preserve are sub-areas 2 and 3; however these sub-areas are located more than 0.75 mile to the south, 1.0 mile to the north, or 1.5 miles to the east.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, and would not result in a substantial adverse effect, either directly or through habitat modifications, on any sensitive species. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON ANY RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITY IDENTIFIED IN LOCAL OR REGIONAL PLANS, POLICIES, REGULATIONS OR BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME OR U.S. FISH AND WILDLIFE SERVICE?

The majority of the City is built out with urban land uses and established development. As such, the City provides no habitat supportive of riparian areas. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, and would not result in any substantial adverse effect on a riparian habitat. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



C. WOULD THE PROJECT HAVE A SUBSTANTIAL ADVERSE EFFECT ON FEDERALLY PROTECTED WETLANDS AS DEFINED BY SECTION 404 OF THE CLEAN WATER ACT (INCLUDING, BUT NOT LIMITED TO, MARSH, VERNAL POOL, COASTAL, ETC.) THROUGH DIRECT REMOVAL, FILLING, HYDROLOGICAL INTERRUPTION, OR OTHER MEANS?

The majority of the City is built out with urban land uses and established development. The only wetland in the City is the Madrona Marsh Preserve. The closest HCO sub-areas to Madrona Marsh Preserve are Sub-Areas 2 and 3; however these sub-areas are located more than 0.75 mile to the south, 1.0 mile to the north, or 1.5 miles to the east.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT INTERFERE SUBSTANTIALLY WITH THE MOVEMENT OF ANY NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES OR WITH ESTABLISHED NATIVE RESIDENT OR MIGRATORY WILDLIFE CORRIDORS, OR IMPEDE THE USE OF NATIVE WILDLIFE NURSERY SITES?

The majority of the City is built out with urban land uses and established development. There is little native habitat available for wildlife movement remaining in the City. Thus, there are no major or regional officially designated wildlife corridors passing through the City. However, the City lies within the Pacific Flyway, a bird migration route extending from the Arctic to South America. Waterfowl using the Flyway would most likely use the Madrona Marsh Preserve, while shorebirds using the Flyway would most likely use Torrance Beach.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. None of the three sub-areas are located near Torrance Beach, which is southwest of the sub-areas. The closest sub-areas to Madrona Marsh Preserve are Sub-Areas 2 and 3; however these sub-areas are located more than 0.75 mile to the south, 1.0 mile to the north, or 1.5 miles to the east.

Due to the lack of quality biological habitat and wildlife corridors in close proximity to the three sub-areas, the proposed project would not interfere with the movement of fish or wildlife or impact wildlife corridors. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



E. WOULD THE PROJECT CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES, SUCH AS A TREE PRESERVATION POLICY OR ORDINANCE?

The City of Torrance has no local policies or ordinances protecting biological resources. Nor has the City adopted a tree preservation ordinance. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

F. WOULD THE PROJECT CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN?

The City of Torrance is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



**Addendum to the Torrance General Plan Update
Environmental Impact Report for the Proposed Housing Corridor Overlay**

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4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?			✓	
B. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?			✓	
C. Disturb any human remains, including those interred outside of formal cemeteries?			✓	
D. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k)?			✓	
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Historical Resources

The *GPU EIR*, based upon information compiled through the California State University, Fullerton, South Central Coastal Information Center (SCCIC), identified a total of 141 reported historical structures, including 47 properties evaluated and identified as eligible for recognition as historical resources, 91 properties evaluated and determined ineligible for recognition, 3 properties listed on the National Register of Historic Places or as State Historic Landmarks (which includes the Adobe home of Jose Dolores Sepulveda), and one property with no definitive information.

The *GPU EIR* concluded that adoption of the *GPU* would not directly affect any historical structures. However, identified historic structures and sites that are eligible for National Register of Historic Resources listing may be vulnerable to development activities accompanying revitalization. Additionally, other structures that could meet the National Register criteria upon reaching 50 years of age might be impacted by development activity.



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At the time a development or redevelopment is proposed, the project-level CEQA document would need to identify any impacts to potentially historic structures. Section 15064.5 of the CEQA Guidelines identifies historical resources as those listed or eligible for the California Register of Historic Resources, a site listed on a local register of historical resources, or a site, building, or area determined to be historic by the lead agency. Any site or building that is not listed but has historic value as determined by a historical resources survey cannot be precluded from qualifying as a historical resource.

Although implementation of the *GPU* would involve the redevelopment of areas that would contain potentially historic buildings, *General Plan* policies and State and Federal regulations restricting minor and/or major alterations and demolitions of historic resources would protect any future designated historic sites. Impacts on historical resources would be less than significant.

The *GPU EIR* concluded that with implementation of *General Plan* policies, regulatory requirements, and standard conditions of approval, impacts to historical resources would be less than significant.

Archaeological and Paleontological Resources

The *GPU EIR* identified that the City is primarily built out and the majority of land in the City has been previously disturbed. As such, the discovery of archaeological and paleontological resources in the City is unlikely. However, there is the potential to discover such resources in the City during redevelopment or intensification of certain areas. Some archaeological resources have been discovered in the City of Torrance during past excavations or development activities. Paleontological resources, such as fossils and geologic artifacts, are most likely to be found in shallow contexts in the City of Torrance. The *GPU EIR* noted that in the event that archaeological or paleontological resources are discovered the appropriate measures would be taken to identify and assess the materials. Impacts related to archaeological and/or paleontological resources are less than significant.

The *GPU EIR* concluded that adoption of the General Plan Update would not directly affect archaeological or paleontological resources. However, long-term implementation of the *GPU* could allow development and redevelopment, including grading, of sensitive areas. The *GPU EIR* concluded that with implementation of regulatory requirements and standard conditions of approval, impacts to archaeological and paleontological resources would be less than significant.

Human Remains

The majority of Torrance has already been developed and graded. The *GPU* provides for additional residential and nonresidential development, which could potentially reveal undiscovered human remains or burial sites. In the event that this occurs, the City would be required to alert the county coroner of the presence of these remains so that the appropriate persons and/or Native American tribe may be notified. The City would follow the previously identified procedure upon discovery of remains or burial sites and would therefore be consistent with California Public Resources Code Section 5097.98.

The *GPU EIR* concluded that with implementation of regulatory requirements, impacts to human remains would be less than significant.



Tribal Cultural Resources

Assembly Bill 52 (AB 52) was signed into law in 2014 and added the above-listed threshold to *CEQA Guidelines* Appendix G. Thus, at the time the *GPU EIR* was certified in 2010, AB 52 was not in place and the *GPU EIR* did not evaluate this threshold. Notwithstanding, the *GPU EIR* included an analysis of potential impacts to cultural resources. As previously indicated, although no archaeological sites had been identified within the City, the *GPU EIR* found there is the potential for discovering such resources during construction of future development proposals in Torrance.

The *GPU EIR* concluded that with implementation of regulatory requirements, impacts to archaeological resources, inclusive of tribal cultural resources, would be less than significant.

IMPACT ANALYSIS

A. WOULD THE PROJECT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A HISTORICAL RESOURCE AS DEFINED IN CEQA GUIDELINES SECTION 15064.5?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be reviewed to ensure that historically significant buildings and resources are preserved. In addition, future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions relative to historical resources, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF AN ARCHAEOLOGICAL RESOURCE PURSUANT TO CEQA GUIDELINES SECTION 15064.5?

The *GPU EIR* identified that the City is largely built out and does not contain any known archeological resources. The *GPU EIR* also identified that the potential for uncovering archaeological resources within the City is considered remote, given that no such resources had been discovered during prior development activity. Nor was it anticipated that new development on previously developed sites would uncover or impact archaeological resources.



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The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions relative to archaeological resources, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. WOULD THE PROJECT DISTURB ANY HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE OF FORMAL CEMETERIES?

No formal cemeteries exist within the City of Torrance. And to the level of past disturbance associated with development throughout the City, it is not anticipated that human remains exist within the City.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be reviewed confirm the absence or presence of human remains, and that the future development proposals within the proposed HCO areas comply with *Health and Safety Code* and *Public Resources Code* protocols. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



- D. WOULD THE PROJECT CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF A TRIBAL CULTURAL RESOURCE, DEFINED IN PUBLIC RESOURCES CODE SECTION 21074 AS EITHER A SITE, FEATURE, PLACE, CULTURAL LANDSCAPE THAT IS GEOGRAPHICALLY DEFINED IN TERMS OF THE SIZE AND SCOPE OF THE LANDSCAPE, SACRED PLACE, OR OBJECT WITH CULTURAL VALUE TO A CALIFORNIA NATIVE AMERICAN TRIBE, AND THAT IS:**
- 1. LISTED OR ELIGIBLE FOR LISTING IN THE CALIFORNIA REGISTER OF HISTORICAL RESOURCES, OR IN THE LOCAL REGISTER OF HISTORICAL RESOURCES AS DEFINED IN PUBLIC RESOURCES CODE SECTION 5020.1(K)?**
 - 2. A RESOURCE DETERMINED BY THE LEAD AGENCY, IN ITS DISCRETION AND SUPPORTED BY SUBSTANTIAL EVIDENCE, TO BE SIGNIFICANT PURSUANT TO CRITERIA SET FORTH IN SUBDIVISION (C) OF PUBLIC RESOURCES CODE SECTION 5024.1? IN APPLYING THE CRITERIA SET FORTH IN SUBDIVISION (C) OF PUBLIC RESOURCES CODE SECTION 5024.1, THE LEAD AGENCY SHALL CONSIDER THE SIGNIFICANCE OF THE RESOURCE TO A CALIFORNIA NATIVE AMERICAN TRIBE.**

Impact Analysis

Whatever the linguistic affiliation, Native Americans in and around the City of Torrance exhibited similar organization and resource procurement strategies. Villages were based on clan or lineage groups. Their home/base sites are marked by midden deposits, often with bedrock mortars. During their seasonal rounds to exploit plant resources, small groups would migrate within their traditional territory in search of specific plants and animals. Their gathering strategies often left behind signs of special use sites, usually grinding slicks on bedrock boulders, at the locations of the resources.

Given the history of tribes in and around the City of Torrance, there is the potential that the construction of future development proposals would impact tribal cultural resources. Past construction and development practices in the City were not as sensitive to tribal cultural resources as current practices. Thus, ground-disturbing activities, such as grading or excavation, could disturb previously unidentified subsurface resources, including unknown tribal cultural resources.

Table 2-2, Housing Corridor Overlay – Allowable Uses identifies the majority of residential, eating and drinking establishment, office, and service uses are permitted by-right or permitted with a minor use permit. As such, tribal consultation per Assembly Bill 52 (Public Resources Code Section 21080.3[b][1]) would not be triggered for uses permitted by-right or permitted with a minor use. Only future development proposals within the proposed HCO areas for which a Notice of Preparation, Notice of Negative Declaration, or Notice of Mitigated Negative Declaration is filed or issued would necessitate tribal consultation per Public Resources Code Section 21080.3.1.

Native American monitoring during site preparation for future development proposals within the proposed HCO areas would occur, as applicable, per TCR-1 and TCR-3 through TCR-6 in the Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum).

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City.



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Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions relative to tribal cultural resources and Native American monitoring, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.6 ENERGY

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

The *GPU EIR* disclosed that *GPU* buildout would entail the commitment of nonrenewable and/or slowly renewable energy resources. As the community continues to develop, the *GPU EIR* noted that both residential and nonresidential development would require further commitment of energy resources in the form of natural gas and electricity generated by coal, hydroelectric power, or nuclear energy. Increased motor vehicle travel within the City resulting from the *GPU* also would be accompanied by increased consumption of petroleum products. However, the *GPU EIR* did not identify any impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, or due to a conflict with or obstruction of a State or local plan for renewable energy or energy efficiency.

The *GPU EIR* concluded no impacts to energy resources.

IMPACT ANALYSIS

- A. WOULD THE PROJECT RESULT IN POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES, DURING PROJECT CONSTRUCTION OR OPERATION?**
- B. WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY?**

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, and would not result in a substantial adverse effect relative to energy resources, renewable energy, or energy efficiency.



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Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; most current adopted version of the *California Building Code* and *California Green Building Standards Code*; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. The proposed project would not result in impacts to energy resources, or conflict with or obstruct any plans addressing renewable energy or energy efficiency. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.7 GEOLOGY AND SOILS

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			✓	
2) Strong seismic ground shaking?			✓	
3) Seismic-related ground failure, including liquefaction?			✓	
4) Landslides?			✓	
B. Result in substantial soil erosion or the loss of topsoil?			✓	
C. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	
D. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
E. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			✓	
F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Seismic-Related Impacts

The *GPU EIR* reported that the City of Torrance lies in close proximity to several active and potentially active faults, which may result in seismic hazards to structures and persons within Torrance during a seismic event. Although it may be impossible to prevent an earthquake from occurring, its effects can be minimized. Potential seismic hazards in the Torrance area include surface-fault rupture, strong seismic ground shaking, and related ground failure.



Rupture of Earthquake Faults

Primary ground rupture due to fault movement typically results in a relatively small percentage of the total damage in an earthquake, yet being too close to a rupturing fault can result in extensive damage. The Palos Verdes Fault is the only known fault with the potential to generate primary surface rupture in the City of Torrance.

Since much of the Palos Verde Fault has already been built upon, there is little that can be done to prevent damage to existing buildings that are on top of or near the fault. Redevelopment of areas near the fault would include studies to determine the exact locations of the fault and its lineaments. Additionally, a fault hazard management zone has been established around the traces of the Palos Verdes fault that are considered more recently active (green zone in *GPU EIR* Figure 5.5-2). This fault hazard management zone is asymmetrical, that is, wider on one side of the fault, consistent with observations of past earthquakes that show that there is more surface deformation and damage on the upthrown block (in this case, the south side of the fault). *GPU EIR* Table 5.5-2 provides a list of faults and their estimated horizontal peak ground accelerations and seismic intensities within the Torrance Area. The *GPU EIR* also noted there are no Alquist-Priolo Earthquake Fault Zones in the City.

Ground Shaking

A probabilistic analysis for City Hall indicates that the Torrance area has a 10 percent probability of experiencing ground motions of between approximately 0.43g (for stiff soils) and 0.52g (for alluvium) in the next 50 years. These probabilistic ground motion values for Torrance are in moderate to high range for southern California, and are the result of the City's proximity to major fault systems with high earthquake recurrence rates. These levels of shaking can be expected to cause damage, particularly to older and poorly constructed buildings. While new construction would be required to adhere to the most recently adopted *Uniform Building Code (UBC)*, the *UBC* is not retroactive.

Structures built before 1971 are particularly susceptible to damage during an earthquake, including unreinforced masonry (URM) structures, precast tilt-up concrete buildings, soft-story structures, unreinforced concrete buildings, and pre-1952 single-family structures. Other potentially hazardous buildings include irregularly shaped structures and mobile homes. In addition to older structures, essential facilities are those parts of a community's infrastructure that must remain operational after an earthquake. Buildings that use essential services include schools, hospitals, fire and police stations, emergency operations centers, and communication centers. It is crucial that essential facilities have no structural weaknesses that can lead to collapse. In Torrance, essential facilities include two hospitals, 30 public schools, six fire stations, and one police station. Therefore, while the earthquake hazard mitigation improvements associated with the current building codes address new construction, the retrofit and strengthening of existing structures requires the adoption of ordinances.

In the year 2000, the City reported to the Seismic Safety Commission that there were 50 URMs in Torrance, none of which were considered of historical significance. All of the property owners were notified of the type of construction they owned, and of these, 43 buildings were strengthened to comply with the 1982 edition of Division 88 of the Los Angeles City Code, the City-mandated mitigation standard for URMs. The remaining 7 structures were demolished. Existing ordinances and the *GPU* policies and objectives would further reduce hazards to existing structures.



Landslides (Ground Failure)

The majority of Torrance is relatively flat and is not at risk for landslides. However, the southern portions of the City near the Palos Verdes Hills are prone to forms of landslides, especially soil slips and mudflows, because of the natural grade. In general, slopes with a grade of 15 percent or more have the greatest potential to cause landslides. These can be induced by either earthquakes or high amounts of precipitation. Torrance has development restrictions and processes to mitigate landslide risks.

Seismic-Related Impact Summary

Overall, the residents and businesses of Torrance are exposed to seismic hazards including groundshaking, fault ruptures, and landslides. Since the City is almost entirely built out, the existing built environment would not be changed significantly as the GPU is built out. New structures would be built to standards enforced by the City to prevent risk to persons and property, improving the safety of the built environment.

To reduce the hazards associated with seismic activity, the City requires that all new development abide by the most recently adopted City and state seismic and geotechnical requirements to protect injury and structural damage due to geologic and seismic hazards. Since the amount of new development in the City would not increase substantially upon GPU buildout and any new development would be required to follow development restrictions, the impacts related to seismic hazards would be less than significant.

The GPU EIR concluded that seismic-related impacts resulting from the GPU would be less than significant with the implementation of regulatory requirements and standard conditions of approval.

Unstable Soils or Ground Conditions

The GPU EIR reported that the City of Torrance is in a region with the potential for unstable ground conditions to occur, including unstable slopes, compressible soils, expansive soils, and ground subsidence.

Slope Instability

The most receptive areas to slope instability are areas with slope grades of 15 percent or higher, found in Torrance near the Palos Verdes Hills and other areas in western Torrance. The risks related to landslides and liquefaction in these areas would be reduced by the use of building setbacks and restrictions.

Collapsible and Compressible Soils

Areas of recently active drainage channels in Torrance would be the most susceptible to soil collapse because of the young deposits of alluvial soil. The potential for soils to collapse should be evaluated on a site-specific basis as part of the geotechnical studies for development. A number of construction-related mitigation techniques reduce the risk of soil collapse. These techniques include excavation and recompaction, or the in-place presaturation and preloading of the susceptible soils to induce collapse. After construction, infiltration of water into the subsurface soils should be minimized by proper surface drainage design, which directs excess runoff to catch basins and storm drains. Soil engineering reports, as required by the *Municipal Code*, would disclose the geological and soil conditions of a development site prior to building approval and construction.



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Areas of the City where compressible soils are most likely to occur are the active and recently active stream channels, beach deposits, and young alluvial fan deposits. When development is planned within areas that contain compressible soils, a geotechnical soil analysis is required to identify the presence of this hazard. The analysis should consider the characteristics of the soil column in that specific area, the load of any proposed fills and structures that are planned, the type of structure (i.e., a road, pipeline, or building), and the local groundwater conditions. In cases where it is not feasible to remove the compressible soils, buildings can be supported on specially engineered foundations that may include deep caissons or piles anchored in noncompressible materials underlying the weak soils.

Subsidence

Instances of subsidence in Torrance are associated with oil and gas extraction. However, subsidence has been reduced over the last 30 years and from about three centimeters per year between 1978 and 1989 and about two millimeters per year between 1989 and 1994. Subsidence due to groundwater pumping has not been a significant risk in the past, but increases in groundwater extraction in the future may cause new sources of ground subsidence. The City has taken actions to reduce this risk:

- Increased use of reclaimed water, stormwater, or imported water.
- Implementation of artificial recharge programs.
- Determination of the safe yields of the groundwater basins, so that available supplies can be balanced with extraction.
- Monitoring of the groundwater and basin conditions.
- Establishment of a monitoring program to detect changes in ground elevations above producing aquifers.
- Protecting groundwater quality.
- Reducing long-term water demand with specific programs of water conservation.
- Acquiring additional imported water supplies, and encouraging water conservation through public education.

Erosion

Wind erosion does not pose a significant risk since the majority of the City has been developed with urban land uses and established development, leaving few exposed soil surfaces. Erosion caused by water occurs along the coastline where waves wear down soil, rock, and sediments. Short-term and long-term erosion control measures would help to maintain the natural structures of these areas.

The City has almost reached its buildout capacity; most of the new development in the City would be redevelopment or small infill projects. New development would be required to follow the building, construction, and design features that reduce impacts related to soil instability. The *Torrance Building Code* incorporated into the *Torrance Municipal Code* includes restrictions and practices that must be followed by developers in the City of Torrance.



Unstable Soils or Ground Conditions Impact Summary

The GPU EIR concluded that GPU impacts related to unstable soils or ground conditions would be less than significant with the implementation of regulatory requirements and standard conditions of approval.

Soils Supportive of Septic Tanks or Alternative Wastewater Disposal Systems

The Initial Study for the GPU EIR noted that the City may have a few remaining parcels that rely on the use of septic tanks for wastewater disposal; however there are no documented soil incompatibility issues relating to these uses. Thus, this issue was not analyzed in the GPU EIR.

The GPU EIR concluded no impact would occur relative to the use septic tanks or alternative wastewater disposal systems.

Unique Paleontological Resource or Geologic Feature

The GPU EIR identified that the City is primarily built out and the majority of land in the City has been previously disturbed. As such, the discovery of paleontological resources in the City is unlikely. However, there is the potential to discover such resources in the City during redevelopment or intensification of certain areas. Paleontological resources, such as fossils and geologic artifacts, are most likely to be found in shallow contexts in the City of Torrance. The GPU EIR noted that in the event that paleontological resources are discovered the appropriate measures would be taken to identify and assess the materials. Impacts related to paleontological resources are less than significant.

The GPU EIR concluded that with implementation of regulatory requirements and standard conditions of approval, impacts to unique paleontological resources or geologic features would be less than significant.

IMPACT ANALYSIS

- A. WOULD THE PROJECT DIRECTLY OR INDIRECTLY CAUSE POTENTIAL SUBSTANTIAL ADVERSE EFFECTS, INCLUDING THE RISK OF LOSS, INJURY, OR DEATH INVOLVING:**
- 1. RUPTURE OF A KNOWN EARTHQUAKE FAULT, AS DELINEATED ON THE MOST RECENT ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING MAP ISSUED BY THE STATE GEOLOGIST FOR THE AREA OR BASED ON OTHER SUBSTANTIAL EVIDENCE OF A KNOWN FAULT? REFER TO DIVISION OF MINES AND GEOLOGY SPECIAL PUBLICATION 42.**

Southern California, including the City of Torrance, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone. No Alquist-Priolo Earthquake Fault zones exist within the City of Torrance. Thus, adoption and implementation of the proposed project ensures impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



2. STRONG SEISMIC GROUND SHAKING?

The City of Torrance, similar to the rest of California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. Major faults within a 50-mile radius of Torrance are capable of producing substantial effects from ground shaking. These faults include, but are not limited to, the Palos Verdes, Puente Hills, Newport-Inglewood, Santa Monica, Malibu Coast, Whittier, and San Andreas faults. A major earthquake produced along any of these faults has the potential to produce strong ground shaking in Torrance.

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The *California Building Code* includes specific design measures, which are based on the determination of Site Classification and Seismic Design Categories specific to a project site. These design measures are intended to maximize structural stability in the event of an earthquake. Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; most current adopted version of the *California Building Code*; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

3. SEISMIC-RELATED GROUND FAILURE, INCLUDING LIQUEFACTION?

4. LANDSLIDES?

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure. In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must be considered are groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking.

The geologic and topographic characteristics of an area often determine its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential slope failure and landslide events.



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The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The majority of the City is built out with urban land uses and established development. Given that the proposed HCO areas are located within relatively flat areas within the City and not near the Palos Verdes Hills, which are prone to landslides, future development within the proposed HCO areas would not be subject to liquefaction or landslide impacts.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; preparation of site-specific geologic studies; applicable Federal and State laws and regulations; most current adopted version of the *California Building Code*; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures seismic-related ensures ground failure and earthquake-induced landslide impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT RESULT IN SUBSTANTIAL SOIL EROSION OR THE LOSS OF TOPSOIL?

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas involving demolition and/or construction activities would be subject to compliance with the *California Building Code*, as well as the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities. The NPDES Storm Water General Construction Permit requires preparation of a Storm Water Pollution Prevention Plan, which would identify specific erosion and sediment control Best Management Practices that would be implemented to protect storm and non-storm water runoff during construction and post-development activities, inclusive of low impact development (LID) design considerations and operational and maintenance requirements. Compliance with the *California Building Code* and NPDES would minimize effects from erosion and ensure consistency with the Los Angeles Regional Water Quality Control Board Water Quality Control Plan. Thus, adoption and implementation of the proposed project ensures that soil erosion impacts remain as less than significant impacts.



Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. WOULD THE PROJECT BE LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE, OR THAT WOULD BECOME UNSTABLE AS A RESULT OF THE PROJECT, AND POTENTIALLY RESULT IN AN ON-SITE OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION OR COLLAPSE?

Refer to Responses A.1.3 and A.1.4.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT BE LOCATED ON EXPANSIVE SOIL, AS DEFINED IN TABLE 18-1-B OF THE UNIFORM BUILDING CODE (1994), CREATING SUBSTANTIAL RISKS TO LIFE OR PROPERTY?

Expansive soils can be a problem, as variation in moisture content will cause a volume change in the soil. Expansive soils heave when moisture is introduced and contract as they dry. During inclement weather and/or excessive landscape watering, moisture infiltrates the soil and causes the soil to heave (expansion). When drying occurs the soils will shrink (contraction). Repeated cycles of expansion and contraction of soils can cause pavement, concrete slabs on grade and foundations to crack. This movement can also result in misalignment of doors and windows.

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; preparation of site-specific geologic studies; applicable Federal and State laws and regulations; most current adopted version of the *California Building Code*; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures that expansive soil impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



E. WOULD THE PROJECT HAVE SOILS INCAPABLE OF ADEQUATELY SUPPORTING THE USE OF SEPTIC TANKS OR ALTERNATIVE WASTE WATER DISPOSAL SYSTEMS WHERE SEWERS ARE NOT AVAILABLE FOR THE DISPOSAL OF WASTE WATER?

The majority of the City is built out with urban land uses and established development. All existing development within the City is connected to a sewer system for the disposal of wastewater. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to connect to a sewer system. In addition, future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; preparation of site-specific geologic studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures that septic tank or alternative waste water disposal system impacts remain as no impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

F. WOULD THE PROJECT DIRECTLY OR INDIRECTLY DESTROY A UNIQUE PALEONTOLOGICAL RESOURCE OR SITE OR UNIQUE GEOLOGIC FEATURE?

The majority of the City is built out with urban land uses and established development, does not contain any known paleontological resources or unique geologic features. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The potential for uncovering paleontological resources or unique geologic features within the City is considered remote, given that no such resources have been discovered during prior development activity. Thus, adoption and implementation of the proposed project ensures that unique paleontological resources or geological features impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.8 GREENHOUSE GASES

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

The *GPU EIR* concluded that greenhouse gas (GHG) emission effects associated with *GPU* buildout would be less than significant with the implementation of Mitigation Measures 6-1 and 6-2.

At the time the City prepared the *GPU*, GHG emissions and Climate Action Plans (CAPs) were not formally a part of the CEQA process for a General Plan Update. As concurrent preparation and adoption of a *Climate Action Plan (CAP)* for the City as part of the *Torrance General Plan* was not feasible, Mitigation Measures 6-1 and 6-2 outline the City’s commitment to funding, commit the City to community-wide and municipal GHG reduction targets, and require implementation of actions to reduce GHG emissions within the City of Torrance.

Climate action planning efforts vary in scope, size and focus. One common aim of this work is to establish greenhouse gas inventories and future forecasts. Another major component is developing the framework for selecting, evaluating, and organizing strategies that help advance local climate planning goals. For example, individual agencies may implement policies, optional or mandatory, related to land use development that operate outside the CEQA process. Within the CEQA process, a qualified CAP framework offers the ability to streamline future CEQA greenhouse gas analyses by being able to tier off the climate action plan.

Torrance Climate Action Plan

The City of Torrance Climate Action Plan (Climate Action Plan, CAP), dated December 2017, was prepared by the South Bay Cities Council of Governments (SBCCOG). The *Climate Action Plan* includes the following strategies, goals, and measures:

- Sustainable South Bay Strategy (South Bay Land Use and Transportation Strategies)
- Energy Efficiency
- Land Use and Transportation
- Solid Waste
- Urban Greening
- Energy Generation & Storage



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The *Climate Action Plan* is a guide which set greenhouse gas emission reduction goals and established strategies to achieve these outcomes over the next 20 years. The strategies included in the plan are voluntary, however the City has committed to the targets outlined in the Plan. The targets are consistent with California's AB 32 goals and will help the State meet its long term goal of 80% below 1990 levels by 2050.

City of Torrance Targets

2020: 15% reduction from 2005 levels

2035: 49% reduction from 2005 levels

The City has achieved its 2020 goals for municipal emissions and the community needs to reduce emissions a further 12% from the levels measured in 2012 in order to meet the 2020 goals.

Since 2012, a number of initiatives implemented in the community will assist in meeting this goal. For example, many homes in the City of Torrance have chosen to install solar panels and in 2019, the City of Torrance became a SolSmart Gold level City for efforts undertaken to remove barriers and soft costs to these installations. In addition, grid modernization, moving towards locally sourced water, the *California Green Building Code* and increased electric vehicle ownership will all help the Torrance community to reduce the community-wide emissions levels and achieve these goals.

IMPACT ANALYSIS

- A. **WOULD THE PROJECT GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT?**
- B. **WOULD THE PROJECT CONFLICT WITH AN APPLICABLE PLAN, POLICY, OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES?**

The majority of the City is built out with urban land uses and established development.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; most current adopted version of the *California Building Code* and *California Green Building Standards Code*; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; *Torrance Climate Action Plan*; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); *GPU EIR* Mitigation Measures 6-1 and 6-2; and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.



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Also, the *Torrance General Plan* includes watershed management and air quality goals and policies in the Circulation and Infrastructure and Safety Elements, and land use and community design, healthy transportation system, park, trails and public facilities, and air quality goals and policies in the Land Use, Circulation and Infrastructure, and Community Resources Elements that support actions to reduce the use of resources and energy, and thus, the creation of greenhouse gas emissions. Future development proposals would be subject to these policies, as applicable.

GPU EIR Mitigation Measures

The *GPU EIR* identified the following mitigation measures, which would be applicable to future development proposals in the City.

- 6-1 The City of Torrance shall prepare a Climate Action Plan within 18 months after adopting the proposed Torrance General Plan update. The climate action plan shall include an updated inventory of greenhouse gas emission sources, including those from municipal government operations and the community as a whole (community-wide), and a quantifiable greenhouse gas emissions reduction target. Local measures to reduce municipal government operations and communitywide greenhouse gas emissions by a minimum of 15 percent from existing levels or by a minimum of 0.7 million metric tons of carbon dioxide-equivalent (CO₂e) emissions at buildout shall be detailed in the climate action plan and measures shall be enforceable. The City shall monitor progress toward the greenhouse gas emissions reduction goal and prepare reports every five years that detail that progress. Measures listed below shall be considered for all new development between the time of adoption of the proposed Torrance General Plan update and adoption of the climate action plan. Local measures considered in the climate action plan shall include:
- Require all new or renovated municipal buildings to seek silver or higher Leadership in Energy and Environmental Design (LEED) standard, or compliance with similar green building rating criteria. (municipal government operations strategy)
 - Require all municipal fleet purchases to be fuel-efficient vehicles for their intended use based on the fuel type, design, size, and cost efficiency. (municipal government operations strategy)
 - For new development projects in Torrance that require demolition, require a demolition plan to reduce waste by recycling and/or salvaging nonhazardous construction and demolition debris. (community-wide strategy)
 - Require that new developments design buildings to be energy efficient by siting them to take advantage of shade, prevailing winds, landscaping, and sun screening to reduce energy required for cooling. (community-wide strategy) Require that cool roofs and cool pavement be incorporated into the site design for new development. (community-wide strategy)
 - Evaluate the feasibility of implementing a public transit fee to support the Los Angeles County Metropolitan Transportation Authority (Metro) in developing additional transit service in the City. (community-wide strategy)
 - Require diesel emission reduction strategies to eliminate and/or reduce idling at warehouses throughout the City. (community-wide strategy)
 - Install energy-efficient lighting and lighting control systems in all municipal buildings. (municipal government operations strategy)



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- Require all new traffic lights installed be energy-efficient traffic signals. (municipal government operations strategy)
- Require all new landscaping irrigation systems installed in the City to be automated, high-efficient irrigation systems to reduce water use, and require use of bubbler irrigation; low-angle, low-flow spray heads; or moisture sensors. (community-wide strategy)
- Conduct energy efficiency audits of existing municipal buildings by checking, repairing, and readjusting heating, ventilation, and air conditioning systems; lighting; water heating equipment; insulation; and weatherization. (municipal government operations strategy)

6-2 Pursuant to a goal of overall consistency with the Sustainable Communities Strategies, the City of Torrance shall evaluate new development for consistency with the development pattern set forth in the Sustainable Communities Strategies plan, upon adoption of the plan by the Southern California Association of Governments.

Thus, adoption and implementation of the proposed project ensures greenhouse gas emissions or conflicts with adopted plans, policies, and regulations remain as less than significant impacts with implementation of *GPU EIR* Mitigation Measures 6-1 and 6-2.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
B. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
C. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
D. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
E. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			✓	
F. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Transport, Use, or Disposal of Hazardous Materials

Torrance has a long history of industrial development, which is still apparent in its current land uses. The *GPU* involves the designation of additional commercial and industrial that could result in an increase in the frequency of transport, use, and disposal of hazardous materials. Industrial uses, which are the primary hazardous-waste-generating facilities in the City, are currently concentrated in the central portions of the City near the Torrance Airport and the oil and gas extraction facilities. *GPU* buildout would allow additional nonresidential development over existing land use conditions in the City. According to the *GPU* Land Use Plan, the proposed industrial development would be contained in areas already designated for industrial land use.

Certain *GPU* policies and objectives are meant to reduce the risks related to industrial land uses. Land Use Element Policy LU.2.4 calls for the reduction of oil extraction facilities in residential areas to reduce the exposure of residents to these hazards. The Safety Element has a number of policies and objectives that reduce the impacts of oil extraction and production and the transport, use, and storage of hazardous materials (*GPU* Objective S.1, Objective S.3, Objective S.4, Policies S.1.1 through S.1.5, S.3.1 through S.3.5, and S.4.1 through S.4.5).



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Additionally, the *Torrance Building Code* provides restrictions on development within hazard areas and with hazardous material use in general to prevent the placement of persons and public use areas near hazardous materials and operations.

The *GPU EIR* concluded that with implementation *GPU* policies and objectives, standard conditions of approval, and Federal, State, and local regulatory requirements, the impacts relative to the transport, use, or disposal of hazardous materials would be less than significant.

Hazardous Materials Sites

In the City of Torrance, there are a number of sites that have had hazardous materials spills or that use, transport, and/or produce hazardous materials. Some of these sites are included on national lists that are meant to inform the public of the locations of these sites and to conduct cleanup activities. The *GPU EIR* reported that within the City, there are 6 sites on the CERCLIS¹ list, 19 on the TRI² list, 12 on the RCRA³ list, 68 on the Environmental Protection Agency's (EPA) Large-Quantity Generators list, and 115 on the LUST⁴ list. The *GPU* buildout result in additional acres of nonresidential development that may have uses that would also be on a list of hazardous materials.

The *GPU* allows industrial and commercial development generally within the same areas as they are currently allowed. There would not be any substantial changes to the land use layout of the City. *GPU* Land Use Element policies would also prevent the placement of hazardous land uses near residential developments and other sensitive land uses (Land Use Objective LU.2 and Land Use Policies LU.2.1 through LU.2.5). In addition, the City of Torrance has a number of policies and regulations in the *Municipal Code* that adopt the Interstate Commerce Commission and California Health and Safety Code regulations affecting the use, transport, and production of hazardous materials.

Since Torrance has a long history of being an industrial center in southern California, preventing persons and property in the City from being exposed to hazardous materials is an essential part of the *GPU*. In addition to the Land Use Element objective and policies mentioned above, the *GPU* includes a number of objectives and policies that regulate the placement, use, and transport of hazardous materials in order to protect public safety and well-being (Safety Element Objectives S.3 and S.4, Policies S.3.1 through S.3.5 and S.4.1 through S.4.3).

The unsubstantial change in land use layout indicated in the *GPU* Land Use Plan in combination with general plan update policies and objectives and the existing regulations in the Torrance *Municipal Code*, impacts related to hazardous materials would be less than significant.

The *GPU EIR* concluded that with implementation *GPU* policies and objectives, standard conditions of approval, and Federal, State, and local regulatory requirements, the impacts relative to hazardous materials sites would be less than significant.

¹ CERCLIS – Comprehensive Environmental Response Compensation and Liability Information System

² TRI – Toxic Release Inventory

³ RCRA – Resource Conservation and Recovery

⁴ LUST – Leaking Underground Storage Tank



Airport Operations Hazards

The Torrance Municipal Airport has a Comprehensive Land Use Plan (CLUP) developed by the Los Angeles County Airport Land Use Commission (ALUC), which jointly approves land use decisions within the airport influence area of Torrance Airport with the Federal Aviation Agency (FAA). The City manages the operations of the airport and coordinates with the FAA and the Los Angeles County ALUC on safety, noise, and land use decisions. The City of Torrance follows the regulation of the FAA for land use developments within the influence area of the airport. The *GPU* would continue to guide development in a way that is compatible with the FAA regulations and the standards in the Los Angeles County (CLUP) for Torrance Municipal Airport.

Chapter Two of Division Five of the *Torrance Municipal Code* also contains restrictions on development within the runway protection zones (RPZ) of the Torrance Municipal Airport. The *GPU* also lists policies and objectives in the safety element that ensure that the City's land use decisions remain consistent with the CLUP (Safety Element Objective S.5 and Policies S.5.1 through S.5.4). The City would continue to coordinate with FAA and the ALUC.

The *GPU EIR* concluded that with implementation *GPU* policies and objectives, standard conditions of approval, and regulatory requirements, the impacts relative to airport operation hazards would be less than significant.

Emergency Response Plans

The City has an emergency plan that establishes emergency preparedness and emergency response procedures for both peacetime and wartime disasters. The plan is termed a "multihazard functional plan," prepared in accordance with the state Office of Emergency Services guidelines. This plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff utilizing the Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS). The plan establishes that the City of Torrance is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to persons, and minimize damage to the environment and to property. The Torrance Police Department through the Emergency Services Divisions is responsible to ensure the City's emergency plan is current and follows both state and federal mandates.

The Torrance Fire Department is required to prepare and follow an area plan for emergency responses to hazardous materials releases. In 2006, the Torrance Fire Department rewrote its area plan to bring it up to date. The area plan has been submitted to the Governor's Office of Emergency Services as required under the Health and Safety Code. The City's participation in the SEMS and NIMS as required under Government Code Section 8607(a) allows Torrance to receive state support and funding in the event on an emergency. The multijurisdictional system depends on voluntary mutual aid and divides services between local governments.

The *GPU EIR* concluded that emergency response plan impacts would be less than significant with the implementation of regulatory requirements and standard conditions of approval.



IMPACT ANALYSIS

- A. **WOULD THE PROJECT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIALS?**
- B. **WOULD THE PROJECT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT?**
- C. **WOULD THE PROJECT EMIT HAZARDOUS EMISSIONS OR HANDLE HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN ONE-QUARTER MILE OF AN EXISTING OR PROPOSED SCHOOL?**
- D. **WOULD THE PROJECT BE LOCATED ON A SITE WHICH IS INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5 AND, AS A RESULT, WOULD IT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT?**

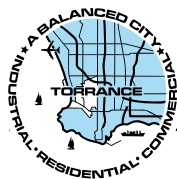
Torrance has a long history of being an industrial center in southern California, and as such, there are a number of sites that have had hazardous materials spills or that use, transport, and/or produce hazardous materials. Some of these sites are included on national lists that are meant to inform the public of the locations of these sites and to conduct cleanup activities. As identified in the *GPU EIR*, within the City there are 6 sites on the CERCLIS list, 19 on the TRI list, 12 on the RCRA list, 68 on the EPA's Large-Quantity Generators list, and 115 on the LUST list.

In addition, the City of Torrance has a number of policies and regulations in the *Municipal Code* that adopt the Interstate Commerce Commission and California Health and Safety Code regulations affecting the use, transport, and production of hazardous materials.

Given Torrance's history of being an industrial center in southern California, an essential part of the *GPU* is preventing persons and property in the City from being exposed to hazardous materials. These *GPU* Land Element and Safety Element objectives and policies address the protection of residents and business employees from potential hazards, as well as regulate the placement, use, and transport of hazardous materials in order to protect public safety and well-being.

Land Use Element, Balanced Community Objectives and Policies

<i>Objective LU.2</i>	<i>A compatible land use pattern</i>
Policy LU.2.1	Require that new development be visually and functionally compatible with existing residential neighborhoods and industrial and commercial areas.
Policy LU.2.2	Encourage the transition of incompatible, ineffective, and/or undesirable land uses to land uses that are compatible and consistent with the character of existing neighborhoods.
Policy LU.2.3	Consider both the impact of a proposed development on surrounding property and the impact of existing uses on new development.
Policy LU.2.4	Phase out primary oil recovery facilities located in unsuitable locations, such as residential neighborhoods.
Policy LU.2.5	Establish landscape or hardscape buffers between residential and non-residential uses, where appropriate, to minimize adverse effects.



Safety Element, Human Activity Hazards Objectives and Policies

- Objective S.3* *To protect the community from hazards associated with the production, transmission, and processing of petroleum products.*
- Policy S.3.1 Take appropriate measures to protect citizens from the hazards of oil and gas recovery, production, and transmission.
- Policy S.3.2 Require that oil well abandonment and construction near abandoned oil wells comply with the most current local, state, and federal abandonment standards.
- Policy S.3.3 Require all secondary recovery projects to comply with all applicable regulations regarding health, safety, and aesthetics as a condition of approval.
- Policy S.3.4 Maintain comprehensive regulations in the Municipal Code that address all aspects of oil and gas recovery, production, and transmission activities.
- Policy S.3.5 Ensure the compatibility of land uses near new and future oil recovery activities.
- Objective S.4* *To reduce the risk associated with the use, storage, transport, or disposal of hazardous waste.*
- Policy S.4.1 Adopt and strictly enforce the most current regulations governing hazardous waste management.
- Policy S.4.2 Minimize exposure of critical facilities and residences to hazardous materials.
- Policy S.4.3 Avoid locating new residential development adjacent to or near potentially hazardous industrial activities.
- Objective S.5* *To minimize the risk of potential hazards related to operations at Torrance Municipal Airport.*
- Policy S.5.1 Ensure that land use decisions within the airport influence area are consistent with the standards contained within the Torrance Airport Comprehensive Land Use Plan (CLUP).
- Policy S.5.2 Require that airport personnel and emergency responders are trained in all applicable operational and safety procedures related to aviation hazards.
- Policy S.5.3 Ensure that the airport has the appropriate equipment and technology to address any emergency situations that may arise.
- Policy S.5.4 Prioritize airport preparation and response to potential security and terrorism threats.

Impact Analysis

The majority of the City is built out with urban land uses and established development. Future development within the proposed HCO areas has the potential to encounter off-site or on-site hazardous materials. However,, a search of the California Department of Toxic Substances Control (DTSC) EnviroStor⁵ database confirmed that none of the parcels within the proposed HCO areas are listed on the database.

⁵ Source: California Department of Toxic Substances Control, EnviroStor, accessed March 8, 2023. EnviroStor is the Department of Toxic Substances Control's data management system for tracking our cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further.



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The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would undergo due diligence through the preparation of a Phase I Environmental Site Assessment to determine if there are hazards relative to the transport, use or disposal of hazardous materials, if there would be a releases of materials into the environment, result in the emission or handling of hazardous materials near an elementary school, or be located on a hazardous materials site. The Phase I Environmental Assessment would provide recommendations for site clean-up, if necessary.

In addition, future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.

Adoption and implementation of the proposed project would not pose a significant hazard to the public or the environment, or involve the transportation, use, or storage of hazardous or potentially hazardous materials. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

E. FOR A PROJECT LOCATED WITHIN AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT RESULT IN A SAFETY HAZARD FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA?

The Torrance Municipal Airport is administered by the City of Torrance Department of General Services but the operations and maintenance of the airport are under the control of the Department of Public Works,

The airport has two runways, running in northwest to southeast directions. The first runway (29R-11L) is 5,000 feet long by 150 feet wide, and the second runway (29L-11R) is 3,000 feet long by 75 feet wide. Consistent with state aviation regulations, a Runway Protection Zone (RPZ) has been established at each end of each active runway. The size of the RPZ is determined by the type of landing approach used for that runway. The City of Torrance has control over 57 percent of the RPZ for the 5,000-foot runway. The remaining 43 percent is under the jurisdiction of the City of Lomita. The Federal Aviation Administration (FAA) mandates the airport operator to restrict uses of RPZ land under its control to those compatible with airport operations.

None of the three sub-areas/seven separate geographic for the proposed HCO are located near the Torrance Municipal Airport or within the airport's RPZ. The proposed HCO establishes land uses and development standards



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that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

F. WOULD THE PROJECT IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed project would not impair the implementation of the City's Local Hazard Mitigation Plan or interfere with other applicable emergency response or evacuation plans. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.10 HYDROLOGY AND WATER QUALITY

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
C. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
1) Result in a substantial erosion or siltation on- or off-site?			✓	
2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
3) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			✓	
4) Impede or redirect flood flows?			✓	
D. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Surface Water Flows Into Drainage Systems

GPU buildout would increase residential and nonresidential development in the City over existing land use conditions. This would increase the amount of impervious surface in the City, thereby increasing the amount of surface water flows into drainage systems in the Dominguez and Lower Santa Monica Bay Watersheds. The amount by which impervious surfaces would increase is not known, as specific projects to be developed have not yet been determined. Some of *GPU* development would also be in the form of redevelopment of areas that currently or recently had impervious surfaces. The net change in impervious surface is not known; however, the overall change in impervious surfaces in the City of Torrance is not expected to change substantially because of the built-out condition of the City. There would be little overall change to the layout and amount of growth in the City and the flow of surface water would not increase significantly.



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The Los Angeles County Department of Public Works provides for the planning, development, operation, and maintenance of flood control facilities on a County-wide basis. The City is responsible for providing drainage from developments in the City and ensuring that storm drains properly feed into the ocean, sumps, or regional system. Upgrades to existing public storm drains or on-site detention of stormwater may be necessary as undeveloped parcels are converted to urban uses, particularly in areas where flood-related problems occur.

Three stormwater retention basins (referred to locally as sumps) and fourteen detention basins throughout Torrance serve the primary purpose of controlling stormwater runoff and preventing localized ponding and flooding.

Through the payment of Development Impact Fees (DIFs) and the continued improvements of existing drainage facilities, the stormwater and runoff system would continue to adequately serve the City of Torrance. Impacts on stormwater management and runoff capacity would be less than significant.

The *GPU EIR* concluded that impacts relative to surface water flows into drainage systems would be less than significant with the implementation of regulatory requirements and standard conditions.

Groundwater Recharge

The West Coast Groundwater (WCG) Basin is generally confined in the Torrance area and does not receive much groundwater recharge from the surface. It receives more water from surrounding groundwater basins and from the Pacific Ocean in the form of seawater intrusion. The *GPU* would add additional dwelling units and nonresidential development, thereby decreasing the amount of pervious surfaces and groundwater replenishment from surface waters via precipitation and drainage.

Groundwater replenishment for the WCG Basin is managed by the Water Replenishment District of Southern California (WRD). WRD's annual Engineering Survey and Report discusses groundwater levels in the WCG Basin and is used to help guide groundwater management for the WCG Basin. Since groundwater percolation in the WCG Basin area is insufficient to replace groundwater withdrawn, WRD must depend on artificial recharge programs to replace the annual overdraft. It employs various methods to recharge the WCG Basin, including injection of treated water purchased from the State Water Project, in-lieu replenishment by reducing the amount pumped from the basin, infiltration through surface spreading at the Montebello Forebay Spreading Grounds adjacent to the Rio Hondo and the San Gabriel River, and the flow of groundwater from the Central Groundwater Basin to the WCG Basin.

Through the City's Stormwater Basin Enhancement Program, the City is improving stormwater basins in west Torrance to provide natural treatment systems and improve groundwater recharge. This project will address bacteria and trash in streams tributary to the Santa Monica Bay via the Amie, Henrietta, and Entradero Detention Basins and provide the community with more opportunities for sports fields and walking trails. At the time the *GPU* was approved, this project was in the preliminary design phase, awaiting funding to study and design the basin improvements.

The *GPU EIR* concluded that the *GPU* would result in less than significant impacts relative to groundwater recharge with the implementation of regulatory requirements and standard conditions.



Pollutant Concentration Increases

Projects considered for approval under the *GPU* would be mandated to comply with Best Management Practices (BMPs) for compliance with National Pollutant Discharge Elimination System (NPDES) requirements. Additionally, as outlined in the Dominguez Watershed Master Water Plan, stormwater discharge permits are required for all discharging operations. These permits include the Los Angeles County Municipal Permit, industrial permits, and general construction stormwater permits. Construction site stormwater management is governed by the State Water Quality Control Board (SWQCB). These regulations prohibit discharges of stormwater to waters of the United States from construction projects that encompass one or more acres of soil disturbance unless the discharge is in compliance with an NPDES permit.

Future developments implemented in accordance with the *GPU* would be required to comply with the requirements identified in the previous paragraph. These requirements include the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for the construction phase of a development project, and a Water Quality Management Plan (WQMP) for the operation phase of a development project. The SWPPP specifies Best Management Practices (BMPs) that are intended to minimize erosion and pollution of runoff during the construction phase of each development. The WQMP prescribes structural, operations, and maintenance BMPs with the aims of minimizing water pollution and erosion during the operation phase of each development.

The *GPU EIR* concluded that the *GPU* would result in less than significant impacts relative to pollutant concentration increases with the implementation of regulatory requirements and standard conditions.

Dam Inundation

An area of roughly 215 acres in the southeastern part of the City is within the dam inundation areas of the Walteria and Ben Haggot Reservoirs. The area extends from the reservoirs near Crenshaw Boulevard and the southern City boundary northward and northeastward, covering part of the Torrance Municipal Airport and reaching the eastern City boundary, as shown in *GPU EIR* Figure 5.8-4, Walteria Dams Inundation Area. Existing land uses in the inundation area include residential, commercial, and airport uses, and would continue with the *GPU*.

The inundation area is built out; therefore, any development in the area that would be approved under the *GPU* would replace existing development. As the *GPU* proposes similar land use designations in the inundation area to the types of existing development, developments that would be approved pursuant to the *GPU* would not be expected to substantially increase the numbers of persons or structures that could be exposed to flood hazards in the inundation area.

The *GPU EIR* concluded less than significant impacts relative to dam inundation with implementation of regulatory requirements and standard conditions.

Tsunami

There are a number of faults offshore from Torrance that could potentially generate tsunamis due to earthquakes. These faults include the Palos Verdes fault zone that trends northwest, crossing the coast near the southwest City boundary and extending into the ocean; the San Pedro Basin fault zone roughly 12 miles offshore; and the Santa Cruz–Santa Catalina Ridge fault zone, about 33 miles offshore. Along most of the western edge of the City at Torrance Beach, a bluff rises steeply above the beach to a height of between 100 and 150 feet. The area on that



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part of the western City boundary below that elevation consists of a beach and a bluff that do not contain developed land uses.

A tsunami striking that part of the City would not create hazards to life or property. North of Paseo de Suenos the rise in elevation with increasing distance inland becomes more gradual. The 100-foot contour line crosses the Torrance city boundary near Palos Verdes Boulevard about 0.3 mile inland from the Pacific Ocean. This part of the City at elevations below 100 feet consists of Torrance County Beach that is developed with a parking lot and concession and restroom facilities; and residential and some commercial development. This area of the City is built out, and there is no vacant land except for a bluff just above the beach that would be designated PUB (Public/Quasi-Public/Open Space), and would not be developed with other land uses. The remainder of this area of the City would be designated R-MD (medium density residential, 18.1–31 dwelling units per acre). Any development that would be approved in this area of the City pursuant to the *GPU* replace existing development, and so would not be expected to substantially increase the numbers of persons or structures that would be subject to inundation hazard from tsunamis.

The *GPU EIR* concluded less than significant impacts relative to tsunamis with implementation of regulatory requirements and standard conditions.

Seiche or Tsunami Inundation

The structures along the coastline in the Torrance Beach area are on top of the sea-cliff, approximately 100 feet above the beach, and are not at risk of inundation by tsunami. Other areas of the City would not be subject to inundation by tsunami. As for potential inundation by seiche, there are aboveground water tanks at five locations in the City. Of these locations, only the tower-mounted water tank near the intersection of Railroad Drive and Arden Avenue is on land for which the *GPU* may change the land use designation. This tank is on a large industrial parcel that is surrounded to the north, east, and south by industrial uses. The nearest residential use to the tank is approximately 1,200 feet to the west. Development in accordance with the *GPU* would not cause a substantial risk of inundation due to potential failure of this tank. The other four water tank locations are not in areas where the *GPU* would change land use designations. Therefore, the *GPU* would not create any new risk arising from flooding at any of the four locations.

There are gravel pits with pools of water in the lower parts of the pits that are located near the northern and northeastern boundaries of the City. The *GPU* would not change land use designations along the edges of the City that are in the vicinity of the gravel pits. Therefore, the *GPU* would not create any new risk of flooding due to seiches from the gravel pits.

The *GPU EIR* concluded less than significant impacts relative to seiche or tsunami flooding (inundation) with implementation of regulatory requirements and standard conditions.

Mudflow Inundation

The Initial Study for the *GPU EIR* concluded that mudflows are unlikely to occur in the City of Torrance, as the City is urbanized and the vast majority is flat. As a result, impacts due to mudflows were not further analyzed in the *GPU EIR*.



Flood Hazard Areas

Five relatively small areas of the City are in zones of 100-year flood hazard to depths of one foot or greater (*GPU EIR* Figure 5.8-3, 100-Year Flood Hazard Areas):

- A (Southeast of intersection of Del Amo Boulevard with Anza Avenue)
- B (Near southwest corner of Carson Street at Madrona Avenue)
- C (North of Sepulveda Boulevard between Madrona Avenue and Maple Avenue)
- D (Torrance County Beach, from southwest corner of City north to about Via Riviera)
- E (Near the southern City boundary, south of Via Valmonte and west of Hawthorne Boulevard)

Existing land uses and proposed *GPU* land use designations for each of these five areas are listed in *GPU EIR* Table 5.8-1. Of the five areas listed in *GPU EIR* Table 5.8-1, two of them (A and C) currently have similar uses to those in the *GPU*. The Del Amo Retention/Detention Basin (B) would be designated C-CTR (Commercial Center); however, the Del Amo Basin is an important flood control feature in the City, and thus removal of the basin for development is very unlikely. Torrance County Beach (D) is Los Angeles County property and is not subject to land use regulation by the City. Area E would be designated R-LO (Low-Density Residential, 0–9 dwelling units/acre); any development of Area E would be required to comply with National Flood Insurance Program regulations.

The *GPU EIR* concluded that implementation of the *GPU* would result in less than significant flood hazards arising from heavy storm events .

IMPACT ANALYSIS

A. WOULD THE PROJECT VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY?

Surface water and groundwater quality in the City of Torrance is similar to that which is characterized for other urbanized areas surrounding the City and within the County of Los Angeles. The City encourages development projects to be designed with pervious materials and landscaped areas to enhance on-site capture and absorption of stormflows. Also, through the implementation of National Pollution Discharge Elimination System (NPDES) program requirements, the City guards against high pollutant loads and erosive materials in surface runoff.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to provide for the elimination/reduction of pollutant discharges, including capture and treatment of dry weather and first flush runoff in a manner consistent with Los Angeles Regional Water Quality Control Board (LARWQCB) requirements. All storm water discharges must comply with applicable provisions of Los Angeles County’s NPDES permit. As a co-permittee, the City is responsible for implementation of the requirements of the NPDES permit issued to the



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County. Consistent with LARWQCB/NPDES and City requirements, appropriate Best Management Practices (BMPs) would be required throughout construction processes of future development proposals, thereby controlling potential discharge of pollutants, preventing sewage spills, and avoiding discharge of sediments into streets, stormwater channels, or waterways. In addition, long-term water quality impacts associated with future development proposals would also be avoided through the implementation of structural, non-structural and treatment control BMPs and low impact development (LID) design considerations and operational and maintenance requirements that are identified in the Water Quality Management Plan (WQMP) prepared for each future development proposal to ensure that long-term water quality impacts are minimized. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDED SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASIN?

The majority of the City is built out with urban land uses and established development, including established hydrology and water quality systems. The Torrance Municipal Water Department (TMW) and the Rancho Dominguez and Hermosa-Redondo Districts of the California Water Service Company (CWS) provide potable water to the City of Torrance. TMW is responsible for local water supply, the monitoring and maintenance of water quality, planning preventive and maintenance, the operation and repair of the water system, distribution system, and interfacing with the State Health Department and other agencies regarding water quality matters. In addition, the West Basin Municipal Water District (WBMWD) and the Water Replenishment District of Southern California (WRD) actively monitor the basin for water quality issues.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be reviewed by the City to determine if there is any change to existing runoff conditions or potential increases in the amount of impervious surfaces affecting groundwater recharge. In addition, future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



- C. WOULD THE PROJECT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF STREAM OR RIVER, IN A MANNER WHICH WOULD:**
- 1. RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE?**
 - 2. SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE?**
 - 3. CREATE OR CONTRIBUTE RUNOFF WATER WHICH WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF?**

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

As such, the proposed project does not propose to alter the existing drainage pattern of any site in the City, nor does it propose to alter any streams or rivers resulting in substantial erosion, surface runoff resulting in flooding, or runoff existing the system's capacity. Any future development proposals within the proposed HCO areas would occur on urban land consistent with adopted land use policy, which provides for protection of existing drainage courses. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

4. IMPEDE OR REDIRECT FLOOD FLOWS?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Infrastructure exists with the City, and thus, storm water runoff associated with future development proposals would continue to be conveyed and discharged into the local stormwater system. Additionally, construction of future development proposals within the proposed HCO areas would be restricted within the individual site boundary. As such, implementation of the proposed project would not lead to on-site or off-site siltation or erosion impeding or redirecting flood flow. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



D. WOULD THE PROJECT IN FLOOD HAZARD, TSUNAMI, OR SEICHE ZONES, RISK RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

None of the three sub-areas/seven separate geographic areas are located:

- Within a 100-year floodplain as shown on *GPU EIR* Figure 5.8-3, 100-Year Flood Hazard Areas.
- Within the inundation areas for the Ben Haggot Reservoir and Walteria Dam as shown on *GPU EIR* Figure 5.8-3, Walteria Dams Inundation Area.
- Near the Pacific Ocean or near water storage facilities and thus, would not be considered susceptible to seiche or tsunami hazards.

The proposed project would not result in the placement of development within a flood hazard area, within a dam inundation area, or within an area susceptible to seiche or tsunami hazards. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

The City is relatively flat and fully urbanized, and thus, is not susceptible to mudflows. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

E. WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN?

The Water Quality Control Plan Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) is the water quality control plan for the greater Los Angeles Basin, including the City of Torrance. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan.

In 2014, the Governor signed the Sustainable Groundwater Management Act (SGMA) into law, which requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

Sources of water for use and recharge in the Central Basin and West Coast Basin (CBWCB) include surface water/stormwater, imported water, groundwater, and recycled water. Other minor potential sources of groundwater recharge include leaking pipes, septic systems, and stream losses (not associated with managed aquifer recharge).



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The West Coast (WCB) underlies 160 square miles in the southwestern part of the Los Angeles Coastal Plain in Los Angeles County. The WCB extends southwesterly along the coast from the Newport-Inglewood Uplift to the Santa Monica Bay. The WCB provides groundwater to approximately eleven cities and unincorporated areas of Los Angeles County. This average annual production is roughly 52,000 Acre-feet (AF), which accounts for 20% of total retail demands. The City of Torrance is within the West Coast Basin.

In 1961, the Basin was adjudicated. The adjudication limits the allowable annual extraction of groundwater per water rights holder within West Coast Basin in order to prevent seawater intrusion and an unhealthy groundwater level. As part of the adjudication, the court appointed the California Department of Water Resources (DWR) to serve as Watermaster to account for all water rights and groundwater extraction amounts per year.

Since the adjudicated groundwater production is substantially higher than the natural recharge of the WCB, the California State Legislature in 1959 created the Water Replenishment District of Southern California (WRD) to manage, regulate and replenish the Basin. Each year WRD determines the amount of supplemental recharge that is needed for the Basin based upon annual groundwater extractions and groundwater levels. As part of the recharge and protective duties, WRD procures imported water and recycled water for the West Coast Basin Barrier Project and Dominguez Gap Barrier Project to prevent seawater intrusion.

Through the coordination of the Los Angeles County Public Works Department, DWR, and WRD, the West Coast Basin is managed and maintained to provide the utmost water quality and reliability for the region.

Pursuant to the SGMA, the West Coast Basin was named as an adjudicated groundwater basin and thus is exempt from the requirements of developing a GSP.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The proposed project would not conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.11 LAND USE AND PLANNING

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Physically divide an established community?			✓	
B. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Divide an Established Community

The *GPU* is intended to guide development in the City so that conflicts between land uses are reduced, beneficial characteristics of neighborhoods are maintained, and to ensure the compatibility of these uses. Focused land use changes in the *GPU* occur in areas where change was either imminent and needed guidance or where change was desired and needed stimulation and guidance.

The land uses of the *GPU* would not substantially change the layout of existing land uses in the City. Policies found in each element of the *GPU* would be used to guide this type of development in the City and to limit land use conflicts. Policies in the Land Use Element encourage the compatibility between land uses to reduce any divisions caused by the incompatible placement of different land uses (Policies LU.2.1 through LU.2.7). These policies encourage the transition of incompatible land uses, when present, to be more compatible with their surrounding areas; phase out incompatible oil recovery facilities; require new developments to be compatible with surrounding uses both physically and by type of use; encourage a balanced jobs-to-housing ratio; and make use of natural or human-made barriers to prevent disruptive activity of certain land uses from impacting surrounding land uses.

The *GPU EIR* concluded less than significant impacts relative to the division of an established community with the implementation of regulatory requirements and standard conditions of approval.

Conflict with Applicable Plans

The *GPU* is meant to guide development for the City for the next 20 years. The policies and programs listed in the *GPU* would be compatible with regional and local planning documents.

Consistency with SCAG Regional Planning Documents. The consistency of the *GPU* with the Compass Blueprint Regional Growth Principles and the 2008 RTP is shown in *GPU EIR* Tables 5.9-4 and 5.9-5. Objectives and policies listed in the elements of the *GPU* indicate the plan’s consistency with regional growth practices. The policies of



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the *GPU* demonstrate consistency with all of SCAG's policies. These tables also demonstrates that the *GPU* contains policies that encourage the City to participate in regional programs and issues.

Consistency with Airport Plans. The City manages the operations of the Torrance Municipal Airport (Zamperini Field) and coordinates with the Federal Aviation Administration (FAA) and the Los Angeles County Airport Land Use Commission (ALUC) on safety, noise, and land use decisions. The City of Torrance follows the regulation of the FAA in regards for land use developments within the influence area of the airport. The *GPU* would continue to guide development in a way that is compatible with the FAA regulations and the standards in the Comprehensive Land Use Plan (CLUP).

Chapter Two of Division Five of the *Torrance Municipal Code* also contains restrictions on development within the Runway Protections Zones (RPZ) of the Torrance Municipal Airport. The City would continue to coordinate with FAA and the ALUC and there would be no impacts to airport land use compatibility plans for the Torrance Municipal Airport.

Proposed General Plan. The objectives of the *GPU* include:

- To provide a comprehensive update to the City's General Plan that establishes the goals and
- policies that create a built environment that fosters the enjoyment, financial stability and well being of the entire community.
- To designate the distribution, location, balance and extent of land uses including residential, commercial, industrial and open space.
- To ensure that future development will occur consistent with the high standards that the City has set and that make Torrance a desirable place to live.
- To preserve the City's valuable industrial core and jobs base.
- To accommodate a diverse range of commercial uses at locations throughout Torrance to meet the local shopping and service needs of residents, and to create opportunities for revenue generation at regional centers.
- To encourage the revitalization and conversion of older, under-performing, blighted commercial and industrial areas.
- To support, on a limited basis, mixed-use development approached where such development is compatible with surrounding uses.
- To ensure that future growth will be respectful towards the City's cultural resources and architectural heritage, and to encourage preservation of Old Torrance's distinct character and unique characteristics, including the street layout and structures.
- To encourage alternative modes of transportation, such as walking, bicycling and transit.
- To seek ways to enhance the level of service of the citywide roadway system while minimizing traffic intrusion into residential neighborhoods.
- To continue to maintain a high level of public services to the community by protecting and enhancing public resources such as schools, libraries, the airport, hospitals, parks and open space, and community centers.



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The *GPU* Land Use Plan (*GPU* Figure 3-4) and the policies in the *GPU* strive to preserve and ensure land use compatibility throughout the City. Although the *GPU* serves as the framework for the future development of the City, several other planning tools help achieve the City's vision. The *GPU* provides a basis for zoning and development standards in the *Municipal Code*. The *Municipal Code* was not updated with the *GPU*. However, the land uses specified in the Zoning Ordinance are based upon, and must be consistent with, the land use policies set forth in the Land Use Element.

The *GPU EIR* concluded less than significant impacts relative to conflict with applicable plans with the implementation of regulatory requirements and standard conditions of approval.

IMPACT ANALYSIS

A. WOULD THE PROJECT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY?

The majority of the City is built out with urban land uses and established development. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals. And thus, the proposed project does not provide for new land use uses that would physically divide or disrupt established neighborhoods or create physical barriers in Torrance. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT CAUSE A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO A CONFLICT WITH ANY APPLICABLE LAND USE PLAN, POLICY, OR REGULATION ADOPTED FOR THE PURPOSE OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.

The adoption and implementation of the proposed project further enhance the goals, policies, and actions in the *General Plan*, would not conflict with goals or objectives contained within regional plans, or cause a significant



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environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.12 MINERAL RESOURCES

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			✓	
B. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Known Mineral Resource

The *GPU EIR* identified that the majority of land within Torrance is classified mineral resource zone (MRZ⁶) MRZ-1 and MRZ-3. A small strip of land within the City is designated MRZ-2. This MRZ-2 area is south of Pacific Coast Highway, and roughly east of Hawthorne Boulevard, as shown in *GPU EIR* Figure 5-10.1. However, this land is not in mineral production, but is developed with residential uses.

The *GPU EIR* determined that development of the City in accordance with the *GPU* would not significantly impact mineral resource extraction, as the overall layout of the City would not change substantially and the areas currently identified for mineral resource extraction would be used for this purpose to the extent considered economically viable by the City. Thus, the *GPU EIR* determined that implementation of the *GPU* would not result in the loss of a known mineral resource of value to the region and the residents of the state.

The *GPU EIR* concluded less than significant impacts relative to the loss of a known mineral resource with the implementation of regulatory requirements and standard conditions of approval.

Locally-Important Mineral Resource Recovery Site

The *GPU EIR* determined that implementation of the *GPU* would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The *GPU EIR* concluded less than significant impacts relative to locally important mineral resource recovery sites with the implementation of regulatory requirements and standard conditions of approval.

⁶ *MRZ-1*: Adequate information indicates that no significant mineral deposits are present or likely to be present.

MRZ-2: Adequate information indicates that significant mineral deposits are present or likely to be present, and development should be controlled.

MRZ-3: The significance of mineral deposits cannot be determined from the available data.



IMPACT ANALYSIS

- A. WOULD THE PROJECT RESULT IN THE LOSS OF AVAILABILITY OF A KNOWN MINERAL RESOURCE THAT WOULD BE OF VALUE TO THE REGION AND THE RESIDENTS OF THE STATE?
- B. WOULD THE PROJECT RESULT IN THE LOSS OF AVAILABILITY OF A LOCALLY-IMPORTANT MINERAL RESOURCE RECOVERY SITE DELINEATED ON A LOCAL GENERAL PLAN, SPECIFIC PLAN, OR OTHER LAND USE PLAN?

The majority of the City is built out with urban land uses and established development. Within the City, there is a small area designated MRZ-2, which is located south of Pacific Coast Highway and east of Hawthorne Boulevard. This land is not in mineral production. There are no known mineral resources of value to the region and the residents of the State, or known locally important mineral resource recovery sites in the City.

None of the three sub-areas/seven separate geographic for the proposed HCO are located within the MRZ-2 zone. The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.13 NOISE

Would the project result in:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
B. Generation of excessive groundborne vibration or groundborne noise levels?			✓	
C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Stationary Source Noise

GPU buildout would result in an increase in development within the City. The primary stationary-source noise associated with new development is landscaping, maintenance activities, and air conditioning systems. Noise generated by residential or commercial uses is generally short and intermittent, and these uses are not a substantial source of noise. Industrial noise is less intermittent and can have moderate to high levels on a continual basis. The siting of new industrial developments may increase noise levels at nearby uses. This can be due to the continual presence of heavy trucks used for the pick-up and delivery of goods and supplies, or from the use of noisy equipment used in the manufacturing or machining process. The City of Torrance requires stationary sources of noise to abide by the maximum allowable noise levels as described in the noise ordinance

The *GPU EIR* concluded less than significant impacts related to stationary source noise with implementation of regulatory requirements and standard conditions of approval.

Transportation Source Noise

Roadway Traffic Noise. The noise contours for projected buildout year 2030 conditions are presented in *GPU EIR* Figure 5.11-5, which show the future noise levels from transportation noise sources. Any siting of new noise-sensitive land uses within a noise environment that exceeds the normally acceptable land use compatibility criterion shown in *GPU EIR* Table 5.11-3 represents a potentially significant impact and would require a separate noise study through the development review process to determine the level of impacts and required mitigation. To ensure the compatibility of new development in the City, the Noise Element contains a number of policies to minimize potential impacts on sensitive land uses. As shown in *GPU EIR* Figure 5.11-5, noise-sensitive land uses would be exposed to roadway noise levels that exceed the City's noise compatibility standards.



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The *GPU EIR* concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-1, impacts are significant and unavoidable.

Train Traffic Noise. Noise from trains is generated by crossing bells, engines, exhaust noise, air turbulence generated by cooling fans, and other noise. The interaction of steel wheels with rails generates (1) rolling noise; (2) impact noise from a discontinuity in the running surfaces; and (3) squeals generated by friction on tight curves. Noise generated by a train passing is dominated first by the train horn and second by the train engines and cars. Train horns are required by the Federal Railroad Administration (FRA) to sound at a minimum of 100 dBA, as measured from 100 feet from the train. Train noise is infrequent but of high magnitude. Therefore, single-event noise levels need to be considered in a noise impact assessment.

Potential impacts from *GPU* buildout stem mainly from the addition of vehicles along roadways in the City and trains on the BNSF Railway. *GPU EIR* Figure 5.11-5 shows the noise contours from roadway traffic along major thoroughfares and the BNSF Railway at *GPU* buildout. *GPU EIR* Table 5.11-8 lists the increments in noise levels as a result of growth in the City. Because the majority of the City is built out with urban land uses and established development, major increases in ambient noise levels are not anticipated. As shown in *GPU EIR* Table 5.11-8, the projected increase in ambient noise levels resulting from cumulative train and vehicle sources would not result in a change in ambient noise levels greater than 3 dBA along any of the street segments analyzed. In fact, at all located analyzed, noise levels are not expected to increase by more than 1 dBA. A 3 dB change in noise levels is considered to be the minimum change discernible to human hearing in outdoor environments. The *GPU EIR* concluded less than significant impacts for train traffic noise.

Construction Vibration

Construction operations can generate varying degrees of ground vibration, depending on the construction procedures and the construction equipment. Operation of construction equipment generates vibrations which spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and receptor building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, and slight structural damage at the highest levels. Ground vibrations from construction activities rarely reach the levels that can damage structures, but can achieve the audible and perceptible ranges in buildings close to the construction site. *GPU EIR* Table 5.11-9 lists vibration source levels for construction equipment.

Significant vibration impacts may occur from construction equipment associated with development in accordance with the *GPU* due to the potential for vibration-generating construction equipment being used in proximity to vibration-sensitive uses. Vibration generated from construction equipment has the potential to exceed the vibration annoyance thresholds shown in *GPU EIR* Table 5.11-9. As such, significant vibration impacts may occur from construction equipment associated with *GPU* buildout.

The *GPU EIR* concluded that despite the imposition of Mitigation Measure 11-2, impacts are significant and unavoidable.



Groundborne Vibration and Noise

On-Road Mobile-Source Vibration. Caltrans has studied the effects of propagation of vehicle vibration on sensitive land uses and notes that “heavy trucks, and quite frequently buses, generate the highest earthborne vibrations of normal traffic.” Caltrans further notes that the highest traffic-generated vibrations are along freeways and state routes. Their study finds that “vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 inch per second, with the worst combinations of heavy trucks. This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings).” Typically, trucks do not generate high levels of vibration because they travel on rubber wheels and do not have vertical movement, which generates ground vibration. Vibrations from trucks may be noticeable if there are any roadway imperfections such as potholes. Because vibration-sensitive structures are not and would not be sited within five meters (approximately 16 feet) of the centerline of the nearest lane of I-405, or any major truck route as shown in *GPU EIR* Figure 5.15-4), the potential for mobile source vibration impacts would be less than significant.

Railroad Vibration. New vibration-sensitive land uses, including residential land uses, would be exposed to groundborne vibration from train operations along the BNSF. Vibration levels in the City from trains are dependent on specific site conditions such as geology and the condition of the railroad track and train wheels. In addition, wood-framed structures could amplify vibration levels felt by occupants by as much as 10 dB. As soil conditions have a strong influence on the levels of groundborne vibration, vibration levels from trains may be amplified. Vibration impacts from the BNSF are based on the potential for rail operations to cause perceptible levels of vibration. In addition, the FTA determines impacts based on the frequency of train passbys on the railway. For frequent events, defined more than 70 VdB vibration events per day, are considered potentially significant if they generate vibration levels of 72 VdB at residences and building where people normally sleep. Freight trains generate vibration levels of 90 VdB at a distance of 25 feet from the tracks. Consequently, vibration levels of 72 VdB can be felt at up to 200 feet from the railway. The *GPU* does not indicate the exact locations of new vibration-sensitive development. Consequently, there is a potential for new vibration-sensitive land uses to be constructed within 200 feet from the rail line, which has the potential to be impacted by perceptible levels of vibration from rail operations. Vibration impacts from train operations would be potentially significant.

Industrial Vibration. The use of heavy equipment associated with industrial operations, including operation of jet engine test stands, can create elevated vibration levels in their immediate proximity. Soil conditions have a strong influence on the levels of groundborne vibration. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers. In general, the majority of industrial uses would not be immediately adjacent to vibration-sensitive uses. Use of heavy equipment associated with industrial activities would occur indoors. Vibration-intensive equipment in a manufacturing zone is required to be constructed so as to not be perceptible at or beyond the property line, without the aid of instruments (*Torrance Municipal Code* Section 91.32.1). The City prohibits the generation of excessive levels of vibration at vibration sensitive uses from industrial or manufacturing activities under *Municipal Code* Section 17.58.020. Consequently, industrial sources are prohibited from generating substantial levels of vibration and would result in a less than significant vibration impact due to annoyance or structural damage.

The *GPU EIR* concluded on-road mobile source vibration and industrial vibration impacts to be less than significant.

The *GPU EIR* concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-3, railroad vibration impacts are significant and unavoidable.



Construction Activities: Temporary Increases in Noise Environment

Two types of short-term noise impacts could occur during construction. First, the transport of workers and movement of materials to and from the site could incrementally increase noise levels along local access roads. However, the amount of construction traffic is typically small in relation to the total daily traffic volumes on those roadway segments.

The second type of short-term noise impact is related to demolition, site preparation, grading, and/or physical construction. Construction is performed in distinct steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. However, despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. *GPU EIR* Table 5.11-10 lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.

Individual projects can vary dramatically relative to those factors that influence the noise level and the perception of noise. It is probable that future development associated with *GPU* buildout would involve construction activities that occur in close proximity to noise-sensitive uses and would result in substantial levels of noise exposure.

Construction of individual developments associated with the *GPU* Land Use Plan would temporarily increase the ambient noise environment. However, the City of Torrance restricts the hours of construction activities to the least noise-sensitive portions of the day. According to the *Municipal Code*, construction activities are restricted to 7:30 AM to 6:00 PM Monday through Friday and 9:00 AM to 5:00 PM on Saturday. Properties zoned as commercial, industrial, or within an established redevelopment district may conduct construction activities outside of these hours if a minimum buffer of 300 feet is maintained to the closest residential property, unless construction noise exceeds 50 dBA. In addition, construction activities may occur outside of these hours if the City determines unusual circumstances exist.

Because construction activities associated with any individual development may occur near noise-sensitive receptors and noise disturbances may occur for prolonged periods of time, construction noise impacts from *GPU* buildout would be significant and unavoidable.

The *GPU EIR* concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-4, impacts are significant and unavoidable.

Airport-Related Noise

Aircraft overflights, takeoffs, and landings in the City of Torrance contribute to the ambient noise environment. Each of these events exposes sensitive receptors near the Torrance Municipal Airport, Torrance Memorial Medical Center Heliport, Robinson Helicopter, or other public and private heliports in the City to elevated noise levels.

Torrance Municipal Airport. The State considers residential uses in the vicinity of the Torrance Municipal Airport to be normally acceptable with the airport noise environment so long as they do not extend into the 65 dBA CNEL noise contour. In general, the 60 dBA CNEL noise contour is confined to the area south of Lomita Boulevard and north of the Pacific Coast Highway (PCH), as shown in *GPU EIR* Figure 5.11-3. The 65 dBA CNEL is not reported for this general aviation airport due to the low level of flight activity. In accordance with the *Torrance Municipal Code*, Section 48.8.8, Aircraft Noise Limit, aircrafts taking off and landing at the Torrance Municipal Airport may not



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exceed a single-event noise exposure level of 88 dBA or a maximum sound level of 82 dBA Lmax as measured at ground level outside of the airport boundaries.

Heliports. The Torrance Memorial Medical Center heliport is on the grounds of the Torrance Airport. In addition, Robinson Helicopter, which is adjacent to the airport, manufactures civil helicopters. Helicopter operations in the City are not frequent. Use of helipads generates noise during take-offs and landings in the immediate vicinity of the helipad. Unlike fixed-wing aircraft, helicopters produce noise not only from the engine but also from the relatively slowly turning main rotor. This sound modulation is called blade slap. Intermittent flyovers by helicopters are not considered a substantial source of noise in the City, and less than significant impacts would occur.

The *GPU EIR* concluded less than significant impacts relative to exposing future residents and workers to airport-related noise.

IMPACT ANALYSIS

- A. **WOULD THE PROJECT RESULT IN GENERATION OF A SUBSTANTIAL TEMPORARY OR PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE VICINITY OF THE PROJECT IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?**
- B. **WOULD THE PROJECT RESULT IN GENERATION OF EXCESSIVE GROUND BORNE VIBRATION OR GROUND BORNE NOISE LEVELS?**

The majority of the City is built out with urban land uses and established development.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

While adoption of the proposed project would not directly result in the construction of housing, implementation of the HCO would facilitate the construction of future development proposals consistent with adopted land use policy. Typically, residential uses do not generate high noise levels. However, individual residential development projects may result in the exposure of persons to noise levels in excess of standards established in the *General Plan*, *Municipal Code*, or Noise Ordinance.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); *GPU EIR* Mitigation Measures 11-1 through 11-4; and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal



Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

GPU EIR Mitigation Measures

The *GPU EIR* identified the following mitigation measures, which would be also applicable to future development proposals in the City.

Noise Compatibility

- 11-1 Prior to the issuance of building permits for any project that involves a noise-sensitive use within the 60 dBA CNEL contour along major roadways, freeways, or railway, the project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features (e.g., setbacks, berms, or sound walls) and/or required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling), to ensure compliance with the City's Noise Compatibility Guidelines and the California State Building Code and California Noise Insulation Standards (Title 24 of the California Code of Regulations).

Construction-Related Vibration

- 11-2 Individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, near sensitive receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration sensitive uses (i.e., exceed the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime), additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

Vibration Annoyance from Train Activity on the BNSF Railway

- 11-3 Prior to the issuance of building permits for any project that involves a vibration-sensitive use directly adjacent to the Burlington Northern Santa Fe railway, the development project application shall retain an acoustical engineer to evaluate potential for trains to create perceptible levels of vibration indoors. If vibration-related impacts are found, mitigation measures shall be implemented, such as use of concrete, iron, or steel, or masonry materials to ensure that levels of vibration amplification are within acceptable limits to building occupants, pursuant to the Federal Transit Administration vibration-annoyance criteria.

Construction-Related Noise

- 11-4 Construction activities associated with new development that occurs near sensitive receptors shall be evaluated for potential noise impacts. Mitigation measures—such as installation of temporary sound barriers for adjacent construction activities that occur adjacent to occupied noise-sensitive structures, equipping construction equipment with mufflers, and reducing nonessential idling of construction equipment to no more than five minutes—shall be incorporated into the construction operations to reduce construction-related noise to the extent feasible.



Impact Conclusions

Noise Compatibility. The GPU EIR concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-1, impacts are significant and unavoidable. Thus, adoption and implementation of the proposed project ensures impacts remain as significant and unavoidable impacts.

Construction Vibration. The GPU EIR concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-2, impacts are significant and unavoidable. Thus, adoption and implementation of the proposed project ensures impacts remain as significant and unavoidable impacts.

Vibration and Noise. The GPU EIR concluded on-road mobile source vibration and industrial vibration to be less than significant. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant.

The GPU EIR concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-3, railroad vibration impacts are significant and unavoidable. Thus, adoption and implementation of the proposed project ensures impacts remain as significant and unavoidable impacts.

Construction Activities: Temporary Increases in Noise Environment. The GPU EIR concluded that despite the imposition of regulatory requirements and Mitigation Measure 11-4, impacts are significant and unavoidable. Thus, adoption and implementation of the proposed project ensures impacts remain as significant and unavoidable impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. FOR A PROJECT LOCATED WITHIN THE VICINITY OF A PRIVATE AIRSTRIP OR AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

Aircraft overflights, takeoffs, and landings in the City of Torrance contribute to the ambient noise environment. Each of these events results exposes sensitive receptors to elevated noise levels near the Torrance Municipal Airport or other public and private heliports in the City.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed project would not expose future residents or workers in the City to substantial sources of airport or heliport of noise in the City. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.14 POPULATION AND HOUSING

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Unplanned Population Growth

The *GPU* Land Use Plan would result in direct and indirect growth in the City of Torrance. Although the increase in employment as proposed in the *GPU* would be larger than the employment projection by the Southern California Association of Governments (SCAG) in the 2008 *Regional Transportation Plan (RTP)*, the overall population increase would be within the SCAG projections for 2030. The larger increase in employment under the *GPU* would increase the City’s jobs/housing ratio but the region’s and county’s jobs/housing ratios would remain similar.

Planning Projections for Population, Employment, and Housing. The *GPU* provides buildout assumptions and policies for growth for the next 20 years, until about 2030. *GPU EIR* Table 5.10-9 compares the current general plan assumptions with the *GPU* assumptions for residential, population, employment, and nonresidential development growth. By 2030, the *GPU* projects the City’s population to be 149,721, an increase of approximately 14.8 percent from the existing population. As shown in *GPU EIR* Table 5.10-9, this is within SCAG’s population projection of 151,455, a 16.1 percent increase over the existing population. The number of proposed housing units allowed under the *GPU* is slightly greater than the SCAG projection. The *GPU* would allow for up to 33,802 housing units and SCAG projects a total of 33,388 units for the City.

GPU Buildout would allow for more jobs in Torrance than projected by SCAG for 2030. Compared to the existing conditions, the *GPU* would allow for a 59.5 percent increase in jobs in the City, resulting in a total of 58,807 jobs. SCAG projects a 6.0 percent increase in jobs by 2030, creating a total of 39,095 jobs.

Jobs/Housing Ratio. The *GPU* implementation would result in both a direct and indirect increase in population. The addition of housing would directly cause population growth and the increase in employment opportunities would indirectly cause population growth. The larger increase in employment in the City under the *GPU*, as compared to SCAG’s projections, would increase the City’s projected 2030 jobs/housing ratio from 1.17 to 1.74, as shown in *GPU EIR* Table 5.10-10. This jobs/housing ratio would be more jobs rich than the existing (2010) jobs/housing ratio of 1.28 for the City. With a higher number of jobs within the City, there would be greater



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potential for residents to find jobs locally, reducing commute times and distances and subsequently the air quality, greenhouse gas emissions, and noise issues related to commuting.

The implementation of the *GPU* in Torrance would not change population, housing, and employment projections for the San Gabriel Valley Council of Governments (COG) or Los Angeles County substantially. The jobs/housing ratios for these two areas would also remain similar, as shown in *GPU EIR* Table 5.10-11. As mentioned above, the City's jobs/housing ratio would increase from 1.17 to 1.74 by 2030, assuming full buildout of *GPU* Land Use Plan.

In conclusion, implementation of the *GPU* would result in both a direct and indirect increase in population. The addition of housing would directly cause population growth and the increase in employment opportunities would indirectly cause population growth.

The *GPU EIR* concluded that impacts to population and housing resulting from the *GPU* would be less than significant.

People or Housing Displacement/Replacement Housing Construction

The Initial Study for the *GPU EIR* determined that the *GPU* would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. As a result, impacts to people or housing displacement or the need to construct replacement housing were not further analyzed in the *GPU EIR*.

The *GPU EIR* concluded that impacts to people or housing displacement or the need to construct replacement housing resulting from the *GPU* would be less than significant.

IMPACT ANALYSIS

A. WOULD THE PROJECT INDUCE SUBSTANTIAL UNPLANNED POPULATION GROWTH IN AN AREA, EITHER DIRECTLY (FOR EXAMPLE, BY PROPOSING NEW HOMES AND BUSINESSES) OR INDIRECTLY (FOR EXAMPLE, THROUGH EXTENSION OF ROADS OR OTHER INFRASTRUCTURE)?

The majority of the City is built out with urban land uses and established development.

SCAG's Regional Housing Needs Assessment (RHNA) for the Torrance 2021-2029 housing element period is 4,939 housing units. The proposed project is identified in the 2021-2029 Housing Element Section 5, Housing Plan under Program 1: Adequate Sites To Accommodate the RHNA and No Net Loss. The proposed project would implement Objective 6.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal*



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Code requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Therefore, the proposed project would not induce substantial unplanned population growth within the City either directly or indirectly.

Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT DISPLACE SUBSTANTIAL NUMBERS OF EXISTING PEOPLE OR HOUSING, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING ELSEWHERE?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

The future development of vacant properties or underutilized properties with existing homes could result in the displacement of existing housing or people necessitating the construction of replacement housing elsewhere. Displacement would be evaluated, if needed, as part of a future development proposal's plan check process, along with project-specific conditions relative to the displacement of people or residential structures.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.15 PUBLIC SERVICES

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire protection?			✓	
2) Police protection?			✓	
3) Schools?			✓	
4) Parks?			✓	
5) Other public facilities?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Fire Protection

Fire services for the City of Torrance are provided by the Torrance Fire Department (TFD) from six fire stations and a Fire Prevention and Hazardous Materials Administration office. TFD provides safety, environmental protection, and property conservation through the provision of the following response programs: emergency medical services, direction and control, fire suppression, hazardous materials emergency services, hazardous materials administration, public education, specialized emergency response services, technical rescue services, and fire prevention. *GPU EIR* Table 5.13-1 shows the locations, equipment, and personnel of the six fire stations in Torrance.

TFD also participates in a mutual aid agreement as required by the California Emergency Management Agency (Cal EMA). Torrance would receive fire suppression support from the following cities and/or county departments: Redondo Beach, Hermosa Beach, Manhattan Beach, El Segundo, Los Angeles County Fire, Los Angeles City Fire, or any other southern California departments as the incident needs dictate.

The *GPU EIR* identified several projects to expand TFD facilities. One project would upgrade Fire Station 4 to provide sanitary and washing facilities for female workers as required by California Code of Regulations, Title 8, Sections 3364 and 3366. A total of 1,088 square feet would be remodeled into bedrooms, a laundry room, and women’s bathrooms to accommodate additional personnel. The second project is the construction of a new Fire Station 7 at the northeast corner of Del Amo Boulevard and Van Ness Avenue. Current plans call for fitting this proposed new fire station mostly with equipment currently residing at other stations, with the exception of rescue equipment, which would be purchased for the new station. The second project is a new headquarters and Fire



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Station 1 (headquarters) building, to be located at the 300 block of Crenshaw Boulevard at the former Pittsburg Paint and Glass building site, which would still allow for the construction of a new Fire Station 7, but the location of Fire Station 7 would depend on the location of the new headquarters.

TFD responds to the following incidents:

- Fires (structural, vehicles, brush/vegetation, rubbish/trash, other)
- Medical and Rescue Emergencies (motor vehicles, all others)
- Hazardous Conditions (no fire)
- Public Assistance/Service Calls
- False Alarms/Calls and Good Intent Calls

Future growth in accordance with the *GPU* is expected to create the typical range of fire service calls. TFD would be able to meet fire protection needs of the City with the planned expansions (Fire Station 7), which would also allow TFD to better serve the City during fire and medical emergencies. And new equipment would be required in order to provide adequate response times to serve future growth.

The *GPU EIR* concluded less than significant impacts to fire protection with implementation of regulatory requirements and standard conditions of approval.

Police Protection

Law enforcement services in the City of Torrance are provided by the Torrance Police Department (TPD). TPD is located at 3300 Civic Center Drive, behind City Hall. TPD is composed of four components: the Administrative, Services, Patrol, and Special Operations Bureaus. The largest bureau is the Patrol Bureau, which includes Crime Scene Investigation, Gang Detail, Shopping Center Detail, Special Weapons and Tactics (S.W.A.T.), and Canine Detail unit. The Community Affairs Division comprises the Community Affairs Section and the Community Lead Officer Detail, which acts as a liaison with the community. The Community Affairs Section coordinates programs such as Neighborhood Watch, Map Your Neighborhood, Business Watch, Partners in Policies, and Teens and Police. They also perform and coordinate functions such as home security inspections, vacation security checks, speaker requests, and tours of the police department. To further the effectiveness of its public safety efforts, the TPD has established focus-based policing, with the aim of empowering area and division commanders to manage unexpected challenges and provide solutions, and to delegate power to line level officers.

There are five areas of responsibility in the City of Torrance, each managed by a designated patrol area commander. Area 1 covers the area north of 190th Street, south of Redondo Beach Boulevard, east of Hawthorne Boulevard, and west of Western Avenue. Area 2 covers the area north of Torrance Boulevard, south of 190th Street, east of Hawthorne Boulevard, and west of Western Avenue. Area 3 covers the area north of Sepulveda Boulevard, south of Carson Street, east of Hawthorne Boulevard, and west of Western Avenue. Area 4 covers the area north of Pacific Coast Highway, south of Sepulveda Boulevard, east of Hawthorne Boulevard, and west of Western Avenue, Crenshaw Boulevard, and the City of Lomita. Area 5 covers the area north of the City of Palos Verde, south of 190th Street, east of Hawthorne Boulevard, and west of the City of Redondo Beach.

The *GPU* would increase the number of residents, employees, and structures in the TPD service area, creating a demand for more police service. Although *GPU* buildout could increase the need for police services, it would not



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result in a significant increase in demand for police services or facilities. TPD's ability to deliver police services in a timely manner would not be significantly impacted.

At the time the *GPU EIR* was certified, there were no plans for expansion of police facilities and TPD has indicated that the proposed development would not have a significant impact on police services. TPD would continue to strive to increase their current police force to meet the needs of future populations based on the *GPU*.

The *GPU EIR* concluded less than significant impacts to police services with implementation of regulatory requirements and standard conditions of approval.

Schools

The Torrance Unified School District (TUSD) encompasses all of the City of Torrance, and operates 17 elementary schools, 8 middle schools, 5 high schools (one of which is a continuation school), 3 adult education centers, and a child development center. In addition to these public schools, approximately 41 public and private preschools and 13 private K–12 schools serve the City.

According to TUSD and the student generation factors shown in *GPU EIR* Table 5.13-4, there would be a total of 23,383 students by the buildout year. This is an increase of 1,602 students from existing conditions. The existing conditions established by TUSD vary from the 24,873 existing students noted above because of different information sources. For either source, the future student population would not increase substantially because the majority of the City is built out with urban land uses and established development, and there would not be a large increase in residential land uses.

Individual developments within the City of Torrance would be required to pay school impact fees under *Government Code* Section 65995. School fees levied by school districts under SB 50 are defined as comprising full mitigation for a project's impacts on public schools.

The *GPU EIR* concluded less than significant impacts to schools with implementation of regulatory requirements and standard conditions of approval.

Library Services

The City of Torrance is home to Torrance Public Library (TPL), which has six branches (the main library and 5 branches). Originally established as a City department in 1967, TPL consolidated with the Parks and Recreation Department in 2005 to form the Community Services Department. Current library resources include over volumes, audio visual materials (music, CD's, books on CD and cassette), video materials (DVD's and video cassettes), and subscriptions. TPL also offers a variety of electronic print services and databases that may be accessed at branch libraries or from home.

GPU EIR Figure 5.13-4 shows the locations of the six facilities that comprise TPL, which are listed below.

- Katy Geissert Civic Center Library, 3301 Torrance Boulevard
- El Retiro Branch Library 126 Vista del Parque (Redondo Beach mailing address)
- Henderson Branch Library, 4805 Emerald Street
- North Torrance Branch Library, 3604 West Artesia Boulevard



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- Southeast Branch Library, 23115 South Arlington Avenue
- Waleria Branch Library, 3815 West 242nd Street

Residents may also obtain materials through interlibrary loan and they have access to the University of California Library System, the County of Los Angeles Library System, and the California State Library System Catalogs and several neighboring cities library systems on the TPL web site.

TPL does not receive developer impact fees for funding the expansion and operation of library services, but gains revenue through charging residents fines and fees for library services and from grant programs funded by the California State Library (Public Library Fund and Transaction Based Reimbursement Programs). This latter source has provided less revenue recently as state budgets have been reduced.

The *GPU* increase in the City's population would require library services to serve the new population.

TPL does not have a standard for determining the amount of library space (in square feet) that is needed per resident. Planning for library services in Torrance is guided by the City Manager and the Department of Community Services director, and carried out by library staff. When approved, the City incorporates library service needs and projects into the City budget.

The services of TPL library are increasingly in demand as population increases, especially for electronic media and Internet access for students and the general public. The need for these services represents a potentially significant impact on TPL, especially in the event that none of the proposed new developments and/or expansions are completed. The continued accrual of service fees and fines from residents and potential funding from the California Public Library would bring revenue to TPL. The City has shown commitment to continue pursuing the funding for the North Torrance Library and Community Services Center, as indicated in the *GPU*.

The *GPU EIR* concluded less than significant impacts to library services with implementation of regulatory requirements and standard conditions of approval.

IMPACT ANALYSIS

A. WOULD THE PROJECT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE PROVISION OF NEW OR PHYSICALLY ALTERED GOVERNMENTAL FACILITIES, NEED FOR NEW OR PHYSICALLY ALTERED GOVERNMENTAL FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL IMPACTS, IN ORDER TO MAINTAIN ACCEPTABLE SERVICE RATIOS, RESPONSE TIMES OR OTHER PERFORMANCE OBJECTIVES FOR ANY OF THE PUBLIC SERVICES:

- 1. FIRE PROTECTION?**
- 2. POLICE PROTECTION?**

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, but does provide incentives to facilitate the production of future housing development. As such, new housing units associated with future development proposals could require



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additional fire and police protection services and facilities for the Torrance Fire Department and Torrance Police Department.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.

In addition, as part of its annual budget process and periodic review of its contracts with the Torrance Fire Department and the Torrance Police Department, the City evaluates fire and police protection service levels, and adjusts budgets accordingly to meet identified demand and service goals. This process would continue through the course of the proposed project. With continued application of these programs, the City would be able to address anticipated increased service demands. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

3. SCHOOLS?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, but does provide incentives to facilitate the production of future housing development.

New residents in the future housing developments within the HCO areas could place an increased demand on school facilities within the Districts. As allowed by State law, the Districts collect fees for new residential construction to help offset the costs of providing additional education facilities and services. Such fees would be paid by developers at the time individual building permits are issued. Pursuant to SB 50, payment of fees to the School Districts is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives for schools. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

4. PARKS?

Refer to Section 4.16, Recreation.



5. OTHER PUBLIC FACILITIES?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals, but does provide incentives to facilitate the production of future housing development.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources.

In addition, as part of its annual budget process, the City of Torrance adjusts budgets accordingly to meet identified library demand and service goals. This process would continue through the course of the proposed project, and thus, the City would be able to address anticipated increased library service demands. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.16 RECREATION

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
B. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Increase Use of Existing Parks or Recreational Facilities

GPU buildout is forecast to add residential units and residents to the City. Thus, the *GPU* is expected to increase demands for park and recreational facilities. Developments approved and built pursuant to the *GPU* would be required to pay Quimby Act fees to the City for parks and recreation purposes. Quimby Act fees may be used for rehabilitating existing parks and recreation facilities.

The *GPU EIR* concluded that impacts to use of existing parks or recreational facilities resulting from the *GPU* buildout would be less than significant with the implementation of regulatory requirements and standard conditions of approval.

Construction or Expansion of Recreational Facilities

The *GPU* is not a development project, and therefore does not include or require the construction of recreational facilities that would result in any environmental impacts. *GPU* implementation may result in the construction or expansion of recreational facilities; however, the scope, nature and location of these facilities is unknown at this time. *GPU* buildout is forecast to result in an increase in the City’s population and cause a proportional increase in demands for park and recreation facilities.

The *GPU* contains a standard of ten acres of parkland per each 1,000 residents. As nearly the entire City is built out, it is unlikely that large acreage of land could be found for development into parkland. Quimby Act fees may be used for rehabilitating existing parks and recreation facilities. The *GPU* contains goals and policies to mitigate potential adverse impacts to the environment that may result from *GPU* buildout, including expansion of parks and recreational facilities. In addition, specific future park and recreation facility development projects would require independent CEQA review.



The GPU EIR concluded that impacts relative to the construction or expansion of recreational facilities resulting from the GPU buildout would be less than significant with the implementation of regulatory requirements and standard conditions of approval.

IMPACT ANALYSIS

A. WOULD THE PROJECT INCREASE THE USE OF EXISTING NEIGHBORHOOD AND REGIONAL PARKS OR OTHER RECREATIONAL FACILITIES SUCH THAT SUBSTANTIAL PHYSICAL DETERIORATION OF THE FACILITY WOULD OCCUR OR BE ACCELERATED?

The majority of the City is built out with urban land uses and established development, including recreation facilities.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

New residents in future development proposals could place an increased demand on City park facilities. Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. DOES THE PROJECT INCLUDE RECREATIONAL FACILITIES OR REQUIRE THE CONSTRUCTION OR EXPANSION OF RECREATIONAL FACILITIES WHICH MIGHT HAVE AN ADVERSE PHYSICAL EFFECT ON THE ENVIRONMENT?

The proposed project does not include plans for or construction of any recreational facilities. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



4.17 TRANSPORTATION

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			✓	
B. Conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?			✓	
C. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
D. Result in inadequate emergency access?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

GPU EIR Table 5.15-4 shows the *GPU* is forecast to generate approximately 18,328 daily trips, which include approximately 943 AM peak hour trips, and approximately 1,448 PM peak hour trips.

Study Area Roadways Level of Service

Morning and evening peak-hour level of service (LOS) were calculated for the study area roadways throughout the City. The forecast peak-hour LOS for the analyzed roadways for *GPU* buildout are summarized in *GPU EIR* Table 5.14-5.

The following eight study intersections are forecast to operate at a deficient LOS (LOS E or below) according to agency performance criteria for Forecast Existing Plus Proposed General Plan Update Conditions during one or both peak hours, utilizing Highway Capacity Manual (HCM) methodology:

- Anza Avenue/Sepulveda Boulevard (PM peak hour only)
- Crenshaw Boulevard/190th Street (PM peak hour only)
- Crenshaw Boulevard/Lomita Boulevard (PM peak hour only)
- Crenshaw Boulevard/Pacific Coast Highway (SR-1) (PM peak hour only)
- Hawthorne Boulevard (SR-107)/Sepulveda Boulevard (PM peak hour only)
- Hawthorne Boulevard (SR-107)/Lomita Boulevard (PM peak hour only)
- Prairie Avenue/Redondo Beach Boulevard (PM peak hour only)
- Western Avenue (SR-213)/Sepulveda Boulevard (PM peak hour only)



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Based on agency-established thresholds of significance, the *GPU* would result in a significant impact at the following five study intersections utilizing HCM methodology:

- Anza Avenue/Sepulveda Boulevard
- Crenshaw Boulevard/190th Street
- Crenshaw Boulevard/Pacific Coast Highway (SR-1)
- Hawthorne Boulevard (SR-107)/Sepulveda Boulevard
- Hawthorne Boulevard (SR-107)/Lomita Boulevard

General Plan Buildout Daily Traffic Mitigation and Impact Conclusion

Mitigation measures were developed for five intersections that operate at a deficient LOS under Future General Plan Buildout Conditions. Peak hour intersection performance is considered the key measure of traffic efficiency. The determination of need for circulation system mitigation is throughput capacity of segment intersections, not segment capacity.

- Anza Avenue/Sepulveda Boulevard
- Crenshaw Boulevard/190th Street
- Crenshaw Boulevard/Pacific Coast Highway (SR-1)
- Hawthorne Boulevard (SR-107)/Sepulveda Boulevard
- Hawthorne Boulevard (SR-107)/Lomita Boulevard

The mitigation measures proposed for the five intersections are consistent with the improvements recommended in the City of Torrance Citywide Traffic Analysis (*GPU EIR* Appendix J), and are shown in *GPU EIR* Table 5.15-6. Incorporation of the specified intersection improvements is expected to result in the acceptable operation of arterial segments.

GPU EIR Table 5.15-7 summarizes mitigated Forecast Existing Plus Proposed General Plan Update Conditions AM peak hour and PM peak hour LOS of the impacted study intersections. The *GPU EIR* concluded that with implementation of the mitigation measures identified in Table 5.15-7, the *GPU* traffic impacts at the five study intersections listed above are reduced to a less than significant level during the AM and PM peak hour for forecast Plus Proposed General Plan Update Conditions.

The *GPU EIR* concluded less than significant impacts study area roadways and intersections with implementation of regulatory requirements and standard conditions of approval.

Emergency Access

GPU buildout would result in changes to the circulation network, but would not increase hazards due to a design feature. Standard City protocol requires all engineered street plans to be reviewed and approved by the City's Public Works Department before any construction can occur, thereby preventing the construction of any unsafe design features. Adequate levels of service would exist at all the City's intersections under the General Plan Buildout Condition.



The *GPU EIR* concluded no impacts relative to emergency access with implementation of regulatory requirements and standard conditions of approval.

Motorized and Non-Motorized Alternative Transportation

Residents of Torrance have access to multiple forms of alternative transportation, including commuter and municipal buses, trains, and bike paths. Implementation of the *GPU* would further promote the realization of various forms of public and alternative transportation throughout the City.

The *GPU EIR* concluded less than significant impacts relative to motorized and non-motorized alternative transportation with implementation of regulatory requirements and standard conditions.

IMPACT ANALYSIS

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

A. WOULD THE PROJECT CONFLICT WITH AN APPLICABLE PLAN, ORDINANCE OR POLICY ADDRESSING THE CIRCULATION, INCLUDING TRANSIT, ROADWAY, BICYCLE, AND PEDESTRIAN FACILITIES?

The majority of the City is built out with urban land uses and established development, roads, and transportation systems.

All future development proposals would be evaluated, if applicable, for potential conflicts with relevant circulation plans, ordinances, or policies relative to transit, bicycle, pedestrian, and roadway facilities. Thus, it is not anticipated that adoption and implementation of the proposed project would significantly impact the effectiveness or performance of existing pedestrian, bicycle, or multi-purpose trail facilities, nor would it limit the accessibility for pedestrians or future cyclists, or their ability to utilize existing facilities.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT CONFLICT OR BE INCONSISTENT WITH CEQA GUIDELINES SECTION 15064.3 SUBDIVISION (B)?

At the time the *GPU EIR* was certified in certified in 2010, SB 743 was not in place and thus, the *GPU EIR* did not evaluate this threshold.

The 2018 updates to the *CEQA Guidelines* included a new threshold requiring a determination of consistency with *CEQA Guidelines* Section 15064.3. *CEQA Guidelines* Section 15064.3 requires an analysis of Vehicle Miles Travelled (VMTs), in accordance with California Senate Bill (SB) 743. Level of Service (LOS) had been used as the basis for determining the significance of traffic impacts as standard practice in CEQA documents for decades. In 2013, SB 743 was passed, which is intended to balance the need for LOS for traffic planning with the need to build infill



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housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes-competing needs. At full implementation of SB 743, the California Governor's Office of Planning and Research (OPR) replaced LOS as the metric against which traffic impacts are evaluated with a metric based on VMTs. The City of Torrance will implement CEQA Guidelines Section 15064.3 for applicable development applications submitted after July 1, 2020 to determine whether the development would have a significant transportation and traffic impact.

Traffic Impact Analysis for Private Developments

Future development proposals within the proposed HCO areas would be subject to the City's requirements for traffic impact analyses and would be required to provide the following reports, except when screened for exemption: 1) Vehicle Miles Traveled (VMT)-Based Traffic Impact Analysis (TIA) and 2) Level-of-Service (LOS)-Based Traffic Circulation Analysis (TCA).

1. VMT-Based TIA

A TIA needs to be submitted to comply with CEQA requirements. Background and information on the preparation of this report is provided in the City's [TIA Guidelines for Land Use Projects](#).

2. LOS-Based TCA

A TCA is required by the City to ensure that the project will not impose a burden to the City's transportation network. The City's [TCA Guidelines page](#) provides information on the preparation of this report.

Other studies may be required by the City on a case-by-case basis, such as left-turn lane queuing analysis, drive-through queuing analysis, site circulation analysis).

The City's *Traffic Impact Assessment Guidelines for Land Use Projects* (January 2021) are provided in Appendix C.

Transit Priority Areas

Public Resources Code Section 21099 defines Transit Priority Areas (TPAs) as an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program. *Public Resources Code* Section 21155(b) defines High Quality Transit Areas (HQTAs) are defined as areas within one-half mile of a fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes or less during peak commuting hours.

Within the City of Torrance, the currently identified TPA/HQTA is Hawthorne Boulevard/Artesia Avenue. The Torrance Transit System (TTS) is a municipal transportation agency that serves the public in the South Bay region of Los Angeles county. The network consists of twelve (12) fixed-routes that extends to many areas outside of the City of Torrance, including the neighboring cities of Redondo Beach, Hermosa Beach, Carson, Gardena, Hawthorne, Inglewood, El Segundo, Lawndale, Lomita, Compton, Wilmington, Harbor City and the City of Los Angeles including all unincorporated areas under the jurisdiction of Los Angeles County. TTS also provides connects to the following Metro rail lines:



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- Metro A Line (Blue): Downtown Los Angeles – Long Beach
- Metro B Line (Red): Union Station – North Hollywood
- Metro C Line (Green): Norwalk – Redondo Beach
- Metro D Line (Purple): Union Station – Wilshire/Western
- Metro E Line (Expo): Downtown Los Angeles – Santa Monica
- Metro L Line (Gold): Azusa – Union Station – East Los Angeles

The Southern California Association of Governments (SCAG) has identified future TPAs/HQTAs in Torrance in 2045 that would connect to existing ones, which would be along major corridors in the City.

Impact Analysis

The majority of the City is built out with urban land uses and established development, roads, and transportation systems.

TPA/HQTA Analysis

There is the potential that some of the future development proposals within the proposed HCO areas would be located within ½-mile of the existing or future TPAs/HQTAs with access to the Torrance Transit System and Metro buses and trains, and thus, would have the potential to reduce vehicle miles travelled (VMT). Refer to Exhibit 4-1, Torrance Transit Priority Area Map.

Based upon Exhibit 4-1, the following subarea sites are located within ½-mile of an existing and future TPA/HQTA: SA-1: Spencer Street, SA-1: Prairie Avenue, SA-2: Border Avenue, SA-3: Lomita and Madison, and SA-3: Maricopa Avenue.

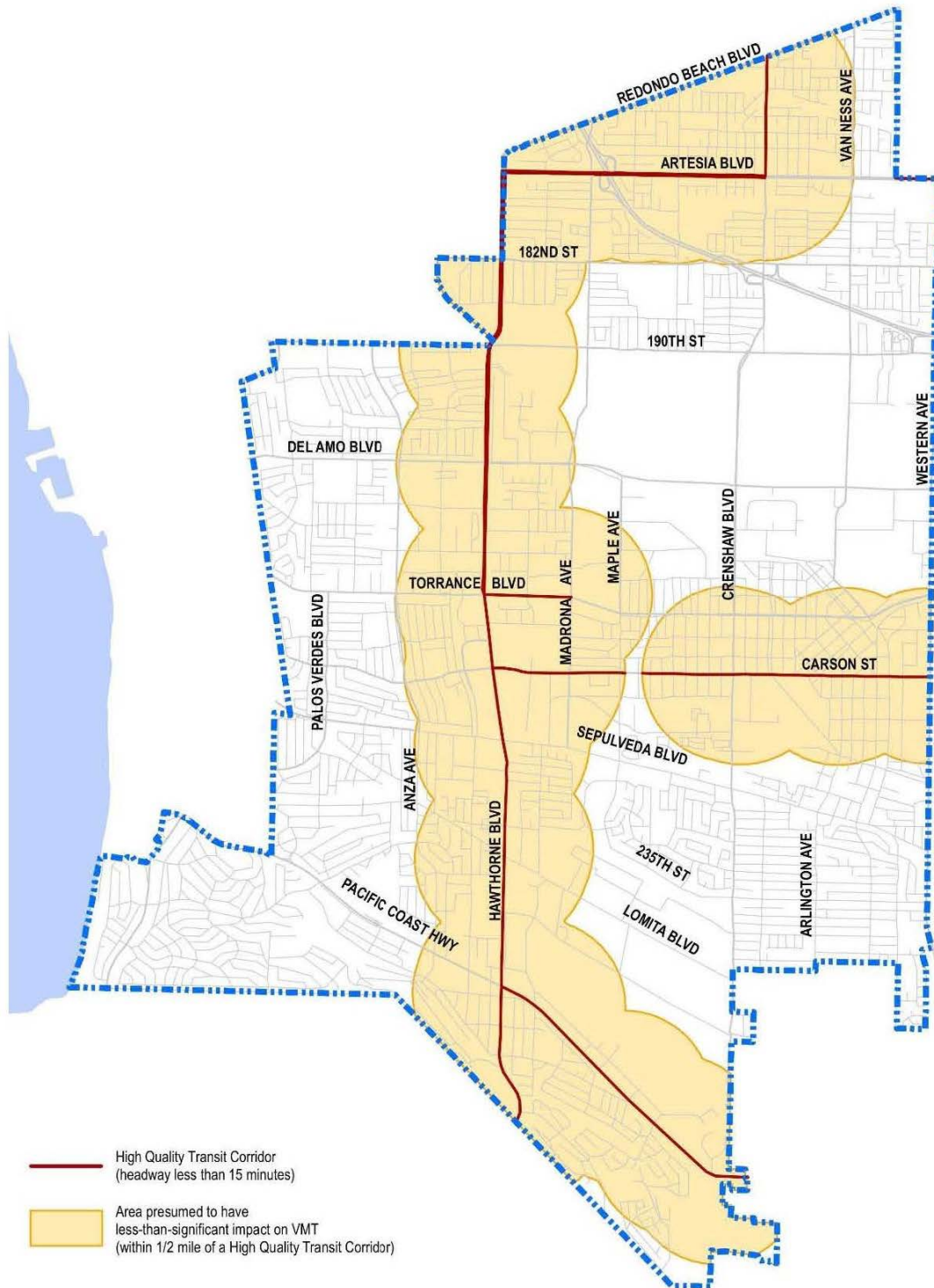
VMT and LOS Analysis

If not screened for exemption, all future development proposals within the proposed HCO areas would be evaluated, if applicable, for VMT and LOS impacts and determine if development-related conditions of approval are needed, inclusive of Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as significant and unavoidable impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



Exhibit 4-1 Torrance Transit Priority Area Map



Source: City of Torrance, *Traffic Impact Assessment Guidelines for Land Use Projects (TIA Guidelines)* Figure 10, (January 2021)



C. WOULD THE PROJECT SUBSTANTIALLY INCREASE HAZARDS DUE TO A DESIGN FEATURE (E.G., SHARP CURVES OR DANGEROUS INTERSECTIONS) OR INCOMPATIBLE USES (E.G., FARM EQUIPMENT)?

The City of Torrance has been fully urbanized for many years with established development, roads, and transportation systems.

Future development proposals within the proposed HCO areas would be evaluated to determine the appropriate land use permit for authorizing its use and the conditions for their establishment and operation. At a minimum, compliance with relevant *Torrance Municipal Code* standards would be required. In addition, future development proposals within the proposed HCO areas would be subject to review and approval by the City of Torrance Community Development and Public Works Departments. Access to a future development site would be required to comply with all City design standards, which preclude the potential for dangerous conditions.

Also, future development proposals within the proposed HCO areas would be evaluated to ensure that adequate access and circulation to and within the future development site is provided. Access to a site must comply with all City design standards and would be reviewed by the relevant City of Torrance departments to ensure that inadequate design features or incompatible uses do not occur and that they are designed to meet adopted standards. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT RESULT IN INADEQUATE EMERGENCY ACCESS?

The City of Torrance has been fully urbanized for many years with established development, roads, and transportation systems.

Relevant City of Torrance departments would review the future development proposals in order to ensure that they are designed to meet adopted standards and provide adequate emergency access. In addition, roadways and driveways associated with future development proposals within the proposed HCO areas would be required to meet Torrance Fire Department (TFD) emergency access standards, as well as comply with requirements from TFD and Torrance Police Department (TPD) on a project-by-project basis. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.18 UTILITIES AND SERVICE SYSTEMS

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
B. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			✓	
C. Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
D. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
E. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Water

Supply and Distribution Systems. The Torrance Municipal Water Department (TMWD) and the Rancho Dominguez and Hermosa-Redondo Districts of the California Water Service Company (CWS) provide potable water to the City of Torrance; the agencies' service areas are shown on *GPU EIR* Figure 5.16-1, *Water Provider Service Areas*. These water agencies prepare urban water management plans (UWMP) every five years that identify historical and projected water usage and existing and future water supply sources, describe the agencies' demand management programs, and set forth a program to meet water demands during normal, dry, and multiple dry years.

TMWD's water service area is approximately 10,350 acres and comprises about 78 percent of the land within City limits, covering most of the northern, eastern, and southern parts of the City. CWS provides water service to the remaining portions of the City. The City overlies the West Coast Groundwater (WCG) Basin, which consists of four main water-bearing formations in the vicinity of Torrance, the Gage, Gardena, Lynwood, and Silverado aquifers.

In 2005, TMWD received approximately 65 percent of its total water supply from the Metropolitan Water District of Southern California (MWDSC), and 35 percent from local supplies. Local sources include groundwater, desalinated groundwater, and recycled water. Recycled water comprises approximately 23 percent of TMWD's water supply, while groundwater supplies (including desalinated groundwater) comprise approximately 12 percent. *GPU EIR* Table 5.16-1 shows the current and projected water supplies for the TMWD. The MWDSC obtains



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imported water from two sources: the State Water Project that conveys water from northern California and the Colorado River.

Existing and Future Water Supply. As shown in *GPU EIR* Table 5.16-2, between 2010 and 2030 demand for TMWD potable water is forecast to increase from 23,820 acre-feet per year (afy) to 24,510 afy, or about 2.9 percent, while total demands for TMWD water are forecast to increase from 30,920 afy to 31,760 afy or about 2.7 percent. Projected supplies and demands for TMWD water between 2010 and 2030 are compared in *GPU EIR* Table 5.16-3. As shown in *GPU EIR* Table 5.16-3, over the 2010 to 2030 period, TMWD estimates that it will have a surplus of water supplies over water demands ranging from 6,100 af in 2010 to 2,960 AF in 2030.

Groundwater. The City retains groundwater pumping rights to 5,640 afy in the WCG Basin, which is managed by the Water Replenishment District of Southern California (WRDSC). Torrance has not been able to fully utilize its groundwater allocation because of seawater intrusion into the aquifer and the deteriorating condition of the City's groundwater wells; however, because the City hasn't used its full entitlement, it can lease its groundwater rights to other purveyors.

The WRDSC has monitored groundwater withdrawals from the WCG Basin and has developed a water replenishment plan for the basin. Sources of groundwater replenishment water to WRD include recycled water; imported water, and natural runoff, which is captured in the regional spreading grounds.

The City obtains groundwater from the West Coast Groundwater Basin via Well #6, the only active well in the City. The other well, Well #7, is an inactive standby well. The total capacity of Well #6 is 950 gallons per minute (gpm). The conditions of the well have deteriorated through the years and rehabilitation efforts are expected to increase the capacity of the well to 1,240 gpm. Between 2000 and 2005, the amount of water pumped from Well #6 decreased from 1,969 afy to 1,114 afy. TMWD is in the process of completing construction of a new Well #9, which will replace Well #6. The new well is projected to be in operation by 2010 and to produce approximately 2,500 acre feet of groundwater per year.

Desalinated groundwater is not pumped from wells in Torrance and is instead purchased from the WRD. Desalinated water comes from the Goldsworthy Groundwater Desalter Project in the City of Torrance. Groundwater obtained from wells in the City is projected to increase throughout year 2030 with the use of additional wells in North Torrance, as indicated in *GPU EIR* Table 5.16-4.

TMWD recently developed a business plan to address infrastructure and water resources needs over the next 20 years. The plan calls for reducing the current dependence on imported water supplies obtained from MWDSC. TMWD expects to be able to reduce imported water supplies from 70 percent of total demand to less than 40 percent over the next five years by developing local water resources, including construction of additional groundwater wells, increased use of recycled water, and expansion of a groundwater desalination facility.

Nonpotable/Recycled Water Use. In order to reduce reliance on imported water supplies and guard against projected future water rate increases, the City uses locally recycled water for nonpotable purposes such as irrigation and some industrial uses. Recycled water that has undergone secondary treatment at the City of Los Angeles' Hyperion Wastewater Treatment Plant is obtained by the West Basin Municipal Water District (WBMWD), which processes the water further at its West Basin Water Recycling Plant (WBWRP) in El Segundo. The City of Torrance then procures recycled water from WBMWD. WBMWD also owns, operates, and maintains all recycled water mains and laterals in Torrance. Current recycled water users are listed in *GPU EIR* Table 5.16-5.



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GPU Buildout. The land use changes that would result from *GPU* implementation, and resulting projections for changes in water demand are shown in *GPU EIR* Table 5.16-6, which shows that the *GPU* is to result in an increase in water demand of about 2,320,798 gpd, or roughly 2,599 afy year.

TMWD forecasts that in normal water years it will have a surplus of water supplies over demands ranging from about 6,100 afy in 2010 to 2,960 afy in 2030. Projections of supplies of and demands for TMWD water in single dry year conditions and multiple dry year conditions are in TMWD's UWMP, included as Appendix K. In single dry year conditions between 2010 and 2030, TMWD would have sufficient water supplies to meet water demands that would be generated by *GPU* development.

For multiple dry year conditions, five sequences of five years each were evaluated, for a total of 25 years. For only three of those years (2025, 2028, and 2030) would the surplus of TMWD supplies over anticipated demands be less than the forecast increase in water demand that would result from development in conformance with the proposed general plan update. The surplus in 2025 would be 2,550 afy, 1,500 afy in 2028, and 1,330 afy in 2030. There are sufficient existing and projected water supplies available in the City of Torrance to meet the *GPU* demands.

While there is some residual water distribution capacity in the City, *GPU* buildout could require the construction of some expanded or new water distribution infrastructure. Since the City is very nearly completely developed, it is expected that any future construction of expanded or new infrastructure would occur in public streets or in other developed areas where the construction would not have substantial adverse environmental effects.

The *GPU EIR* concluded less than significant impacts to water supply and distribution systems with implementation of regulatory requirements and standard conditions of approval.

Wastewater and Storm Drainage Systems

Treatment and Collection. The Public Works Department of the City of Torrance maintains local sewer and storm drainage systems. The Los Angeles County Sanitation Districts (LACSD) is the regional agency responsible for the collection and treatment of wastewater. This includes the construction, operation, and maintenance of sanitation facilities used to collect, treat, recycle, and dispose of wastewater. Torrance lies within Sanitation Districts No. 5 and 30. The nearest wastewater treatment facility to Torrance is the Joint Water Pollution Control Plant (JWPCP) in Carson.

The 220-acre JWPCP is one of the largest wastewater treatment facilities in the world, and currently provides primary and secondary treatment for approximately 320 million gallons per day (mgd) of wastewater. The maximum design flow of the JWPCP is 385 mgd and the maximum design peak flow is 540 MGD. About five million gallons of the treated water is reused for irrigation purposes. The remainder of the treated water is disinfected and then discharged into the Pacific Ocean through a network of outfalls, which extend two miles off of the Palos Verdes Peninsula to a depth of 200 feet.

Torrance maintains 287 miles of sewer lines and 9 sewer lift stations. The City cleans all City-owned sewers yearly. The City also implements a sewer spill procedure to contain and recover spills, thereby reducing environmental impacts.



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Storm Drainage Systems. Stormwater runoff flows directly into the City's storm drain system via street gutters, catch basins, and other inlets, and this flow in turn discharges into the Pacific Ocean, City-maintained sumps, or County flood control channels, which ultimately drain to the Pacific Ocean. With no natural drainage systems, the City manages 51.25 miles of closed storm drains and one mile of open channel. To inform the public of the adverse impacts of disposing of items in the storm drains, the City marked all 1,236 storm drain inlets and posted signs at 66 public access points to creeks, channels, and other water bodies with a “no dumping” message.

Three stormwater retention basins and 14 detention basins throughout Torrance serve the primary purpose of controlling stormwater runoff and preventing localized ponding and flooding. The Dominguez Flood Control Channel cuts through the northeastern section of the City. This channel is controlled by the County of Los Angeles and, although it has never overflowed in the past, it has the potential to flood during excessive rain events. Development is limited near the Dominguez Channel. Localized flooding due to excessive rain has occurred throughout the City.

GPU Buildout. The amount of wastewater that would be generated by *GPU* buildout is shown in *GPU EIR* Table 5.16-7, which shows that the *GPU* would result in an increase in wastewater generation of about 1,856,638 gpd compared to current conditions. Wastewater generated in the City is transported to the JWPCP in Carson, which has current wastewater flows of about 320 MGD, a maximum design flow of 385 mgd (431,255 afy), and a maximum design peak flow of 540 mgd (604,878 afy). The design capacity of the JWPCP is thus about 65 mgd greater than the facility's current wastewater flows. There is sufficient wastewater treatment capacity in the region for the increase in wastewater that the *GPU* would generate.

The City of Torrance would be adding residential and nonresidential development to the existing urban setting. Upgrades to existing public storm drains or on-site detention of stormwater may be necessary as undeveloped parcels are converted to urban uses, particularly in areas where flood-related problems occur. Since the City of Torrance has a high percentage of impermeable surfaces, the risk of urban flooding can be high during periods of intense precipitation. However, since the City is almost entirely built out, there would be few instances where undeveloped parcels of land are developed. New construction would mostly consist of the replacement of existing buildings. There would be few areas that would require the development of new stormwater drainage infrastructure. Therefore, construction of stormwater drainage systems would mostly be in the form of enhancing and updating the existing infrastructure. The payment of development impact fees (DIF) by developers would help to fund storm drain enhancement projects that would help resolve any existing system deficiencies.

The City would not experience significant amounts of damage to property or loss of life in the event of high intensity rainfall events. In addition to the priority improvements listed above, the City has a number of mitigation efforts listed in their Natural Hazards Mitigation Plan to reduce the impacts of flooding of stormwater systems and reservoir (or dam) failure. Stormwater flooding presents a minimal risk to the City because of the flood control systems operated by the City.

The *GPU EIR* concluded less than significant impacts to wastewater generation and treatment capacity and stormwater infrastructure with implementation of regulatory requirements and standard conditions of approval.

Solid Waste

Waste and Recycling Services in Torrance. The City of Torrance Sanitation Division handles residential refuse and recycling collection as well as collection for the City Hall complex, City parks, fire stations, and the police department. The City is a member of the Los Angeles Regional Agency (LARA), which is a consortium of 16 member



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cities in Los Angeles County. In 2004, the California Integrated Waste Management Board (CIWMB) approved the formation of LARA as a regional agency whose mission is to assist members in meeting and exceeding the 50 percent waste diversion mandates of SB 939. As a member city, Torrance receives programmatic and technical assistance to meet its obligations. LARA submits a collective annual report directly to the CIWMB for AB 939 compliance.

The City administers recycling efforts, including residential curbside recycling for single-family homes and duplexes, educational programs in elementary and middle schools, and providing recycling containers at city parks and special events. Over 25 private refuse haulers provide recycling and refuse service to the commercial and multifamily sector, and are required to divert 50 percent of their tonnage annually. Torrance also enforces an ordinance that requires all demolition, construction, and remodeling projects valued over \$100,000 to recycle or reuse at least 50 percent of the materials that leave the project site. A pilot green waste recycling program was started in June 2007. The purpose of this program is to reduce the amount of green waste being discarded in landfills. The program is expected to be expanded in the summer of 2009.

The City also promotes county-run programs for hazardous waste and electronics recycling and composting workshops. The county's sanitation district owns and operates the Palos Verdes recycling center, located at the Palos Verdes Landfill in Rancho Palos Verdes. The City expects to increase its waste diversion rate by implementing programs targeting multi-family residential areas and small- and medium-sized businesses.

Landfills. During calendar year 2008 roughly 166,000 tons of solid waste from the City of Torrance was disposed of at landfills. An additional estimated 150,000 tons of solid waste were recycled, reused, or transformed. During 2008, each of the five landfills listed in *GPU EIR* Table 5.16-8 received at least 1 percent of the solid waste from the City that was landfilled that year.

Compliance with Solid Waste Laws and Regulations. The City of Torrance is a member of the LARA, whose mission is to assist members in meeting and exceeding the 50 percent waste diversion mandates of SB 939. The City administers recycling efforts, including residential curbside recycling for single-family homes and duplexes, educational programs in elementary and middle schools, and providing recycling containers at city parks and special events. Also, refer to discussion above under the Waste and Recycling Services in Torrance heading.

GPU Buildout Solid Waste Generation and Landfill Capacity. The estimated increase in solid waste generation that would result from *GPU* buildout is shown in *GPU EIR* Table 5.16-9, which would result in an increase in solid waste generation of roughly 209,194 pounds, or about 104.6 tons, per day.

The five solid waste facilities accepting the vast majority of solid waste from Torrance have a combined permitted throughput of about 35,240 tons per day, remaining capacity of some 115,560,000 tons, and closure dates as late as 2037. There is sufficient landfill capacity in the region for solid waste that would be generated by the *GPU* buildout.

Any new developments within the City would be required to comply with existing City programs, which in turn comply with the requirements of the California Integrated Waste Management Act of 1898 and any related amendments.

The *GPU EIR* concluded less than significant impacts to solid waste generation, landfill capacity, and solid waste laws and regulation compliance with implementation of regulatory requirements and standard conditions of approval.



Other Utilities

Electricity

Southern California Edison provides electricity to the citizens and businesses of Torrance. Electricity is transmitted through high-voltage power lines and step-down transformers.

GPU Buildout. Growth in the City of Torrance would result in additional demand for electricity service. The City of Torrance obtains electricity from SCE. Based on energy rates from the United States Energy Information Administration for land uses in the City, existing energy demand is approximately 3.1 million gigawatt hours (Gwh) per year. Future growth in accordance with the *GPU* Land Use Plan would generate a demand of approximately 8.0 million Gwh per year. The City of Torrance does not have control over installation of new overhead transmission lines.

SCE would accommodate and construct new facilities, as needed to support the *GPU* demand for electricity. Because developments that would be considered for approval under the *GPU* have not yet been designed or proposed, the specific electricity facilities that would need to be installed to serve those developments are unknown, as are the environmental impacts of such installations. Such impacts would be evaluated on a project-by-project basis.

The *GPU EIR* concluded less than significant impacts to electricity with implementation of regulatory requirements and standard conditions of approval.

Natural Gas

Growth in the City of Torrance would result in additional demand for natural gas service. The City of Torrance obtains natural gas service from SCGC.

GPU Buildout. SCGC would accommodate and construct new facilities, as needed to support the *GPU* demand for natural gas. Because developments that would be considered for approval under the *GPU* have not yet been designed or proposed, the specific natural gas facilities that would need to be installed to serve those developments are unknown, as are the environmental impacts of such installations. Such impacts would be evaluated on a project-by-project basis.

The *GPU EIR* concluded less than significant impacts to natural gas with implementation of regulatory requirements and standard conditions of approval.

Telecommunications

Telecommunications includes media and technologies: radio, fiber optics, television, telephone, data communication, and computer networking. Telecommunications service to Torrance is provided by private companies and various cell phone providers. Often, undergrounding of these telecommunication systems can be coordinated with Southern California Edison undergrounding activities. The City utilizes residential and nonresidential undergrounding impact fees to further this goal.

Telecommunications services are provided within the City of Torrance. There are currently adequate telecommunication facilities available to serve the needs of the City.



GPU Buildout. GPU growth in the City would necessitate the construction or expansion of these types of communication facilities; however, installation of communication infrastructure is implemented by private companies who base service needs on customer demand. The City of Torrance Development Director, or designee, who has purview over design review, is required to approve new private infrastructure facilities prior to their placement, as regulated by the California Public Utilities Commission.

The GPU EIR concluded less than significant impacts to telecommunications with implementation of regulatory requirements and standard conditions of approval.

IMPACT ANALYSIS

A. WOULD THE PROJECT REQUIRE OR RESULT IN THE RELOCATION OR CONSTRUCTION OF NEW OR EXPANDED WATER, WASTEWATER TREATMENT OR STORM WATER DRAINAGE, ELECTRIC POWER, NATURAL GAS, OR TELECOMMUNICATIONS FACILITIES, THE CONSTRUCTION OR RELOCATION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS?

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Existing water, sanitary sewer (wastewater, sewer), storm drain, electrical, natural gas, and telecommunications facilities exist in the City of Torrance. Future development proposals within the proposed HCO areas would be required to comply with the applicable water supplier's rules and regulations regarding water connection, service, and conservation, as well as the Torrance Fire Department's requirements relative to the size of water lines and systems necessary to provide adequate fire flow service to development. In addition, future development proposals within the proposed HCO areas would be required to install or relocate, as applicable, on-site and off-site water, wastewater, storm drain, street, electricity, natural gas, and telecommunications infrastructure to serve the development. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. WOULD THE PROJECT HAVE SUFFICIENT WATER SUPPLIES AVAILABLE TO SERVE THE PROJECT AND REASONABLY FORESEEABLE FUTURE DEVELOPMENT DURING NORMAL, DRY, AND MULTIPLE DRY YEARS?

Urban Water Management Plans

State law requires an urban water supplier (supplier), providing water for municipal purposes to more than 3,000 urban connections/customers or providing more than 3,000 acre-feet annually, to adopt an Urban Water Management Plan (UWMP) every five years demonstrating water supply reliability in normal, single dry, and multiple dry water years.



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These plans support the suppliers' long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs. Within the UWMP, urban water suppliers must: 1) assess the reliability of water sources over a 20-year planning time frame; 2) describe demand management measures and water shortage contingency plans, 3) report progress toward meeting a targeted 20 percent reduction in per-capita (per-person), 4) urban water consumption by a specified year (e.g., 2020, 2025, 2030, 2035, 2040), and 5) discuss the use and planned use of recycled water. The California Department of Water Resources (DWR) reviews the submitted plans to ensure they have addressed the requirements identified in the Water Code and submits a report to the Legislature summarizing the status of the plans for each five-year cycle.

The City of Torrance has an approved *2015 UWMP*. The City of Torrance has submitted a *2020 UWMP* to the California Department of Water Resources (DWR) for approval. The *2020 UWMP* includes the following sections and appendices:

- Executive Summary & Lay Description

- Section 1: Introduction

- Section 2: Water Sources & Supplies

- Section 3: Water Quality

- Section 4: Water Demands

- Section 5: Climate Change

- Section 6: Reliability Planning

- Section 7: Demand Management

- Section 8: Water Shortage Contingency Plan

- Section 9: Recycled Water

- Appendices

- Appendix A: UWMP Checklist

- Appendix B: DWR Submittal Tables

- Appendix C: 60-Day Notifications of Public Hearing

- Appendix D: Two-Week & One-Week Notification of Public Hearing

- Appendix E: City Council Resolution Adopting 2020 UWMP & WSCP

- Appendix F: West Coast Basin Judgment

- Appendix G: City Council Ordinance No. 3782

- Appendix H: City Council Ordinance No. 3717

- Appendix I: City Water Conservation Plan

- Appendix J: City's Local Hazard Mitigation Plan

- Appendix K: City's Reclaimed Water Ordinance No. 3392



Torrance Water Providers and Service Area

The Torrance Municipal Water (TMW) service area is approximately 10,350 acres and comprises about 78 percent of the land within City limits. California Water Service Company provides water service to the remaining portion of the City.

Imported Water

TMW has five imported water connections with MWD for a total capacity of 33,666 gallons per minute, or 54,300 acre-feet per year (AFY) to receive imported water from MWD. TMW can import up to its Tier 1 limit of 19,204 AFY in order to avoid additional costs of MWD's Tier 2 pricing. However, TMW deliveries from MWD are typically 20 percent to 30 percent below this level.

Groundwater

In addition to imported water, the City currently maintains one active well (Well #9) and one standby well (Well #7) for groundwater extraction. Well #9 replaced an older Well #6 in 2010 and has an effective yield capacity of approximately 2,000 gallons per minute (gpm). Well #7 would be used only on an as-needed basis for fire flow demands or other emergencies. TMW is implementing an extensive program to add five additional potable wells by 2024.

Desalinated & Recycled Water

TMW also receives desalinated water (brackish groundwater) from its Robert W. Goldsworthy Desalter facility located at the City Services Facility. This Desalter is owned by the Water Replenishment District of Southern California (WRD) and operated by TMW personnel.

The desalinated water produced from the plant is for the exclusive use by TMW and the plant can currently provide up to 12 percent of TMW's total water supply (2.0 million gallons per day). The facility was expanded in 2018 from an effective capacity of 2,000 AFY to an effective capacity of 4,000 AFY when in full production (currently at 2,500 to 3,000 AFY).

Finally, TMW receives recycled water from West Basin Municipal Water District (WBMWD). WBMWD receives secondary effluent from the City of Los Angeles Hyperion Wastewater Treatment Plant and provides tertiary treatment to meet Title 22 standards. TMW purchases recycled water from WBMWD's Water Recycling Project. The recycled water comes from the West Basin Water Recycling Plant located in El Segundo.

Water Storage

For storage needs, TMW maintains four water storage reservoirs ranging in capacity from 0.9 million gallons (MG) to 18.7 MG with a total capacity of 30.6 MG. Two of these reservoirs are large underground reservoirs and two are standard above ground tanks.



Water Reliability

Water Use Reduction Plan

In order to remain below the SBx7-7 targets, the City will continue to implement the water use efficiency measures described in 2020 UWMP Section 7 and continue to participate in water use efficiency programs offered by MWD rebate programs for its retail agencies. Because residential homes are the largest water use sector in the region, the focus of water conservation efforts will continue to be residential and commercial rebate programs. Turf replacement, water efficient landscape workshops and public outreach programs are major priorities. Single family residential homes and some large landscaped areas are common in the City.

In addition to the SBx7-7 provisions, agencies also sought to manage the provisions of Governor Brown's Executive Order B-29-2015. Governor Brown granted this Executive Order in April 2015 that mandated a statewide 25 percent reduction in water use through February 28, 2016, as compared to the amount used in 2013. This executive order helped to further the goals of SBx7-7. Even after the strict 25 percent reduction was lifted, Californians continued to save water, with cumulative water use savings of about 22 percent between June 2015 and January 2017. As Governor Brown ended the drought state of emergency in most of California in April 2017 with Executive Order B-40-17, state agencies released a long-term plan that advanced measures to better prepare the state for future droughts and make "Conservation a California Way of Life."

Projected Water Demand

Future water use projections must consider significant factors on water demand, such as development and/or redevelopment, and climate patterns, among other less significant factors that affect water demand. Although redevelopment is expected to be an ongoing process, it is not expected to significantly impact water use since the City is already in a "built-out" condition.

Rainfall, however, will continue to be a major influence on demand as drought conditions will increase demand at a time when these supplies are limited, and may therefore result in water use restrictions in accordance with the City's Water Conservation Plan (Ordinance No. 3717 and Ordinance 3782). As the City's population continues to grow incrementally over time and as water conservation measures continue to be implemented, the City should experience only minor increases in its water consumption over the long-term, due mostly to overall population increases along with limited redevelopment. Per capita consumption rates should be expected to remain under 142 GPCD, in accordance with SBx7-7, and trend further below the 2020 target of 142 GPCD.

For planning purposes, the City's projected water use for 2025-2045 is broken down by sector, these water demands are included in future water demand projections for single and multi-family homes and listed in 2020 UWMP Table 4.11. Per capita consumption rates should be expected to remain under 142 GPCD and trend further below that rate, as water conservation efforts continue to combat climate change. The residential sector includes low-income housing units based on the City's *Draft 2014-2021 Housing Element* (2013). The City projects that a total of 607 housing units are classified as low-income. The estimated residential per unit water demand is 0.28 acre feet/ unit/year and thus, approximately 170 AFY is needed to supply these projected lower income housing units. These water demands are included in future water demand projections for single family and multi-family homes listed in 2020 UWMP Table 4.11. 2020 UWMP Table 4.12 shows the overall projected demands.



Impact Analysis

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Adoption and implementation of the proposed HCO would not adversely affect the ability of any of the primary domestic water providers (Torrance Municipal Water and California Water Service Company) to have sufficient water supplies available during normal, dry, and multiple dry year conditions for future development proposals within the City. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

C. WOULD THE PROJECT RESULT IN A DETERMINATION BY THE WASTEWATER TREATMENT PROVIDER, WHICH SERVES OR MAY SERVE THE PROJECT THAT IT HAS ADEQUATE CAPACITY TO SERVE THE PROJECT'S PROJECTED DEMAND IN ADDITION TO THE PROVIDER'S EXISTING COMMITMENTS?

The City of Torrance is located in County Sanitation District 5 of the Los Angeles County Sanitation Districts (LACSD). Sewer waste generated in this District is sent to the LACSD Joint Water Pollution Control Plan (JWPCP) located at 24501 S. Figueroa Street in Carson. The JWPCP is the LACSD's oldest and largest wastewater treatment plant, and currently provides primary and secondary treatment for a design capacity of 400 million gallons of wastewater per day, and serves over 4.8 million residents, businesses and industries. All solids from the Joint Outfall System are processed here and anaerobically digested to produce methane gas. The methane gas is then burned in the Total Energy Facility to produce enough electrical power to run the entire plant. After treatment, the effluent is chlorinated and discharged through two ocean outfalls a mile and a half offshore.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with applicable LACSD's rules and regulations regarding wastewater connection and service, including the wastewater lines and systems necessary to provide adequate services to the development. In addition, a future development proposal's wastewater (sewer) plans would be reviewed by the City Engineer and would be required to provide sufficient capacity and comply with City standards.

Future development proposals within the proposed HCO areas would result in the generation of raw sewage that would be collected in the existing or new sewer collection facilities to support the development, and then transported to the JWPCP where it would be treated and ultimately discharged. The wastewater treatment requirements issued by the Los Angeles RWQCB for the LACSD treatment plant that would receive wastewater from project development within the proposed HCO areas were developed to ensure that adequate levels of treatment would be provided for the wastewater flows emanating from all land uses in its service area. Therefore,



implementation of the proposed HCO not adversely affect the ability of the City or LACSD to provide adequate capacity and service to existing and future developments. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

D. WOULD THE PROJECT GENERATE SOLID WASTE IN EXCESS OF STATE OR LOCAL STANDARDS, OR IN EXCESS OF THE CAPACITY OF LOCAL INFRASTRUCTURE, OR OTHERWISE IMPAIR THE ATTAINMENT OF SOLID WASTE REDUCTION GOALS?

Solid waste disposal within the City is subject to the requirements established in *Torrance Municipal Code* Division 4, Chapter 3 – Solid Waste Management. Solid waste management facilities operated by the County Sanitation Districts of Los Angeles County (LACSD) include the Downey Area Recycling and Transfer Facility (DART), the South Gate Transfer Station, and the Puente Hills Materials Recovery Facility (PHMRF).

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Presently, capacity is available at the several solid waste management facilities serving the City of Torrance, and these facilities would be available to service future development proposals within the proposed HCO areas.

Future development proposals within the proposed HCO areas would be required to comply with the *Torrance Municipal Code*, which requires providing adequate areas for collecting and loading recyclable materials in concert with Countywide efforts and programs to reduce the volume of solid waste entering landfills. In addition, the location of recycling/separation areas is required to comply with all applicable Federal, State, public health, or local laws relating to fire, building, access, transportation, circulation, or safety. Compliance with all applicable State and Los Angeles County regulations for the use, collection, and disposal of solid and hazardous wastes is also mandated. It can be assumed that future development proposals within the proposed HCO areas would include adequate, accessible, and convenient areas for collecting recyclable materials. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

E. WOULD THE PROJECT COMPLY WITH FEDERAL, STATE, AND LOCAL MANAGEMENT AND REDUCTION STATUTES AND REGULATIONS RELATED TO SOLID WASTE?

State, County, and local agencies with regulatory authority related to solid waste include the California Department of Resources Recycling and Recovery, County Sanitation Districts of Los Angeles County (LACSD), and the City of Torrance. Regulations specifically applicable to the development proposals include, but are not limited to, the California Integrated Waste Management Act of 1989 (AB 939), Mandatory Commercial Recycling (AB 341, 2011), Mandatory Commercial Organics Recycling (AB 1826, 2014), and Short Lived Climate Pollutants Organic Waste Reductions (SB 1383, 2015).



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The Integrated Waste Management Act, which requires every City and County in the State to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan, identifies how each jurisdiction will meet the State's mandatory waste diversion goal of 50 percent by and after the year 2000. The diversion goal has been increased to 75 percent by 2020 by SB 341.

Torrance Municipal Code Division 4, Chapter 3 – Solid Waste Management standards and regulations for the collection and management of solid waste in the City, which are applicable to future development proposals.

CalGreen Code Section 4.408 requires preparation of a Construction Waste Management Plan that outlines ways in which the contractor would recycle and/or salvage for reuse a minimum of 50 percent of the nonhazardous construction and demolition debris. Future development proposals would comply with the *CalGreen Code* through the recycling and reuse of at least 50 percent of the non-hazardous construction and demolition debris from the development site during the construction phase.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas are not anticipated to result in unusual waste production characteristics, and thus, would not include any components that would conflict with State laws governing construction or operational solid waste production or diversion. Also, future development proposals within the proposed HCO areas would subject to all applicable Federal, State, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act, Los Angeles County, and City of Torrance recycling programs, ensuring compliance with Federal, State, and local statutes and implementation requirements related to the management of solid waste. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.19 WILDFIRE

Would the project:	New Potentially Significant Impact	New Impact Requiring New Mitigation	No New Impact/ No Impact	Reduced Impact
A. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?			✓	
If located in or near state responsibility areas or lands classified as high fire hazard severity zones, would the project:				
B. Substantially impair an adopted emergency response plan or emergency evacuation plan?			✓	
C. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
D. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
E. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			✓	

PRIOR ENVIRONMENTAL FINDINGS

General Plan Update EIR

Wildfire

The majority of the City is not considered to be at risk for fire because of the lack of vegetation and the flat topography. However, the southern portion of the City, near the cities of Rolling Hills Estates and Palos Verdes Estates, is in an area of very high fire risk. The denser vegetation, hilly topography, and the frequency of past fires give this area a greater fire risk. *GPU EIR* Figure 5.13-2, Fire Hazard Severity Zones, shows the area of the very high fire hazard near and partially covering southern Torrance. *GPU EIR* Figure 5.13-3, Historic Fires, shows historic fires since 1930 for this area. At least one fire has been recorded in each 20-year interval indicated on the map.

The California Fire Alliance is responsible for compiling a list of communities at risk. Torrance is not included on this list of communities at risk (California Fire Alliance 2009).

The *GPU EIR* concluded less than significant impacts with respect to wildfire with implementation of regulatory requirements and standard conditions of approval.



Emergency Response

The City has an emergency plan that establishes emergency preparedness and emergency response procedures for both peacetime and wartime disasters. The plan is termed a “multihazard functional plan,” prepared in accordance with the state Office of Emergency Services guidelines. This plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff utilizing the Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS). The plan establishes that the City of Torrance is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to persons, and minimize damage to the environment and to property. The Torrance Police Department through the Emergency Services Divisions is responsible to ensure the City’s emergency plan is current and follows both state and federal mandates.

The Torrance Fire Department is required to prepare and follow an area plan for emergency responses to hazardous materials releases. The area plan has been submitted to the Governor’s Office of Emergency Services as required under the Health and Safety Code.

The City’s participation in the SEMS and NIMS as required under *Government Code* Section 8607(a) allows Torrance to receive state support and funding in the event on an emergency. The multijurisdictional system depends on voluntary mutual aid and divides services between local governments. These resources would be utilized by Torrance in an emergency event and the impact would be less than significant.

Additionally, the City adopted the *2017-2022 Local Hazards Mitigation Plan (LHMP)* in 2017. The *LHMP* identified the following freeway evacuation routes for the City: Interstate 405, Pacific Coast Highway, Interstate 110, and State Route 91. In addition, the *LHMP* identified the following surface streets within the City:

- North–South surface streets
 - Hawthorne Boulevard (State Route 107)
 - Crenshaw Boulevard
 - Western Avenue
- East–West surface streets
 - Artesia Boulevard
 - 190th Street
 - Sepulveda Boulevard

The *GPU EIR* determined that developments approved under the *GPU* would not substantially impair implementation of emergency plans. In addition, the *GPU EIR* determined that *GPU* would not close or restrict traffic on potential evacuation routes designated in the *LHMP*.

The *GPU EIR* concluded less than significant impacts with respect to emergency response plans.



IMPACT ANALYSIS

A. WOULD THE PROJECT EXPOSE PEOPLE OR STRUCTURES, EITHER DIRECTLY OR INDIRECTLY, TO A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING WILDLAND FIRES?

The majority of the City is built out with urban land uses and established development. The southern portion of the City, near the cities of Rolling Hills Estates and Palos Verdes Estates, is in an area of very high fire risk. However, urban fires are the primary fire hazard in the City. None of the proposed HCO sites are located within the southern portion of the City, and thus would not be exposed to wildland fires.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. As such, future development proposals within the proposed HCO areas would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

B. IF LOCATED IN OR NEAR STATE RESPONSIBILITY AREAS OR LANDS CLASSIFIED AS HIGH FIRE HAZARD SEVERITY ZONES, SUBSTANTIALLY IMPAIR AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN?

The majority of the City is built out with urban land uses and established development. The *GPU EIR* identified the southern portion of the City, near the cities of Rolling Hills Estates and Palos Verdes Estates, is in an area of very high fire risk. The denser vegetation, hilly topography, and the frequency of past fires give this area a greater fire risk. This portion of the City is located within a Local Responsibility Area (LRA) Fire Hazard Severity Zone (FHSZ) and State Responsibility Area (SRA) FHSZ, as shown on the Los Angeles County Very High Severity Zones in LRA map (CAL FIRE, November 2007; CAL FIRE, September 2011).

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-



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specific development designs or proposals. In addition, adoption and implementation of the proposed project would not impair implementation of emergency response plans or emergency evacuation plans. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.

- C. IF LOCATED IN OR NEAR STATE RESPONSIBILITY AREAS OR LANDS CLASSIFIED AS HIGH FIRE HAZARD SEVERITY ZONES, WOULD THE PROJECT, DUE TO SLOPE, PREVAILING WINDS, AND OTHER FACTORS, EXACERBATE WILDFIRE RISKS, AND THEREBY EXPOSE PROJECT OCCUPANTS TO POLLUTANT CONCENTRATIONS FROM A WILDFIRE OR THE UNCONTROLLED SPREAD OF A WILDFIRE?**

- D. IF LOCATED IN OR NEAR STATE RESPONSIBILITY AREAS OR LANDS CLASSIFIED AS HIGH FIRE HAZARD SEVERITY ZONES, WOULD THE PROJECT REQUIRE THE INSTALLATION OR MAINTENANCE OF ASSOCIATED INFRASTRUCTURE (SUCH AS ROADS, FUEL BREAKS, EMERGENCY WATER SOURCES, POWER LINES, OR OTHER UTILITIES) THAT MAY EXACERBATE FIRE RISK OR THAT MAY RESULT IN TEMPORARY OR ONGOING IMPACTS TO THE ENVIRONMENT?**

- E. IF LOCATED IN OR NEAR STATE RESPONSIBILITY AREAS OR LANDS CLASSIFIED AS HIGH FIRE HAZARD SEVERITY ZONES, WOULD THE PROJECT EXPOSE PEOPLE OR STRUCTURES TO SIGNIFICANT RISKS, INCLUDING DOWNSLOPE OR DOWNSTREAM FLOODING OR LANDSLIDES, AS A RESULT OF RUNOFF, POST-FIRE SLOPE INSTABILITY, OR DRAINAGE CHANGES?**

The California Department of Forestry and Fire Protection (CAL FIRE) is focused on fire protection and stewardship of over 31 million acres of California's privately-owned wildlands. Preventing wildfires in the State Responsibility Area (SRA) is a key component of CAL FIRE's mission, and in more recent decades, CAL FIRE has adapted to the evolving destructive wildfires and succeeded in significantly increasing its efforts in fire prevention. CAL FIRE's Fire Prevention Program consists of multiple activities including wildland pre-fire engineering, vegetation management, fire planning, education and law enforcement. Typical fire prevention projects include brush clearance, prescribed fire, defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, and fire-related law enforcement activities. The Office of the State Fire Marshall has the responsibility for Fire and Resource Assessment Program (FRAP), inclusive of the task of preparing the Fire Hazard Severity Zone (FHSZ) mapping.

The majority of the City is built out with urban land uses and established development. The *GPU EIR* identified the southern portion of the City, near the cities of Rolling Hills Estates and Palos Verdes Estates, is in an area of very high fire risk. The denser vegetation, hilly topography, and the frequency of past fires give this area a greater fire risk. This portion of the City is located within a Local Responsibility Area (LRA) Fire Hazard Severity Zone (FHSZ) and State Responsibility Area (SRA) FHSZ, as shown on the Los Angeles County Very High Severity Zones in LRA map (CAL FIRE, November 2007; CAL FIRE, September 2011). None of the proposed HCO sites are located within the southern portion of the City, and thus are not located within a LRA or SRA.



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Due to the urbanized nature and topographic variation of the City, there is potential to expose people or structures to significant wildfire risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The proposed HCO establishes land uses and development standards that provide incentives to housing development for landowners and builders within three sub-areas/seven separate geographic areas of the City. Each HCO sub-area has an established density allowed by-right. The proposed HCO does not include any site-specific development designs or proposals.

Future development proposals within the proposed HCO areas would be required to comply with all plan check requirements and project-specific conditions, including required technical studies; applicable Federal and State laws and regulations; *Torrance General Plan* goals, policies, and implementation programs; *Torrance Municipal Code* requirements; HCO land use and development standards (site and building design, mixed use, compatibility, and performance standards); and Standard Mitigation Measures, Conditions, and Requirements per 2021-2029 Housing Element Initial Study/Negative Declaration Attachment B (included as Appendix A of this Addendum). The Standard Mitigation Measures, Conditions and Requirements address the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources. Thus, adoption and implementation of the proposed project ensures impacts remain as less than significant impacts.

Conclusion: No New Impact. The changes associated with the proposed project would not result in any new impacts or increase the severity of impacts in this regard.



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4.20 REFERENCES

Following is a list of reference documents and maps utilized in the preparation of this Addendum.

California Department of Forestry and Fire Protection (CAL FIRE), *Los Angeles County Very High Severity Zones in LRA (Los Responsibility Area) Map*, September 2011

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City of Torrance, *City of Torrance General Plan Update Environmental Impact Report*, June 7, 2011

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City of Torrance, *Traffic Impact Assessment Guidelines for Land Use Projects (TIA Guidelines)*, January 2021

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4.21 REPORT PREPARATION PERSONNEL

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5.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in the Initial Study/Environmental Checklist, I recommend that the City of Torrance prepare an Addendum for the Housing Corridor Overlay. I find that the proposed project would not have a significant effect on any environmental issues, and no new mitigation measures are required. I recommend that the second category be selected for the City of Torrance's determination (see Section 6.0, Lead Agency Determination).

Date

Collette L. Morse, AICP
Project Manager
Morse Planning Group



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6.0 LEAD AGENCY DETERMINATION

On the basis of this evaluation:

- No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND or MND or previously certified EIR adequately discusses the potential impacts of the project without modification.
- No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND, MND or previously certified EIR adequately discusses the potential impacts of the project; however, minor changes require the preparation of an ADDENDUM.
- Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous ND, MND or EIR due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, all new potentially significant environmental effects or substantial increases in the severity of previously identified significant effects are clearly reduced to below a level of significance through the incorporation of mitigation measures agreed to by the project applicant. Therefore, a SUBSEQUENT MND is required.
- Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, only minor changes or additions or changes would be necessary to make the previous EIR adequate for the project in the changed situation. Therefore, a SUPPLEMENTAL EIR is required.
- Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, a SUBSEQUENT EIR is required.



**Addendum to the Torrance General Plan Update
Environmental Impact Report for the Proposed Housing Corridor Overlay**

Signature:

Title: Planning Manager

Printed Name: Gregg Lodan

Agency: City of Torrance

Date:



APPENDIX A

**Mitigation Measures, Conditions, and Requirements
Per 2021-2029 Housing Element Initial Study/Negative Declaration
Attachment B**

Attachment B – City of Torrance Standard Mitigation Measures

CITY OF TORRANCE
LIST OF STANDARD MITIGATION MEASURES
OCTOBER 2021

PROJECT NAME: General Plan Housing Element Update Project

LOCATION: This is a Citywide project

The following is a comprehensive list of standard Mitigation Measures, Conditions and Requirements that are generally applicable to ground disturbing, land development projects in the City. These mitigation measures include those in the City's adopted 2010 General Plan EIR and 2013 Addendum to the FEIR or are the standard, current Mitigation Measures generally applicable to land development projects in the City.

As determined to be applicable by the City, these measures are to be implemented before, during and after construction and can be incorporated as Conditions of Approval for any future or subsequent ground disturbing, land development projects in the City to ensue all potential impacts are avoided, minimized or reduced to less than significant levels.

Standard Mitigation Measures, Conditions and Requirements		Staff Monitor	Timing of Compliance	Date of Compliance
Air Quality				
AQ-1	<p>The City of Torrance Community Development Department shall require that all new construction projects incorporate feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:</p> <ul style="list-style-type: none"> • Requiring fugitive dust control measures that exceed SCAQMD’s Rule 403, such as: <ul style="list-style-type: none"> • Requiring use of nontoxic soil stabilizers to reduce wind erosion. • Applying water every four hours to active soil-disturbing activities. • Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials. • Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or more restrictive exhaust emission limits. • Ensuring construction equipment is properly serviced and maintained to the manufacturer’s standards. • Limiting nonessential idling of construction equipment to no more than five consecutive minutes. • Using super-compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on the SCAQMD’s website. 			
AQ-2	<p>The City of Torrance shall evaluate new development proposals in the City for potential air quality incompatibilities according to the California Air Resources Board’s Air Quality and Land Use Handbook: A Community Health Perspective (April 2005). New development that is inconsistent with the recommended buffer distances shall only be approved if feasible mitigation measures, such as high-efficiency minimum efficiency reporting value filters, have been incorporated into the project design to protect future sensitive receptors from harmful concentrations of air pollutants as a result of proximity to existing air pollution sources.</p>			
Biological Resources				
BIO-1	<p>Habitat Assessment and Focused Surveys for Special-Status Species:</p> <p>Prior to the issuance of any grading, building, or other construction permit for undeveloped parcels (excludes previously developed parcels) in the Project area, a habitat assessment shall be conducted</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>for the parcel to determine whether the potential exists for special-status species to occur. If the habitat assessment identifies potentially suitable habitat for threatened and endangered species, focused surveys shall be conducted by a qualified biologist to determine presence or absence. Early consultation with the wildlife agencies (i.e., USFWS, CDFG) shall be undertaken for ESA- and CESA-listed species to ensure avoidance to the greatest extent feasible and appropriate “take” authorization.</p> <p>If threatened and endangered species are observed/detected, project-specific mitigation measures shall be developed to mitigate impacts on threatened and endangered species to below a level of significance. This shall apply to all projects if there is a potential to disturb habitat, including grading and other ministerial construction permits. Specific measures shall include, as appropriate:</p> <ul style="list-style-type: none"> • Provision of a qualified biological monitor on site during all earth-disturbing activities to ensure avoidance of impacts on listed species. • The use of fencing or flagging to identify sensitive areas that support the listed species and to ensure that the areas are protected from direct and indirect impacts. • Implementation of noise reduction measures (e.g., noise attenuation structures) within habitats occupied by listed avian species, and noise monitoring during the breeding season. • Identification and transplantation of listed plant species populations in accordance with best practices. • Prohibition on construction activities during the breeding seasons for listed species. 			
<p>BIO-2 Birds Nest Avoidance: If construction activities occur between January 15 and August 31, a preconstruction survey (within 7 days prior to construction activities) shall be conducted by a qualified biologist to determine if active nests are present within or adjacent to the area proposed for development in order to avoid the nesting activities of breeding birds/raptors.</p>			
<p>BIO-3 If nesting activities within 200 feet of the proposed work area are not detected, construction activities may proceed. If nesting activities are confirmed, construction activities shall be delayed within an appropriate buffer from the active nest until the young birds have fledged and left the nest or until the nest is no longer active as determined by a qualified biologist. The size of the appropriate buffer shall be determined by a qualified biologist based on field conditions.</p>			
<p>BIO-4 Prior to the initiation of future development projects within the Project area that have the potential to adversely affect sensitive habitat including ministerial grading and other construction-related actions, a habitat assessment shall be conducted when warranted in areas undisturbed by prior development to determine whether sensitive natural communities (including riparian vegetation) are present. If the</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>habitat assessment identifies sensitive natural communities, a biological report shall be prepared to address impacts on sensitive natural communities resulting from the proposed future project. The report shall identify mitigation measures to reduce all significant impacts to below a level of significance. Mitigation measures shall include, but are not limited to the following, as determined appropriate by a qualified biologist in consultation with the wildlife agencies.</p> <ul style="list-style-type: none"> • Early consultation with the wildlife agencies (i.e., USFWS, CDFG) for ESA- and CESA-listed species to ensure avoidance to the greatest extent feasible and appropriate “take” authorization. • Provision of a qualified biological monitor on site during all earth-disturbing activities to ensure avoidance of sensitive habitats. • The use of fencing or flagging to identify and avoid sensitive areas and to ensure that the areas are protected from direct and indirect impacts. • Appropriate siting of staging areas within developed or disturbed areas, ensuring such areas are outside of existing sensitive habitats. • Provision of mitigation at a minimum of a 1:1 ratio to ensure no net loss of sensitive habitat. Consultation with the wildlife agencies or professional best practices may result in higher ratios. 			
<p>BIO-5 If a habitat assessment identifies potential federal and/or state jurisdictional waters, a formal jurisdictional delineation shall be prepared. This document will map the jurisdictional waters present and overlay it on the grading footprint of the project, thereby allowing a calculation of the total impacts. If jurisdictional waters are to be affected, mitigation is required at a minimum 1:1 ratio, but coordination with United States Army Corps of Engineers (through the Section 404 process) and California Department of Fish and Wildlife (through the Section 1602 Streambed Alteration Agreement process) may determine a higher ratio is required. Mitigation will be achieved through a combination of in-kind creation, restoration, and/or enhancement as determined to be appropriate for each site through consultation with the resource agencies. Mitigation will first be considered on site, then with an approved mitigation bank, and thirdly through offsite mitigation. The appropriate permit applications will be submitted to state and federal regulatory agencies. The permits issued by these agencies will finalize the mitigation requirements.</p>			
<p>BIO-6 If a habitat assessment identifies that a specific development project will interfere substantially with wildlife movement or established wildlife corridors, avoidance and minimization measures shall be developed that ensure the continued movement of wildlife through a specific corridor or area. Measures shall be specific to each project and be determined by a qualified biologist during project design; however, the following minimization measures shall be incorporated where appropriate, as determined</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>by a qualified biologist:</p> <ul style="list-style-type: none"> • Project design shall be sensitive to wildlife movement and, if a corridor is determined to be located on site, the project shall be designed to avoid segmentation of the corridor and the continued viability of the corridor. • Street lighting shall be designed such that it does not increase the overall ambient lighting and glare in the natural area. This may be accomplished by designing street lighting with internal baffles to direct the lighting towards the ground and so there is a zero side angle cut off to the horizon. • Potential noise, motion, and human intrusion impacts shall be minimized by incorporating setbacks, berms, or walls into the project design. Construction-related noise shall be mitigated consistent with the City’s Noise Ordinances by limiting construction activities to daytime hours and requiring construction equipment to be equipped with mufflers. • Plant species acceptable for the project’s landscaping must not include any invasive species, as identified by the California Invasive Plant Council (http://www.cal-ipc.org/ip/inventory/index.php). • When culverts are included in a project design within areas known to be used as wildlife crossings, they shall be placed in locations suitable for use by wildlife and shall be sized and shaped such as to facilitate wildlife movement through the culvert. 			
<p>BIO-7 Prior to issuance of any building permit for a new structure or expansion of the footprint of an existing structure no matter how small, or for the addition of a second story, grading permit, or permit for demolition, the applicant shall submit a tree plan to the City. The tree plan shall provide the following information and is subject to all provisions listed below:</p> <ul style="list-style-type: none"> • The location of all protected trees as defined in the City Municipal Code. For all projects requiring discretionary City review, tree identification tags that correspond with the submitted plan shall be installed for field verification. For projects on non-residential property, all trees shall be indicated. • The plan shall show the location, size, and species of all trees to be removed, the reason for removal, and all trees to be retained. Any trees proposed for removal due to poor health or condition shall have the condition of the tree documented in a letter report prepared and signed by an arborist certified by the International Society of Arboriculture (ISA). • The plan shall show the existing and proposed grades, existing and proposed improvements, and septic tanks and utility lines located within 30 feet of potentially removed trees, retained trees, and trees to be planted. • During the construction phase, all applicants shall comply with tree protection guidelines as defined in the City Municipal Code. 			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance	
<ul style="list-style-type: none"> The director of community development shall notify the applicant of the requirement to obtain a tree removal permit for those trees on the tree plan that are intended to be removed and which are subject to the provisions of the City Municipal Code. Arborist review of the tree plan may be required per the determination of the director of community development or his/her designee. 				
Cultural Resources				
CR-1	<p>In the event that any archaeological materials are encountered during construction activities, all activities must be suspended in the vicinity of the find. An archaeologist shall be obtained and empowered to halt or divert ground disturbing activities, coordinate with Native American Tribal or Band monitors interested in monitoring the remaining onsite grading and excavation activities and establish a Cultural Resources Treatment and Monitoring Agreement between the property owner and participating Band or Tribe. Such agreement must include terms for compensation for on-site monitoring and address the treatment and final disposition of any tribal cultural resources, sacred sites and human remains that are discovered during project grading and excavation. Said agreement must be instituted and completed before ground-disturbing activities can recommence in the area of the find to allow for the recovery of the find. The archaeologist shall describe the find in a professional report which shall receive reasonable wide distribution. Any recovered finds shall be prepared to the point of identification. The property owner shall relinquish ownership of all Native American cultural resources to the appropriate local Tribe or Band for treatment and disposition. If determined to be of non-Native American scientific/historical value, recovered materials shall be deposited with a local institution with facilities for their proper curation, analysis, and display. Final disposition and location of the non-Native American recovered materials shall be determined by the City of Torrance.</p>			
CR-2	<p>If human remains of any kind are found during construction, the requirements of CEQA Guidelines Section 15064.5(e) and Assembly Bill 2641 shall be followed. According to these requirements, all construction activities must cease immediately, and the Los Angeles County Coroner and a qualified archaeologist must be notified. The Coroner will examine the remains and determine the next appropriate action based on his or her findings. If the coroner determines the remains to be of Native American origin, he or she will notify the Natural American Heritage Commission (NAHC). The NAHC will then identify the most likely descendants (MLD) to be consulted regarding treatment and/or reburial of</p>			

Standard Mitigation Measures, Conditions and Requirements		Staff Monitor	Timing of Compliance	Date of Compliance
	the remains. If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to them, the Native American human remains and associated grave goods shall be buried with appropriate dignity on the property in a location not subject to further subsurface disturbance.			
Geology and Soils				
GEO-1	In the event that any unique paleontological resources or geographic features are encountered during construction activities, all activities must be suspended in the vicinity of the find. A paleontologist shall be obtained and empowered to halt or divert ground disturbing activities and monitor the remaining onsite grading and excavation activities. The paleontologist shall describe the find in a professional report which shall receive reasonable wide distribution. Any recovered finds shall be prepared to the point of identification. Recovered materials shall be deposited with a local institution with facilities for their proper curation, analysis, and display. Final disposition and location of recovered materials shall be determined by the City of Torrance.			
Greenhouse Gas Emissions				
GHG-1	Pursuant to a goal of overall consistency with the sustainable communities strategies, the City of Torrance shall evaluate new development with the development pattern set forth in the sustainable communities strategies plan or alternative planning strategy, upon adoption of the plan by the Southern California Association of Governments or South Bay Cities Council of Governments.			
Hazards and Hazardous Materials				
HAZ-1	Mitigation measures would be developed consistent with the requirements of the City of Torrance, the Los Angeles County Department of Public Health Department, and the State Department of Toxic Substances Control, where appropriate.			
HAZ-2	Projects shall be reviewed and approved by the City of Torrance Fire Department in accordance with the latest adopted Building and Fire Code requirements, including the provision of fire sprinklers, upgraded			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
fire apparatus access and fire hydrants, as determined necessary for the project.			
<p>HAZ-4 Phase I, Phase II, or Phase III Environmental Site Assessment Prior to Development of Sites Related to the Use, Transport, or Storage of Hazardous Materials Sites. Prior to the issuance of any grading permits for any future project under the General Plan Update that would take place on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List), or on a site that was previously occupied by a land use that used or generated hazardous materials or wastes, the project applicant shall complete a Phase I, II, or III Environmental Site Assessment (ESA), prepared by a Registered Environmental Assessor (REA). Any recommendations for remediation or further analysis, such as a Phase II or Phase III ESA, shall be implemented prior to issuance of any grading permit. If monitoring during construction is recommended, the project applicant shall provide a letter of verification to the Community Development Director, stating that an REA has been retained to implement the monitoring program during construction activities. The program shall detail the pollutants or evidence of pollutants whose presence is being monitored, as well as the actions to be taken should any pollutant or evidence of pollutant be uncovered. If such a pollutant or evidence of the pollutant is encountered during construction activities (e.g., grading, clearing, or demolition activities), it should be evaluated by an REA and handled in accordance with applicable environmental laws and regulations.</p> <ol style="list-style-type: none"> 1. A Phase I ESA is required for the development or redevelopment of a property suspected of historically containing hazardous materials and shall include, but not be limited to the following: <ul style="list-style-type: none"> ▪ A comprehensive records search. ▪ Consideration of historical information. ▪ Onsite evidence of hazardous material use, storage, or disposal. ▪ A recommendation as to whether a Phase II soil testing and chemical analysis is required. 2. If the results of the Phase I ESA conclude that a Phase II ESA is necessary, the Phase II ESA shall include, but not be limited to, the following: <ul style="list-style-type: none"> ▪ A work plan that includes the number and locations of proposed soil/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. Where appropriate, the work plan is approved by a regulatory agency such as the DTSC, RWQCB, or County HMD. ▪ A site-specific health and safety plan signed by a Certified Industrial Hygienist. ▪ Necessary permits for encroachment, boring completion, and well installation. ▪ A sampling program (fieldwork) in accordance with the work plan and health and safety plan. 			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>Fieldwork is completed under the supervision of a State of California registered geologist.</p> <ul style="list-style-type: none"> ▪ Hazardous materials testing through a State-certified laboratory. ▪ Documentation, including a description of filed procedures, boring logs/well construction diagrams, tabulations of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. A remedial action plan will be developed as determined necessary by the Principal Investigator. Contaminated groundwater will generally be handled through the NPDES/dewatering process. ▪ A disposal process, including transport by a State-certified hazardous material hauler to a State-certified disposal or recycling facility licensed to accept and treat the identified type of waste. <p>3. If hazardous materials are determined to be present, a Phase III ESA shall be prepared and the responsible party shall contact the local CUPA or applicable regulatory agency to oversee the remediation of the property in compliance with all applicable local, county, state, and federal laws. The property owner, developer, or responsible party shall be responsible for funding or securing funding for the site remediation and shall provide proof to the City that the site contaminants have been properly removed in compliance with all applicable laws and regulations prior to project development.</p>			
<p>HAZ-5 Notification of Property Owners. All property owners shall be noticed when purchasing or building a home in the WUI area that they have accepted that the areas have certain risks that make their property, homes, and safety susceptible to wildfires.</p>			
Hydrology and Water Quality			
<p>HYD-1 Comply with the City’s Stormwater Management ordinance by preparing an Urban Stormwater Mitigation Plan (USWMP), which requires peak stormwater runoff rates from new development to not exceed predevelopment levels.</p>			
<p>HYD-2 All new developments shall be required to incorporate LID practices into their stormwater drainage plans. The incorporation of LID practices would include the following measures (a) minimizing pollutant loading and changes in hydrology; (b) ensuring that post-development runoff rates from a site do not negatively impact downstream erosion and stream habitat; (c) minimizing the amount of stormwater</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>guided to impermeable surfaces; (d) maximizing percolation of stormwater into the ground where appropriate; (e) preserving wetlands, riparian corridors, and buffer zones; (f) establishing reasonable limits on the clearing of vegetation from a project site; and (g) requiring incorporation of structural and non-structural best management practices to mitigate projected increases in pollutant loads and flows to ensure that, during a wet weather event, all stormwater remains on site. The incorporation of BMPs such as the use of tree boxes, retention basins, bioswales, rain gardens, and roof gardens will minimize impacts on the groundwater basins by allowing stormwater to percolate into the groundwater basins.</p>			
<p>HYD-3 Implementation of all applicable and relevant BMP's.</p>			
<p>HYD-4 All developments subject requiring the issuance of a grading or building permit to prepare an Urban Storm Water Management Plan (USWMP). Implementation of the USWMP would require peak stormwater runoff rates from new development to not exceed predevelopment levels.</p>			
<p>HYD-5 Low Impact Development (LID) Practices. The following shall be incorporated into the General Plan Policy Implementation Program or adopted by City ordinance: All new developments shall be required to incorporate LID practices into their stormwater drainage plans. The incorporation of LID practices would include the following measures from CNE 1.2.2: (a) minimizing pollutant loading and changes in hydrology; (b) ensuring that post-development runoff rates from a site do not negatively impact downstream erosion and stream habitat; (c) minimizing the amount of stormwater guided to impermeable surfaces; (d) maximizing percolation of stormwater into the ground where appropriate; (e) preserving wetlands, riparian corridors, and buffer zones; (f) establishing reasonable limits on the clearing of vegetation from a project site; and (g) requiring incorporation of structural and non-structural best management practices to mitigate projected increases in pollutant loads and flows to ensure that, during a wet weather event, all stormwater remains on site. The incorporation of BMPs such as the use of tree boxes, retention basins, bioswales, rain gardens, and roof gardens will minimize impacts on the groundwater basins by allowing stormwater to percolate into the groundwater basins.</p>			
<p>MM HYD-6 Sanitary Sewer Line. The City shall require that prior to issuance of permits for the development of existing vacant lands designated for residential and mixed-use uses, the City shall confirm that a wastewater treatment facility will treat the wastewater generated by the new development and that the new development will be connected to that facility.</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance	
Noise				
NOI-1	Prior to the issuance of building permits for any project that involves a noise-sensitive use within the 60 dBA CNEL contour along major roadways, freeways, or railway, the project property owner/developers shall retain an acoustical engineer to conduct an acoustic analysis and identify, where appropriate, site design features (e.g., setbacks, berms, or sound walls) and/or required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling), to ensure compliance with the City’s Noise Compatibility Guidelines and the California State Building Code and California Noise Insulation Standards (Title 24 of the California Code of Regulations).			
NOI-2	Individual projects that involve vibration-intensive construction activities, such as pile drivers, jackhammers, and vibratory rollers, near sensitive receptors shall be evaluated for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses (i.e., exceeds the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime), additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).			
NOI-3	Prior to the issuance of building permits for any project that involves a vibration-sensitive use directly adjacent to a railway, the development project application shall retain an acoustical engineer to evaluate potential for trains to create perceptible levels of vibration indoors. If vibration-related impacts are found, mitigation measures shall be implemented, such as use of concrete, iron, steel, or masonry materials, to ensure that levels of vibration amplification are within acceptable limits to building occupants, pursuant to the Federal Transit Administration vibration-annoyance criteria.			
NOI-4	Construction activities associated with new development that occurs near sensitive receptors shall be evaluated for potential noise impacts. Mitigation measures—such as installation of temporary sound barriers for adjacent construction activities that occur adjacent to occupied noise-sensitive structures, equipping construction equipment with mufflers, and reducing nonessential idling of construction equipment to no more than five minutes—shall be incorporated into the construction operations to reduce construction-related noise to the extent feasible.			
NOI-5	During all project excavation and grading on-site, construction contractors shall equip all construction			

Standard Mitigation Measures, Conditions and Requirements		Staff Monitor	Timing of Compliance	Date of Compliance
	equipment, fixed or mobile, with properly operating and maintained mufflers.			
NOI-6	The contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.			
NOI-7	Equipment shall be shut off and not left to idle when not in use.			
NOI-8	The contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.			
NOI-9	Jackhammers, concrete saws, pneumatic equipment and all other portable stationary noise sources shall be shielded and noise shall be directed away from sensitive receptors.			
NOI-10	The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.			
Transportation				
TR-1	<p>The General Plan Circulation Element identifies those roadways that are planned to accommodate current development and future growth established by the Land Use Element. The following improvements will be necessary to maintain acceptable levels of service within the anticipated theoretical buildout of the General Plan:</p> <ul style="list-style-type: none"> • Anza Avenue/Sepulveda Boulevard – Widen eastbound Sepulveda Boulevard approach from one left-turn lane, one through lane, and one shared through/right-turn lane to consist of one left-turn lane, two through lanes, and one right-turn lane. • Crenshaw Boulevard/190th Street – Widen the westbound Crenshaw Boulevard approach from two left-turn lanes, two through lanes, and one right-turn lane to consist of two left-turn lanes, three through lanes, and one right-turn lane. • Crenshaw Boulevard/Pacific Coast Highway (SR-1) – Modify the northbound Crenshaw Boulevard traffic signal phasing to include a northbound right-turn overlap, which will preclude movement from westbound to eastbound Pacific Coast Highway (SR-1). • Hawthorne Boulevard (SR-107)/Sepulveda Boulevard – Modify the northbound Hawthorne 			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>Boulevard (SR-107) traffic signal phasing to include a northbound right-turn overlap, which will preclude U-turn movement from westbound to eastbound Sepulveda Boulevard.</p> <ul style="list-style-type: none"> Hawthorne Boulevard (SR-107)/Lomita Boulevard - Modify the westbound Lomita Boulevard traffic signal phasing to include a westbound right-turn overlap, which will preclude U-turn movement from southbound to northbound Hawthorne Boulevard (SR-107). 			
Tribal Cultural Resources			
<p>TCR-1 Retain a Native American Monitor/Consultant: Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation – the tribe that consulted on this project pursuant to Assembly Bill A52 - SB18 (the “Tribe” or the “Consulting Tribe”). A copy of the executed contract shall be submitted to the Lead Agency prior to the issuance of any permit necessary to commence a ground disturbing activity. The Tribal monitor will only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor will complete daily monitoring logs that will provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 50 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the Tribal monitor approved by the Consulting Tribe and a qualified archaeologist if one is present. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes. If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue in other parts of the Project site while</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.</p>			
<p>TCR-3 Resource Assessment & Continuation of Work Protocol: Upon discovery of human remains, the tribal and/or archaeological monitor/consultant/consultant will immediately divert work at minimum of 100 feet and place an exclusion zone around the discovery location. The monitor/consultant(s) will then notify the Tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are human and subsequently Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a Most Likely Descendent (MLD).</p>			
<p>TCR-4 Tribal Procedures for Burials and Funerary Remains: If the Gabrieleno Band of Mission Indians – Kizh Nation is designated as the MLD, the Koo-nas-gna Burial Policy shall be implemented. The term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. These remains are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.</p>			
<p>TCR-5 Treatment Measures: Prior to the continuation of ground disturbing activities, the land owner shall arrange a designated site location within the footprint of the project for the respectful reburial of the</p>			

Standard Mitigation Measures, Conditions and Requirements	Staff Monitor	Timing of Compliance	Date of Compliance
<p>human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the re-mains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive diagnostics on human remains. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.</p>			
<p>TCR-6 Professional Standards: Native American and Archaeological monitoring during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of TCR's shall be taken. The Native American monitor must be approved by the Gabrieleno Band of Mission Indians-Kizh Nation. Principal personnel for Archaeology must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in Southern California.</p>			



APPENDIX B

**California Air Resources Board Air Quality and Land Use Handbook
April 2005**

AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE



April 2005

California Environmental Protection Agency
California Air Resources Board



Air Agency Contacts

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U.S. EPA, Region 9

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-State-

California Air Resources Board

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(800) 363-7664 (public info)
(800) 952-5588 (complaints)
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Antelope Valley AQMD

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Placer County APCD

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Sacramento Metro AQMD

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San Joaquin Valley APCD

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Tuolumne County APCD

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Yolo-Solano AQMD

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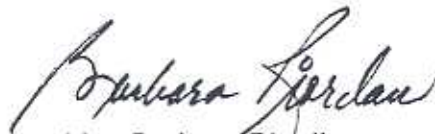
To My Local Government Colleagues....

I am pleased to introduce this informational guide to air quality and land use issues focused on community health. As a former county supervisor, I know from experience the complexity of local land use decisions. There are multiple factors to consider and balance. This document provides important public health information that we hope will be considered along with housing needs, economic development priorities, and other quality of life issues.

An important focus of this document is prevention. We hope the air quality information provided will help inform decision-makers about the benefits of avoiding certain siting situations. The overarching goal is to avoid placing people in harm's way. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. What is encouraging is that the health risk is greatly reduced with distance. For that reason, we have provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and land uses such as residences.

Land use decisions are a local government responsibility. The Air Resources Board's role is advisory and these recommendations do not establish regulatory standards of any kind. However, we hope that the information in this document will be seriously considered by local elected officials and land use agencies. We also hope that this document will promote enhanced communication between land use agencies and local air pollution control agencies. We developed this document in close coordination with the California Air Pollution Control Officers Association with that goal in mind.

I hope you find this document both informative and useful.



Mrs. Barbara Riordian
Interim Chairman
California Air Resources Board

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Acknowledgments

The ARB staff would like to acknowledge the exceptional contributions made to this document by members of the ARB Environmental Justice Stakeholders Group. Since 2001, ARB staff has consistently relied on this group to provide critical and constructive input on implementing the specifics of ARB's environmental justice policies and actions. The Stakeholders Group is convened by the ARB, and comprised of representatives from local land use and air agencies, community interest groups, environmental justice organizations, academia, and business. Their assistance and suggestions throughout the development of this Handbook have been invaluable.

Executive Summary

The Air Resources Board's (ARB) primary goal in developing this document is to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Also, ARB community health risk assessments and regulatory programs have produced important air quality information about certain types of facilities that should be considered when siting new residences, schools, day care centers, playgrounds, and medical facilities (i.e., sensitive land uses). Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. There is also substantial evidence that children are more sensitive to cancer-causing chemicals.

Focusing attention on these siting situations is an important preventative action. ARB and local air districts have comprehensive efforts underway to address new and existing air pollution sources under their respective jurisdictions. The issue of siting is a local government function. As more data on the connection between proximity and health risk from air pollution become available, it is essential that air agencies share what we know with land use agencies. We hope this document will serve that purpose.

The first section provides ARB recommendations regarding the siting of new sensitive land uses near freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities. This list consists of the air pollution sources that we have evaluated from the standpoint of the proximity issue. It is based on available information and reflects ARB's primary areas of jurisdiction – mobile sources and toxic air contaminants. A key air pollutant common to many of these sources is particulate matter from diesel engines. Diesel particulate matter (diesel PM) is a carcinogen identified by ARB as a toxic air contaminant and contributes to particulate pollution statewide.

Reducing diesel particulate emissions is one of ARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. ARB's long-term goal is to reduce diesel PM emissions 85% by 2020. However, cleaning up diesel engines will take time as new engine standards phase in and programs to accelerate fleet turnover or retrofit existing engines are implemented. Also, these efforts are reducing diesel particulate emissions on a statewide basis, but do not yet capture every site where diesel vehicles and engines may congregate. Because living or going to school too close to such air pollution sources may increase both cancer and non-cancer health risks, we are recommending that proximity be considered in the siting of new sensitive land uses.

There are also other key toxic air contaminants associated with specific types of facilities. Most of these are subject to stringent state and local air district regulations. However, what we know today indicates that keeping new homes and other sensitive land uses from siting too close to such facilities would provide additional health protection. Chrome platers are a prime example of facilities that should not be located near vulnerable communities because of the cancer health risks from exposure to the toxic material used during their operations.

In addition to source specific recommendations, we also encourage land use agencies to use their planning processes to ensure the appropriate separation of industrial facilities and sensitive land uses. While we provide some suggestions, how to best achieve that goal is a local issue. In the development of these guidelines, we received valuable input from local government about the spectrum of issues that must be considered in the land use planning process. This includes addressing housing and transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. All of these factors are important considerations. The recommendations in the Handbook need to be balanced with other State and local policies.

Our purpose with this document is to highlight the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes. We believe that with careful evaluation, infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. One suggestion for achieving this goal is more communication between air agencies and land use planners. Local air districts are an important resource that should be consulted regarding sources of air pollution in their jurisdictions. ARB staff will also continue to provide updated technical information as it becomes available.

Our recommendations are as specific as possible given the nature of the available data. In some cases, like refineries, we suggest that the siting of new sensitive land uses should be avoided immediately downwind. However, we leave definition of the size of this area to local agencies based on facility specific considerations. Also, project design that would reduce air pollution exposure may be part of the picture and we encourage consultation with air agencies on this subject.

In developing the recommendations, our first consideration was the adequacy of the data available for an air pollution source category. Using that data, we assessed whether we could reasonably characterize the relative exposure and health risk from a proximity standpoint. That screening provided the list of air pollution sources that we were able to address with specific recommendations. We also considered the practical implications of making hard and fast recommendations where the potential impact area is large, emissions will be reduced with time, and air agencies are in the process of looking at options for additional emission control. In the end, we tailored our recommendations to minimize the highest exposures for each source category independently. Due to the large variability in relative risk in the source categories, we chose not to apply

a uniform, quantified risk threshold as is typically done in air quality permitting programs. Instead, because these guidelines are not regulatory or binding on local agencies, we took a more qualitative approach in developing the distance-based recommendations.

Where possible, we recommend a minimum separation between a new sensitive land use and known air pollution risks. In other cases, we acknowledge that the existing health risk is too high in a relatively large area, that air agencies are working to reduce that risk, and that in the meantime, we recommend keeping new sensitive land uses out of the highest exposure areas. However, it is critical to note that our implied identification of the high exposure areas for these sources does not mean that the risk in the remaining impact area is insignificant. Rather, we hope this document will bring further attention to the potential health risk throughout the impact area and help garner support for our ongoing efforts to reduce health risk associated with air pollution sources. Areas downwind of major ports, rail yards, and other inter-modal transportation facilities are prime examples.

We developed these recommendations as a means to share important public health information. The underlying data are publicly available and referenced in this document. We also describe our rationale and the factors considered in developing each recommendation, including data limitations and uncertainties. These recommendations are advisory and should not be interpreted as defined “buffer zones.” We recognize the opportunity for more detailed site-specific analyses always exists, and that there is no “one size fits all” solution to land use planning.

As California continues to grow, we collectively have the opportunity to use all the information at hand to avoid siting scenarios that may pose a health risk. As part of ARB’s focus on communities and children’s health, we encourage land use agencies to apply these recommendations and work more closely with air agencies. We also hope that this document will help educate a wider audience about the value of preventative action to reduce environmental exposures to air pollution.

1. ARB Recommendations on Siting New Sensitive Land Uses

Protecting California's communities and our children from the health effects of air pollution is one of the most fundamental goals of state and local air pollution control programs. Our focus on children reflects their special vulnerability to the health impacts of air pollution. Other vulnerable populations include the elderly, pregnant women, and those with serious health problems affected by air pollution. With this document, we hope to more effectively engage local land use agencies as partners in our efforts to reduce health risk from air pollution in all California communities.

Later sections emphasize the need to strengthen the connection between air quality and land use in both planning and permitting processes. Because the siting process for many, but not all air pollution sources involves permitting by local air districts, there is an opportunity for interagency coordination where the proposed location might pose a problem. To enhance the evaluation process from a land use perspective, section 4 includes recommended project related questions to help screen for potential proximity related issues.

Unlike industrial and other stationary sources of air pollution, the siting of new homes or day care centers does not require an air quality permit. Because these situations fall outside the air quality permitting process, it is especially important that land use agencies be aware of potential air pollution impacts.

The following recommendations address the issue of siting "sensitive land uses" near specific sources of air pollution; namely:

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The recommendations for each category include a summary of key information and guidance on what to avoid from a public health perspective.

Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses).

We are characterizing sensitive land uses as simply as we can by using the example of residences, schools, day care centers, playgrounds, and medical facilities. However, a variety of facilities are encompassed. For example, residences can include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers.

In developing these recommendations, ARB first considered the adequacy of the data available for each air pollution source category. We assessed whether we could generally characterize the relative exposure and health risk from a proximity standpoint. The documented non-cancer health risks include triggering of asthma attacks, heart attacks, and increases in daily mortality and hospitalization for heart and respiratory diseases. These health impacts are well documented in epidemiological studies, but less easy to quantify from a particular air pollution source. Therefore, the cancer health impacts are used in this document to provide a picture of relative risk. This screening process provided the list of source categories we were able to address with specific recommendations. In evaluating the available information, we also considered the practical implications of making hard and fast recommendations where the potential impact area is large, emissions will be reduced with time, and air agencies are in the process of looking at options for additional emission control. Due to the large variability in relative risk between the source categories, we chose not to apply a uniform, quantified risk threshold as is typically done in regulatory programs. Therefore, in the end, we tailored our recommendations to minimize the highest exposures for each source category independently. Additionally, because this guidance is not regulatory or binding on local agencies, we took a more qualitative approach to developing distance based recommendations.

Where possible, we recommend a minimum separation between new sensitive land uses and existing sources. However, this is not always possible, particularly where there is an elevated health risk over large geographical areas. Areas downwind of ports and rail yards are prime examples. In such cases, we recommend doing everything possible to avoid locating sensitive receptors within the highest risk zones. Concurrently, air agencies and others will be working to reduce the overall risk through controls and measures within their scope of authority.

The recommendations were developed from the standpoint of siting new sensitive land uses. Project-specific data for new and existing air pollution sources are available as part of the air quality permitting process. Where such information is available, it should be used. Our recommendations are designed to fill a gap where information about existing facilities may not be readily available. These recommendations are only guidelines and are not designed to substitute for more specific information if it exists.

A summary of our recommendations is shown in Table 1-1. The basis and references¹ supporting each of these recommendations, including health studies, air quality modeling and monitoring studies is discussed below beginning with freeways and summarized in Table 1-2. As new information becomes available, it will be included on ARB's community health web page.

¹Detailed information on these references are available on ARB's website at: <http://www.ARB.ca.gov/ch/landuse.htm>.

Table 1-1

**Recommendations on Siting New Sensitive Land Uses
Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical
Facilities***

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> • Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

***Notes:**

- These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

- Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
- The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
- These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
- Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
- This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
- A summary of the basis for the distance recommendations can be found in Table 1-2.

Table 1-2

Summary of Basis for Advisory Recommendations

Source Category	Range of Relative Cancer Risk ^{1,2}	Summary of Basis for Advisory Recommendations
Freeways and High-Traffic Roads	300 – 1,700	<ul style="list-style-type: none"> In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70% drop off in particulate pollution levels at 500 feet.
Distribution Centers ³	Up to 500	<ul style="list-style-type: none"> Because ARB regulations will restrict truck idling at distribution centers, transport refrigeration unit (TRU) operations are the largest onsite diesel PM emission source followed by truck travel in and out of distribution centers. Based on ARB and South Coast District emissions and modeling analyses, we estimate an 80 percent drop-off in pollutant concentrations at approximately 1,000 feet from a distribution center.
Rail Yards	Up to 500	<ul style="list-style-type: none"> The air quality modeling conducted for the Roseville Rail Yard Study predicted the highest impact is within 1,000 feet of the Yard, and is associated with service and maintenance activities. The next highest impact is between a half to one mile of the Yard, depending on wind direction and intensity.
Ports	Studies underway	<ul style="list-style-type: none"> ARB will evaluate the impacts of ports and develop a new comprehensive plan that will describe the steps needed to reduce public health impacts from port and rail activities in California. In the interim, a general advisory is appropriate based on the magnitude of diesel PM emissions associated with ports.
Refineries	Under 10	<ul style="list-style-type: none"> Risk assessments conducted at California refineries show risks from air toxics to be under 10 chances of cancer per million.⁴ Distance recommendations were based on the amount and potentially hazardous nature of many of the pollutants released as part of the refinery process, particularly during non-routine emissions releases.
Chrome Platers	10-100	<ul style="list-style-type: none"> ARB modeling and monitoring studies show localized risk of hexavalent chromium diminishing significantly at 300 feet. There are data limitations in both the modeling and monitoring studies. These include variability of plating activities and uncertainty of emissions such as fugitive dust. Hexavalent chromium is one of the most potent toxic air contaminants. Considering these factors, a distance of 1,000 feet was used as a precautionary measure.
Dry Cleaners Using Perchloroethylene (perc)	15-150	<ul style="list-style-type: none"> Local air district studies indicate that individual cancer risk can be reduced by as much as 75 percent by establishing a 300 foot separation between a sensitive land use and a one-machine perc dry cleaning operation. For larger operations (2 machines or more), a separation of 500 feet can reduce risk by over 85 percent.

Source Category	Range of Relative Cancer Risk ^{1,2}	Summary of Basis for Advisory Recommendations
Gasoline Dispensing Facilities (GDF) ⁵	<p>Typical GDF: Less than 10</p> <p>Large GDF: Between Less than 10 and 120</p>	<ul style="list-style-type: none"> Based on the CAPCOA Gasoline Service Station Industry-wide Risk Assessment Guidelines, most typical GDFs (less than 3.6 million gallons per year) have a risk of less than 10 at 50 feet under urban air dispersion conditions. Over the last few years, there has been a growing number of extremely large GDFs with sales over 3.6 and as high as 19 million gallons per year. Under rural air dispersion conditions, these large GDFs can pose a larger risk at a greater distance.

¹For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million (e.g., 10 chances in a million).

²The estimated cancer risks are a function of the proximity to the specific category and were calculated independent of the regional health risk from air pollution. For example, the estimated regional cancer risk from air toxics in the Los Angeles region (South Coast Air Basin) is approximately 1,000 in a million.

³Analysis based on refrigerator trucks.

⁴Although risk assessments performed by refineries indicate they represent a low cancer risk, there is limited data on non-cancer effects of pollutants that are emitted from these facilities. Refineries are also a source of non-routine emissions and odors.

⁵A typical GDF in California dispenses under 3.6 million gallons of gasoline per year. The cancer risk for this size facility is likely to be less than 10 in a million at the fence line under urban air dispersion conditions.

A large GDF has fuel throughputs that can range from 3.6 to 19 million gallons of gasoline per year. The upper end of the risk range (i.e., 120 in a million) represents a hypothetical worst case scenario for an extremely large GDF under rural air dispersion conditions.

Freeways and High Traffic Roads

Air pollution studies indicate that living close to high traffic and the associated emissions may lead to adverse health effects beyond those associated with regional air pollution in urban areas. Many of these epidemiological studies have focused on children. A number of studies identify an association between adverse non-cancer health effects and living or attending school near heavily traveled roadways (see findings below). These studies have reported associations between residential proximity to high traffic roadways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children.

One such study that found an association between traffic and respiratory symptoms in children was conducted in the San Francisco Bay Area. Measurements of traffic-related pollutants showed concentrations within 300 meters (approximately 1,000 feet) downwind of freeways were higher than regional values. Most other studies have assessed exposure based on proximity factors such as distance to freeways or traffic density.

These studies linking traffic emissions with health impacts build on a wealth of data on the adverse health effects of ambient air pollution. The data on the effects of proximity to traffic-related emissions provides additional information that can be used in land use siting and regulatory actions by air agencies. The key observation in these studies is that close proximity increases both exposure and the potential for adverse health effects. Other effects associated with traffic emissions include premature death in elderly individuals with heart disease.

Key Health Findings

- Reduced lung function in children was associated with traffic density, especially trucks, within 1,000 feet and the association was strongest within 300 feet. (Brunekreef, 1997)
- Increased asthma hospitalizations were associated with living within 650 feet of heavy traffic and heavy truck volume. (Lin, 2000)
- Asthma symptoms increased with proximity to roadways and the risk was greatest within 300 feet. (Venn, 2001)
- Asthma and bronchitis symptoms in children were associated with proximity to high traffic in a San Francisco Bay Area community with good overall regional air quality. (Kim, 2004)
- A San Diego study found increased medical visits in children living within 550 feet of heavy traffic. (English, 1999)

In these and other proximity studies, the distance from the roadway and truck traffic densities were key factors affecting the strength of the association with adverse health effects. In the above health studies, the association of traffic-related emissions with adverse health effects was seen within 1,000 feet and was

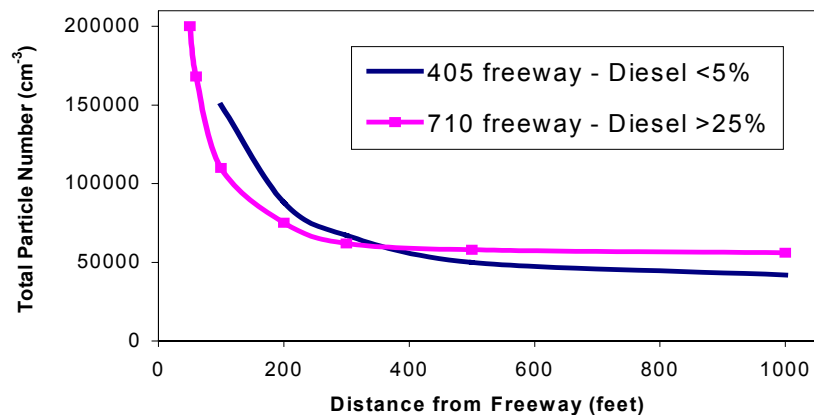
strongest within 300 feet. This demonstrates that the adverse effects diminished with distance.

In addition to the respiratory health effects in children, proximity to freeways increases potential cancer risk and contributes to total particulate matter exposure. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risk from motor vehicle traffic – diesel particulate matter (diesel PM) from trucks, and benzene and 1,3-butadiene from passenger vehicles. On a typical urban freeway (truck traffic of 10,000-20,000/day), diesel PM represents about 70 percent of the potential cancer risk from the vehicle traffic. Diesel particulate emissions are also of special concern because health studies show an association between particulate matter and premature mortality in those with existing cardiovascular disease.

Distance Related Findings

A southern California study (Zhu, 2002) showed measured concentrations of vehicle-related pollutants, including ultra-fine particles, decreased dramatically within approximately 300 feet of the 710 and 405 freeways. Another study looked at the validity of using distance from a roadway as a measure of exposure

**Figure 1-1
Decrease In Concentration of Freeway Diesel PM Emissions
With Distance**



to traffic related air pollution (Knape, 1999). This study showed that concentrations of traffic related pollutants declined with distance from the road, primarily in the first 500 feet.

These findings are consistent with air quality modeling and risk analyses done by ARB staff that show an estimated range of potential cancer risk that decreases with distance from freeways. The estimated risk varies with the local meteorology, including wind pattern. As an example, at 300 feet downwind from a freeway (Interstate 80) with truck traffic of 10,000 trucks per day, the potential cancer risk was as high as 100 in one million (ARB Roseville Rail Yard Study). The cancer health risk at 300 feet on the upwind side of the freeway was much

less. The risk at that distance for other freeways will vary based on local conditions – it may be higher or lower. However, in all these analyses the relative exposure and health risk dropped substantially within the first 300 feet. This phenomenon is illustrated in Figure 1-1.

State law restricts the siting of new schools within 500 feet of a freeway, urban roadways with 100,000 vehicles/day, or rural roadways with 50,000 vehicles with some exceptions.² However, no such requirements apply to the siting of residences, day care centers, playgrounds, or medical facilities. The available data show that exposure is greatly reduced at approximately 300 feet. In the traffic-related studies the additional health risk attributable to the proximity effect was strongest within 1,000 feet.

The combination of the children's health studies and the distance related findings suggests that it is important to avoid exposing children to elevated air pollution levels immediately downwind of freeways and high traffic roadways. These studies suggest a substantial benefit to a 500-foot separation.

The impact of traffic emissions is on a gradient that at some point becomes indistinguishable from the regional air pollution problem. As air agencies work to reduce the underlying regional health risk from diesel PM and other pollutants, the impact of proximity will also be reduced. In the meantime, as a preventative measure, we hope to avoid exposing more children and other vulnerable individuals to the highest concentrations of traffic-related emissions.

Recommendation

- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.

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Distribution Centers

Distribution centers or warehouses are facilities that serve as a distribution point for the transfer of goods. Such facilities include cold storage warehouses, goods transfer facilities, and inter-modal facilities such as ports. These operations involve trucks, trailers, shipping containers, and other equipment with diesel engines. A distribution center can be comprised of multiple centers or warehouses within an area. The size can range from several to hundreds of acres, involving a number of different transfer operations and long waiting periods. A distribution center can accommodate hundreds of diesel trucks a day that deliver, load, and/or unload goods up to seven days a week. To the extent that these trucks are transporting perishable goods, they are equipped with diesel-powered transport refrigeration units (TRUs) or TRU generator sets.

The activities associated with delivering, storing, and loading freight produces diesel PM emissions. Although TRUs have relatively small diesel-powered engines, in the normal course of business, their emissions can pose a significant health risk to those nearby. In addition to onsite emissions, truck travel in and out of distribution centers contributes to the local pollution impact.

ARB is working to reduce diesel PM emissions through regulations, financial incentives, and enforcement programs. In 2004, ARB adopted two airborne toxic control measures that will reduce diesel PM emissions associated with distribution centers. The first will limit nonessential (or unnecessary) idling of diesel-fueled commercial vehicles, including those entering from other states or countries. This statewide measure, effective in 2005, prohibits idling of a vehicle more than five minutes at any one location.³ The elimination of unnecessary idling will reduce the localized impacts caused by diesel PM and other air toxics

³ For further information on the Anti-Idling ATCM, please click on:
<http://www.arb.ca.gov/toxics/idling/outreach/factsheet.pdf>

in diesel vehicle exhaust. This should be a very effective new strategy for reducing diesel PM emissions at distribution centers as well as other locations.

The second measure requires that TRUs operating in California become cleaner over time. The measure establishes in-use performance standards for existing TRU engines that operate in California, including out-of-state TRUs. The requirements are phased-in beginning in 2008, and extend to 2019.⁴

ARB also operates a smoke inspection program for heavy-duty diesel trucks that focuses on reducing truck emissions in California communities. Areas with large numbers of distribution centers are a high priority.

Key Health Findings

Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Distance Related Findings

Although distribution centers are located throughout the state, they are usually clustered near transportation corridors, and are often located in or near population centers. Diesel PM emissions from associated delivery truck traffic and TRUs at these facilities may result in elevated diesel PM concentrations in neighborhoods surrounding those sites. Because ARB regulations will restrict truck idling at distribution centers, the largest continuing onsite diesel PM emission source is the operation of TRUs. Truck travel in and out of distribution centers also contributes to localized exposures, but specific travel patterns and truck volumes would be needed to identify the exact locations of the highest concentrations.

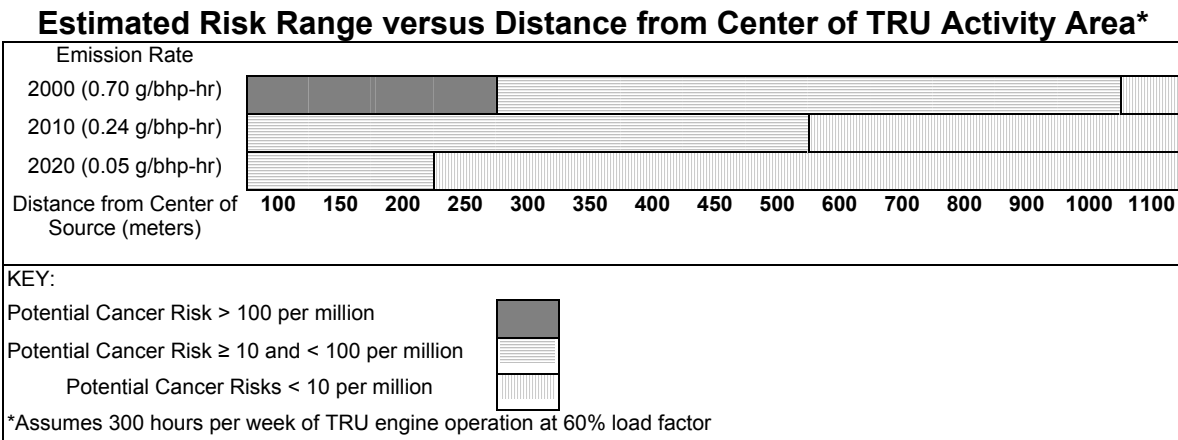
As part of the development of ARB's regulation for TRUs, ARB staff performed air quality modeling to estimate exposure and the associated potential cancer risk of onsite TRUs for a typical distribution center. For an individual person, cancer risk estimates for air pollution are commonly expressed as a probability of developing cancer from a lifetime (i.e., 70 years) of exposure. These risks were calculated independent of regional risk. For example, the estimated regional cancer risk from air toxics in the Los Angeles region (South Coast Air Basin) is approximately 1,000 additional cancer cases per one million population.

⁴ For further information on the Transport Refrigeration Unit ATCM, please click on: <http://www.arb.ca.gov/diesel/documents/trufa.pdf>

The diesel PM emissions from a facility are dependent on the size (horsepower), age, and number of engines, emission rates, the number of hours the truck engines and/or TRUs operate, distance, and meteorological conditions at the site. This assessment assumes a total on-site operating time for all TRUs of 300 hours per week. This would be the equivalent of 40 TRU-equipped trucks a day, each loading or unloading on-site for one hour, 12 hours a day and seven days a week.

As shown in Figure 1-2 below, at this estimated level of activity and assuming a current fleet diesel PM emission rate, the potential cancer risk would be over 100 in a million at 800 feet from the center of the TRU activity. The estimated potential cancer risk would be in the 10 to 100 per million range between 800 to 3,300 feet and fall off to less than 10 per million at approximately 3,600 feet. However with the implementation of ARB’s regulation on TRUs, the risk will be significantly reduced.⁵ We have not conducted a risk assessment for distribution centers based on truck traffic alone, but on an emissions basis, we would expect similar risks for a facility with truck volumes in the range of 100 per day.

Figure 1-2

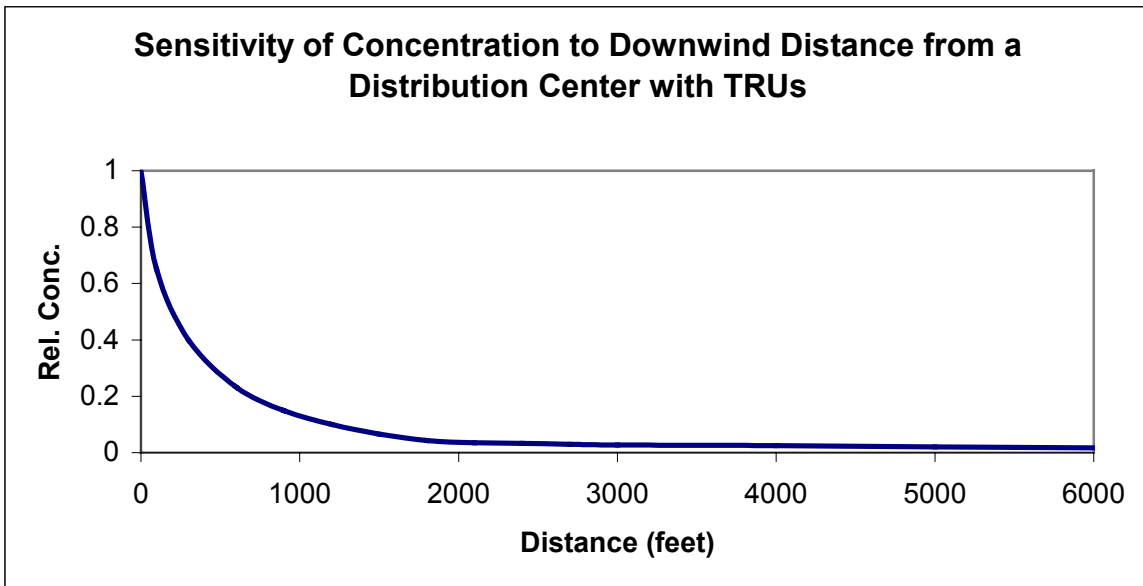


The estimated potential cancer risk level in Figure 1-2 is based on a number of assumptions that may not reflect actual conditions for a specific site. For example, increasing or decreasing the hours of diesel engine operations would change the potential risk levels. Meteorological and other facility specific parameters can also impact the results. Therefore, the results presented here are not directly applicable to any particular facility or operation. Rather, this information is intended to provide an indication as to the potential relative levels of risk that may be observed from operations at distribution centers. As shown in Figure 1-2, the estimated risk levels will decrease over time as lower-emitting diesel engines are used.

⁵ These risk values assume an exposure duration of 70 years for a nearby resident and uses the methodology specified in the 2003 OEHHA health risk assessment guidelines.

Another air modeling analysis, performed by the South Coast Air Quality Management District (South Coast AQMD), evaluated the impact of diesel PM emissions from distribution center operations in the community of Mira Loma in southern California. Based on dispersion of diesel PM emissions from a large distribution center, Figure 1-3 shows the relative pollution concentrations at varying distances downwind. As Figure 1-3 shows, there is about an 80 percent drop off in concentration at approximately 1,000 feet.

Figure 1-3
Decrease In Relative Concentration of Risk
With Distance



Both the ARB and the South Coast AQMD analyses indicate that providing a separation of 1,000 feet would substantially reduce diesel PM concentrations and public exposure downwind of a distribution center. While these analyses do not provide specific risk estimates for distribution centers, they provide an indication of the range of risk and the benefits of providing a separation. ARB recommends a separation of 1,000 feet based on the combination of risk analysis done for TRUs and the decrease in exposure predicted with the South Coast AQMD modeling. However, ARB staff plans to provide further information on distribution centers as we collect more data and implement the TRU control measure.

Taking into account the configuration of distribution centers can also reduce population exposure and risk. For example, locating new sensitive land uses away from the main entry and exit points helps to reduce cancer risk and other health impacts.

Recommendations

- Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating TRUs per day, or where TRU unit operations exceed 300 hours per week).
- Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.

References

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- *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. SCAQMD (August 2003) http://www.aqmd.gov/ceqa/handbook/diesel_analysis.doc
- “*Mira Loma Study: Analysis of the Impact of Diesel Particulate Emissions from Warehouse/Distribution Center Operations*”, PowerPoint presentation. SCAQMD (July 31, 2002)

Rail Yards

Rail yards are a major source of diesel particulate air pollution. They are usually located near inter-modal facilities, which attract heavy truck traffic, and are often sited in mixed industrial and residential areas. ARB, working with the Placer County air district and Union Pacific Railroad, recently completed a study⁶ of the Roseville Rail Yard (Yard) in northern California that focused on the health risk from diesel particulate. A comprehensive emissions analysis and air quality modeling were conducted to characterize the estimated potential cancer risk associated with the facility.

⁶ To review the study, please click on: <http://www.arb.ca.gov/diesel/documents/rstudy.htm>

The Yard encompasses about 950 acres on a one-quarter mile wide by four-mile long strip of land that parallels Interstate 80. It is surrounded by commercial, industrial, and residential properties. The Yard is one of the largest service and maintenance rail yards in the West with over 30,000 locomotives visiting annually.

Using data provided by Union Pacific Railroad, the ARB determined the number and type of locomotives visiting the Yard annually and what those locomotives were doing - moving, idling, or undergoing maintenance testing. Union Pacific provided the annual, monthly, daily, and hourly locomotive activity in the yard including locomotive movements; routes for arrival, departure, and through trains; and locomotive service and testing. This information was used to estimate the emissions of particulate matter from the locomotives, which was then used to model the potential impacts on the surrounding community.

The key findings of the study are:

- Diesel PM emissions in 2000 from locomotive operations at the Roseville Yard were estimated at about 25 tons per year.
- Of the total diesel PM in the Yard, moving locomotives accounted for about 50 percent, idling locomotives about 45 percent, and locomotive testing about five percent.
- Air quality modeling predicts potential cancer risks greater than 500 in a million (based on 70 years of exposure) in a 10-40 acre area immediately adjacent to the Yard's maintenance operations.
- The risk assessment also showed elevated cancer risk impacting a larger area covering about a 10 by 10 mile area around the Yard.

The elevated concentrations of diesel PM found in the study contribute to an increased risk of cancer and premature death due to cardiovascular disease, and non-cancer health effects such as asthma and other respiratory illnesses. The magnitude of the risk, the general location, and the size of the impacted area depended on the meteorological data used to characterize conditions at the Yard, the dispersion characteristics, and exposure assumptions. In addition to these variables, the nature of locomotive activity will influence a risk characterization at a particular rail yard. For these reasons, the quantified risk estimates in the Roseville Rail Yard Study cannot be directly applied to other rail yards. However, the study does indicate the health risk due to diesel PM from rail yards needs to be addressed. ARB, in conjunction with the U.S. Environmental Protection Agency (U.S. EPA), and local air districts, is working with the rail industry to identify and implement short term, mid-term and long-term mitigation strategies. ARB also intends to conduct a second rail study in southern California to increase its understanding of rail yard operations and the associated public health impacts.

Key Health Findings

Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

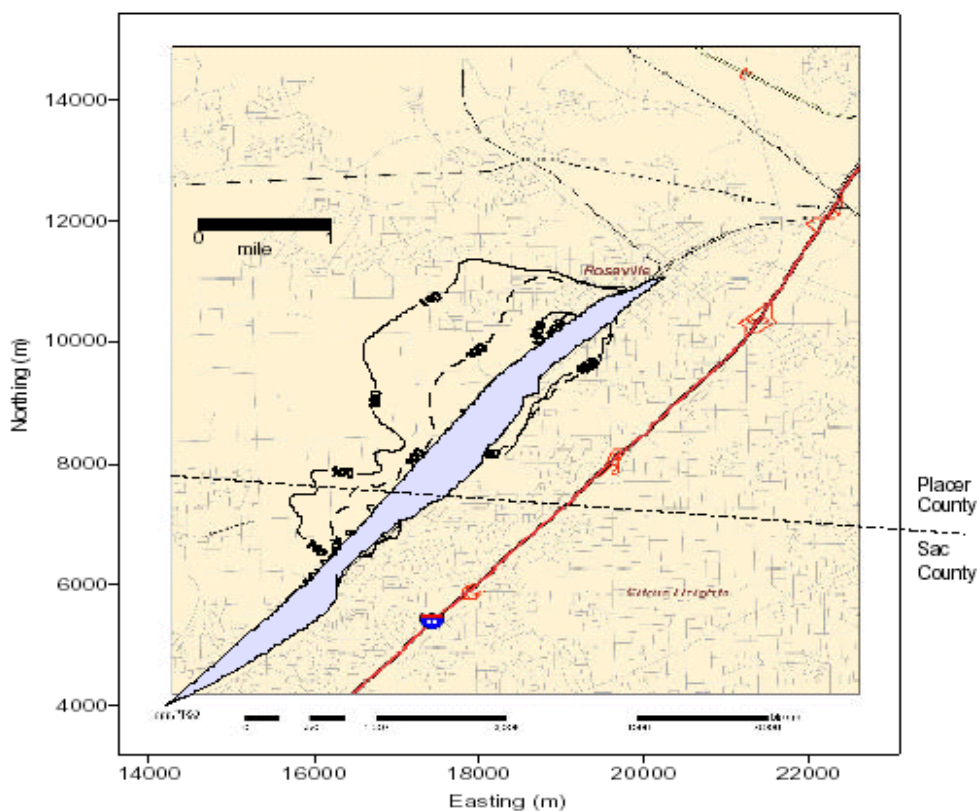
Distance Related Findings

Two sets of meteorological data were used in the Roseville study because of technical limitations in the data. The size of the impact area was highly dependent on the meteorological data set used. The predicted highest impact area ranged from 10 - 40 acres with the two different meteorological data sets. This area, with risks estimated above 500 in a million, is adjacent to an area that includes a maintenance shop (see Figure 1-4). The high concentration of diesel PM emissions is due to the number of locomotives and nature of activities in this area, particularly idling locomotives.

The area of highest impact is within 1,000 feet of the Yard. The next highest impact zone as defined in the report had a predicted risk between 500 and 100 in one million and extends out between a half to one mile in some spots, depending on which meteorological conditions were assumed. The impact areas are irregular in shape making it difficult to generalize about the impact of distance at a particular location. However, the Roseville Rail Yard Study clearly indicates that the localized health risk is high, the impact area is large, and mitigation of the locomotive diesel PM emissions is needed.

For facilities like rail yards and ports, the potential impact area is so large that the real solution is to substantially reduce facility emissions. However, land use planners can avoid encroaching upon existing rail facilities and those scheduled for expansion. We also recommend that while air agencies tackle this problem, land use planners try not to add new sensitive individuals into the highest exposure areas. Finally, we recommend that land use agencies consider the potential health impacts of rail yards in their planning and permitting processes. Additional limitations and mitigation may be feasible to further reduce exposure on a site-specific basis.

Figure 1-4
Estimated Cancer Risk from the Yard
(100 and 500 in a million risk isopleths)



Notes: 100/Million Contours: Solid Line – Roseville Met Data; Dashed Line-McClellan Met Data, Urban Dispersion Coefficients, 80th Percentile Breathing Rate, All Locomotives' Activities (23 TPY), 70-Year Exposure

Recommendation

- Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard⁷.
- Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.

References

- *Roseville Rail Yard Study*. ARB (2004)

⁷ The rail yard risk analysis was conducted for the Union Pacific rail yard in Roseville, California. This rail yard is one of the largest in the state. There are other rail yards in California with comparable levels of activity that should be considered "major" for purposes of this Handbook.

Ports

Air pollution from maritime port activities is a growing concern for regional air quality as well as air quality in nearby communities. The primary air pollutant associated with port operations is directly emitted diesel particulate. Port-related activities also result in emissions that form ozone and secondary particulate in the atmosphere. The emission sources associated with ports include diesel engine-powered ocean-going ships, harbor craft, cargo handling equipment, trucks, and locomotives. The size and concentration of these diesel engines makes ports one of the biggest sources of diesel PM in the state. For that reason, ARB has made it a top priority to reduce diesel PM emissions at the ports, in surrounding communities, and throughout California.

International, national, state, and local government collaboration is critical to reducing port emissions based on both legal and practical considerations. For example, the International Maritime Organization (IMO) and the U.S. EPA establish emission standards for ocean-going vessels and U.S.-flagged harbor craft, respectively. ARB is pursuing further federal actions to tighten these standards. In addition, ARB and local air districts are reducing emissions from ports through a variety of approaches. These include: incentive programs to fund cleaner engines, enhanced enforcement of smoke emissions from ships and trucks, use of dockside electricity instead of diesel engines, cleaner fuels for ships, harbor craft, locomotives, and reduced engine idling. The two ATCMs that limit truck idling and reduce emissions from TRUs (discussed under “Distribution Centers”) also apply to ports.

ARB is also developing several other regulations that will reduce port-related emissions. One rule would require ocean-going ships to use a cleaner marine diesel fuel to power auxiliary engines while in California coastal waters and at dock. Ships that frequently visit California ports would also be required to further reduce their emissions. ARB has adopted a rule that would require harbor craft to use the same cleaner diesel fuel used by on-road trucks in California. In 2005, ARB will consider a rule that would require additional controls for in-use harbor craft, such as the use of add-on emission controls and accelerated turnover of older engines.

Key Health Findings

Port activities are a major source of diesel PM. Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Distance Related Findings

The Ports of Los Angeles and Long Beach provide an example of the emissions impact of port operations. A comprehensive emissions inventory was completed in June 2004. These ports combined are one of the world's largest and busiest seaports. Located in San Pedro Bay, about 20 miles south of downtown Los Angeles, the port complex occupies approximately 16 square miles of land and water. Port activities include five source categories that produce diesel emissions. These are ocean-going vessels, harbor craft, cargo handling equipment, railroad locomotives, and heavy-duty trucks.

The baseline emission inventory provides emission estimates for all major air pollutants. This analysis focuses on diesel PM from in-port activity because these emissions have the most potential health impact on the areas adjacent to the port. Ocean vessels are the largest overall source of diesel PM related to the ports, but these emissions occur primarily outside of the port in coastal waters, making the impact more regional in nature.

The overall in-port emission inventory for diesel particulate for the ports of Los Angeles and Long Beach is estimated to be 550 tons per year. The emissions fall in the following major categories: ocean-going vessels (17%), harbor craft (25%), cargo handling (47%), railroad locomotive (3%), and heavy duty vehicles (8%). In addition to in-port emissions, ship, rail, and trucking activities also contribute to regional emissions and increase emissions in nearby neighborhoods. Off-port emissions associated with related ship, rail, and trucking activities contribute an additional 680 tons per year of diesel particulate at the Port of Los Angeles alone.

To put this in perspective, the diesel PM emissions estimated for the Roseville Yard in ARB's 2004 study are 25 tons per year. The potential cancer risk associated with these emissions is 100 in one million at a distance of one mile, or one half mile, depending on the data set used. This rail yard covers one and a half square miles. The Los Angeles and Long Beach ports have combined diesel PM emissions of 550 tons per year emitted from a facility that covers a much larger area - 16 miles. The ports have about twice the emission density of the rail yard - 34 tons per year per square mile compared to 16 tons per year per square mile. However, while this general comparison is illustrative of the overall size of the complex, a detailed air quality modeling analysis would be needed to assess the potential health impact on specific downwind areas near the ports.

ARB is in the process of evaluating the various port-related emission sources from the standpoint of existing emissions, growth forecasts, new control options, regional air quality impacts, and localized health risk. A number of public processes - both state and local - are underway to address various aspects of these issues. Until more of these analyses are complete, there is little basis for recommending a specific separation between new sensitive land uses and ports.

For example, the type of data we have showing the relationship between air pollutant concentrations and distance from freeways is not yet available.

Also, the complexity of the port facilities makes a site-specific analysis critical. Ports are a concentration of multiple emission sources with differing dispersion and other characteristics. In the case of the Roseville rail yard, we found a high, very localized impact associated with a particular activity, service and maintenance. By contrast, the location, size, and nature of impact areas can be expected to vary substantially for different port activities. For instance, ground level emissions from dockside activities would behave differently from ship stack level emissions.

Nonetheless, on an emissions basis alone, we expect locations downwind of ports to be substantially impacted. For that reason, we recommend that land use agencies track the current assessment efforts, and consider limitations on the siting of new sensitive land uses in areas immediately downwind of ports.

Recommendations

Avoid siting new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.

References

- *Roseville Rail Yard Study*. ARB (2004)
- Final Draft, "*Port-Wide Baseline Air Emissions Inventory*." Port of Los Angeles (June 2004)
- Final Draft, "*2002 Baseline Air Emissions Inventory*." Port of Long Beach (February 2004)

Petroleum Refineries

A petroleum refinery is a complex facility where crude oil is converted into petroleum products (primarily gasoline, diesel fuel, and jet fuel), which are then transported through a system of pipelines and storage tanks for final distribution by delivery truck to fueling facilities throughout the state. In California, most crude oil is delivered either by ship from Alaska or foreign sources, or is delivered via pipeline from oil production fields within the state. The crude oil then undergoes many complex chemical and physical reactions, which include distillation, catalytic cracking, reforming, and finishing. These refining processes have the potential to emit air contaminants, and are subject to extensive emission controls by district regulations.

As a result of these regulations covering the production, marketing, and use of gasoline and other oil by-products, California has seen significant regional air quality benefits both in terms of cleaner fuels and cleaner operating facilities. In

the 1990s, California refineries underwent significant modifications and modernization to produce cleaner fuels in response to changes in state law. Nevertheless, while residual emissions are small when compared to the total emissions controlled from these major sources, refineries are so large that even small amounts of fugitive, uncontrollable emissions and associated odors from the operations, can be significant. This is particularly the case for communities that may be directly downwind of the refinery. Odors can cause health symptoms such as nausea and headache. Also, because of the size, complexity, and vast numbers of refinery processes onsite, the occasional refinery upset or malfunction can potentially result in acute or short-term health effects to exposed individuals.

Key Health Findings

Petroleum refineries are large single sources of emissions. For volatile organic compounds (VOCs), eight of the ten largest stationary sources in California are petroleum refineries. For oxides of nitrogen (NO_x), four of the ten largest stationary sources in California are petroleum refineries. Both of these compounds react in the presence of sunlight to form ozone. Ozone impacts lung function by irritating and damaging the respiratory system. Petroleum refineries are also large stationary sources of both particulate matter under 10 microns in size (PM₁₀) and particulate matter under 2.5 microns in size (PM_{2.5}). Exposure to particulate matter aggravates a number of respiratory illnesses, including asthma, and is associated with premature mortality in people with existing cardiac and respiratory disease. Both long-term and short-term exposure can have adverse health impacts. Finer particles pose an increased health risk because they can deposit deep in the lung and contain substances that are particularly harmful to human health. NO_x are also significant contributors to the secondary formation of PM_{2.5}.

Petroleum refineries also emit a variety of toxic air pollutants. These air toxics vary by facility and process operation but may include: acetaldehyde, arsenic, antimony, benzene, beryllium, 1,3-butadiene, cadmium compounds, carbonyl sulfide, carbon disulfide, chlorine, dibenzofurans, diesel particulate matter, formaldehyde, hexane, hydrogen chloride, lead compounds, mercury compounds, nickel compounds, phenol, 2,3,7,8 tetrachlorodibenzo-p-dioxin, toluene, and xylenes (mixed) among others. The potential health effects associated with these air toxics can include cancer, respiratory irritation, and damage to the central nervous system, depending on exposure levels.

Distance Related Findings

Health risk assessments for petroleum refineries have shown risks from toxic air pollutants that have quantifiable health risk values to be around 10 potential cancer cases per million. Routine air monitoring and several air monitoring studies conducted in the San Francisco Bay Area (Crockett) and the South Coast Air Basin (Wilmington) have not identified significant health risks specifically

associated with refineries. However, these studies did not measure diesel PM as no accepted method currently exists, and there are many toxic air pollutants that do not have quantifiable health risk values.

In 2002, ARB published a report on the results of the state and local air district air monitoring done near oil refineries. The purpose of this evaluation was to try to determine how refinery-related emissions might impact nearby communities. This inventory of air monitoring activities included 10 ambient air monitoring stations located near refineries in Crockett and four stations near refineries in Wilmington. These monitoring results did not identify significant increased health risks associated with the petroleum refineries. In 2002-2003, ARB conducted additional monitoring studies in communities downwind of refineries in Crockett and Wilmington. These monitoring results also did not indicate significant increased health risks from the petroleum refineries.

Consequently, there are no air quality modeling or air monitoring data that provides a quantifiable basis for recommending a specific separation between refineries and new sensitive land uses. However, in view of the amount and potentially hazardous nature of many of the pollutants released as part of the refinery process, we believe the siting of new sensitive land uses immediately downwind should be avoided. Land use agencies should consult with the local air district when considering how to define an appropriate separation for refineries within their jurisdiction.

Recommendations

- Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.

References

- *Review of Current Ambient Air Monitoring Activities Related to California Bay Area and South Coast Refineries.* ARB (March 2002)
<http://www.arb.ca.gov/aaqm/qmosqual/special/mldrefinery.pdf>
- *Community Air Quality Monitoring: Special Studies – Crockett.* ARB (September 2004)
<http://www.arb.ca.gov/ch/communities/studies/crockett/crockett.htm>
- *Wilmington Study - Air Monitoring Results.* ARB (2003)
<http://www.arb.ca.gov/ch/communities/studies/wilmington/wilmington.htm>

Chrome Plating Operations

Chrome plating operations rely on the use of the toxic metal hexavalent chromium, and have been subject to ARB and local air district control programs for many years. Regulation of chrome plating operations has reduced statewide emissions substantially. However, due to the nature of chrome plating

operations and the highly toxic nature of hexavalent chromium, the remaining health risk to nearby residents is a continuing concern.

Chrome plating operations convert hexavalent chromium in solution to a chromium metal layer by electroplating, and are categorized based upon the thickness of the chromium metal layer applied. In “decorative plating”, a layer of nickel is first plated over a metal substrate. Following this step, a thin layer of chromium is deposited over the nickel layer to provide a decorative and protective finish, for example, on faucets and automotive wheels. “Hard chrome plating” is a process in which a thicker layer of chromium metal is deposited directly on metal substrates such as engine parts, industrial machinery, and tools to provide greater protection against corrosion and wear.

Hexavalent chromium is emitted into the air when an electric current is applied to the plating bath. Emissions are dependent upon the amount of electroplating done per year and the control requirements. A unit of production referred to as an ampere-hour represents the amount of electroplating produced. Small facilities have an annual production rate of 100,000 – 500,000 ampere-hours, while medium-size facilities may have a production rate of 500,000 to about 3 million ampere-hours. The remaining larger facilities have a range of production rates that can be as high as 80 million ampere-hours.

The control requirements, which reduce emissions from the plating tanks, vary according to the size and type of the operation. Facilities either install add-on pollution control equipment, such as filters and scrubbers, or in-tank controls, such as fume suppressants and polyballs. With this combination of controls, the overall hexavalent chromium emissions have been reduced by over 90 percent. Larger facilities typically have better controls that can achieve efficiencies greater than 99 percent. However, even with stringent controls, the lack of maintenance and good housekeeping practices can lead to problems. And, since the material itself is inherently dangerous, any lapse in compliance poses a significant risk to nearby residents.

A 2002 ARB study in the San Diego community of Barrio Logan measured unexpectedly high concentrations of hexavalent chromium near chrome platers. The facilities were located in a mixed-use area with residences nearby. The study found that fugitive dust laden with hexavalent chromium was an important source of emissions that likely contributed to the elevated cancer risk. Largely as a result of this study, ARB is in the process of updating the current requirements to further reduce the emissions from these facilities.

In December 2004, the ARB adopted an ATCM to reduce emissions of hexavalent chromium and nickel from thermal spraying operations through the installation of best available control technology. The ATCM requires all existing facilities to comply with its requirements by January 1, 2006. New and modified thermal spraying operations must comply upon initial startup. An existing thermal spraying facility may be exempt from the minimum control efficiency

requirements of the ATCM if it is located at least 1,640 feet from the nearest sensitive receptor and emits no more than 0.5 pound per year of hexavalent chromium.⁸

Key Health Findings

Hexavalent chromium is one of the most toxic air pollutants regulated by the State of California. Hexavalent chromium is a carcinogen and has been identified in worker health studies as causing lung cancer. Exposure to even very low levels of hexavalent chromium should be avoided.

The California Office of Environmental Health Hazard Assessment has found that: 1) many epidemiological studies show a strong association between hexavalent chromium exposure in the work place and respiratory cancer; and 2) all short-term assays reported show that hexavalent chromium compounds can cause damage to human DNA.

Hexavalent chromium when inhaled over a period of many years can cause a variety of non-cancer health effects. These health effects include damage to the nose, blood disorders, lung disease, and kidney damage. The non-cancer health impacts occur with exposures considerably higher than exposures causing significant cancer risks. It is less likely that the public would be exposed to hexavalent chromium at levels high enough to cause these non-cancer health effects. Non-cancer health effects, unlike cancer health effects, have a threshold or exposure level below which non-cancer health effects would not be expected.

Distance Related Findings

ARB's 2002 Barrio Logan Study measured concentrations of hexavalent chromium in the air near two chrome plating facilities. The study was conducted from December 2001 to May 2002. There were two chrome platers on the street - one decorative and one hard plater. The purpose of the study was to better understand the near source impact of hexavalent chromium emissions. Air monitors were placed at residences next to the platers and at varying distances down the street. The monitors were moved periodically to look at the spatial distribution of the impact. Source testing and facility inspections identified one of the facilities as the likely source.

The first two weeks of monitoring results showed unexpectedly high levels of hexavalent chromium at a number of the monitoring sites. The high concentrations were intermittent. The concentrations ranged from 1 to 22 ng/m³ compared to the statewide average of 0.1 ng/m³. If these levels were to continue for 70 years, the potential cancer risk would be 150 in one million. The highest value was found at an air monitor behind a house adjacent to one of the

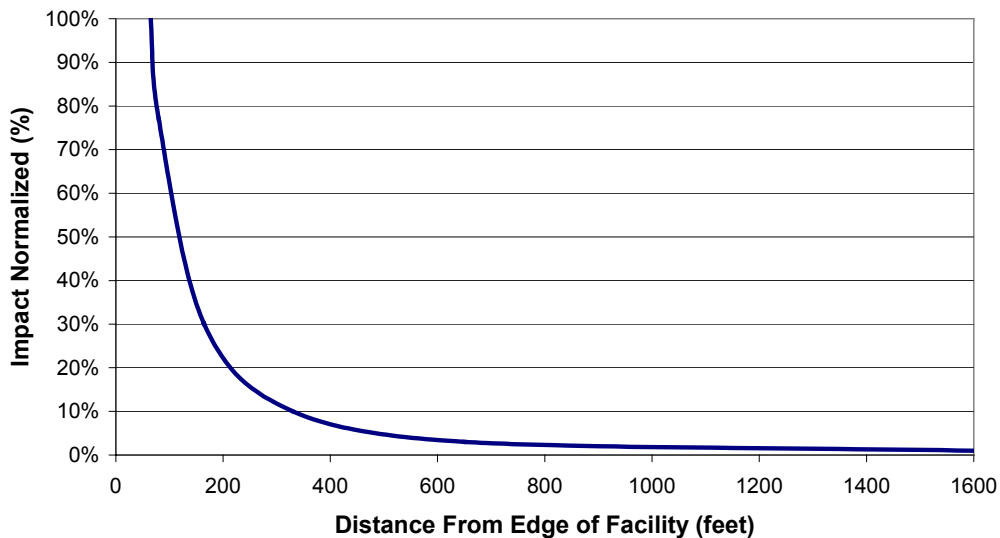
⁸ For further information on the ATCM, please refer to:
<http://www.arb.ca.gov/regact/thermspr/thermalspr.htm>

plating facilities—approximately 30 feet from the back entrance. Lower, but significant concentrations were found at an ambient air monitor 250 feet away.

The monitoring covered a period when the facility was not operating its plating tank. During this period, one of the highest concentrations was measured at an adjacent house. It appears that chromium-laden dust was responsible for high concentrations at this location since there was no plating activity at the time. Dust samples from the facility were tested and found to contain high levels of hexavalent chromium. On the day the highest concentration was measured at the house next door, a monitor 350 feet away from the plater's entrance showed very little impact. Similar proximity effects are shown in ARB modeling studies.

Figure 1-5 shows how the relative health risk varies as a function of distance from a chrome plater. This analysis is based on a medium-sized chrome plater with an annual production rate of 3 million ampere-hours. As shown in Figure 1- 5, the potential health risk drops off rapidly, with over 90 percent reduction in risk within 300 feet. This modeling was done in 2003 as part of a review of ARB's current air toxic control measure for chrome platers and is based on data from a recent ARB survey of chrome platers in California. The emission

Figure 1-5
Risk vs. Distance From Chrome Plater
(Based on plating tank emissions)



rates are only for plating operations. Because there are insufficient data available to directly quantify the impacts, the analysis does not include fugitive emissions, which the Barrio Logan analysis indicated could be significant.

Both the ARB Barrio Logan monitoring results and ARB's 2003 modeling analysis suggests that the localized emissions impact of a chrome plater diminishes significantly at 300 feet. However, in developing our recommendation, we also considered the following factors:

- some chrome platers will have higher volumes of plating activity,
- potential dust impacts were not modeled,
- we have only one monitoring study looking at the impact of distance, and,
- hexavalent chromium is one of the most potent toxic air contaminants ARB has identified.

Given these limitations in the analysis, we recommend a separation of 1,000 feet as a precautionary measure. For large chrome platers, site specific information should be obtained from the local air district.

Recommendation

- Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.

References

- *Ambient Air Monitoring for Hexavalent Chromium and Metals in Barrio Logan: May 2001 through May 2002.* ARB, Monitoring and Laboratory Division (October 14, 2003)
- *Draft Barrio Logan Report.* ARB, Planning and Technical Support Division (November 2004)
- *Proposed Amendments to the Hexavalent Chromium Control Measure for Decorative and Hard Chrome Plating and Chromic Acid Anodizing Facilities.* ARB (April 1998)
- Murchison, Linda; Suer, Carolyn; Cook, Jeff. *“Neighborhood Scale Monitoring in Barrio Logan,”* (AWMA Annual Conference Proceedings, June 2003)

Dry Cleaners Using Perchloroethylene (Perc Dry Cleaners)

Perchloroethylene (perc) is the solvent most commonly used by the dry cleaning industry to clean clothes or other materials. The ARB and other public health agencies have identified perc as a potential cancer-causing compound. Perc persists in the atmosphere long enough to contribute to both regional air pollution and localized exposures. Perc dry cleaners are the major source of perc emissions in California.

Since 1990, the statewide concentrations and health risk from exposure to perc has dropped over 70 percent. This is due to a number of regulatory requirements on perc dry cleaners and other sources, including degreasing operations, brake cleaners, and adhesives. ARB adopted an Airborne Toxic Control Measure (ATCM) for Perc Emissions from Dry Cleaning Operations in 1993. ARB has also prohibited the use of perc in aerosol adhesives and automotive brake cleaners.

Perc dry cleaners statewide are required to comply with ARB and local air district regulations to reduce emissions. However, even with these controls, some emissions continue to occur. Air quality studies indicate that there is still the potential for significant risks even near well-controlled dry cleaners. The South Coast AQMD has adopted a rule requiring that all new dry cleaners use alternatives to perc and that existing dry cleaners phase out the use of perc by December 2020. Over time, transition to non-toxic alternatives should occur. However, while perc continues to be used, a preventative approach should be taken to siting of new sensitive land uses.

Key Health Findings

Inhalation of perc may result in both cancer and non-cancer health effects. An assessment by California's Office of Environmental Health Hazard Assessment (OEHHA) concluded that perc is a potential human carcinogen and can cause non-cancer health effects. In addition to the potential cancer risk, the effects of long-term exposure include dizziness, impaired judgment and perception, and damage to the liver and kidneys. Workers have shown signs of liver toxicity following chronic exposure to perc, as well as kidney dysfunction and neurological effects. Non-cancer health effects occur with higher exposure levels than those associated with significant cancer risks. The public is more likely to be exposed to perchloroethylene at levels causing significant cancer risks than to levels causing non-cancer health effects. Non-cancer health effects, unlike cancer health effects, have a threshold or exposure level below which non-cancer health effects would not be expected. The ARB formally identified perc as a toxic air contaminant in October 1991.

One study has determined that inhalation of perc is the predominant route of exposure to infants living in apartments co-located in the same building with a business operating perc dry cleaning equipment. Results of air sampling within co-residential buildings indicate that dry cleaners can cause a wide range of exposures depending on the type and maintenance of the equipment. For example, a well-maintained state-of-the-art system may have risks in the range of 10 in one million, whereas a badly maintained machine with major leaks can have potential cancer risks of thousands in one million.

The California Air Pollution Control Officers Association (CAPCOA) is developing Industry-wide Risk Assessment Guidelines for Perchloroethylene Dry Cleaners which, when published, will provide detailed information on public health risk from exposure to emissions from this source.

Distance Related Findings

Risk created by perc dry cleaning is dependent on the amount of perc emissions, the type of dry cleaning equipment, proximity to the source, and how the emissions are released and dispersed (e.g., type of ventilation system, stack parameters, and local meteorology). Dry cleaners are often located near

residential areas, and near shopping centers, schools, day-care centers, and restaurants.

The vast majority of dry cleaners in California have one dry cleaning machine per facility. The South Coast AQMD estimates that an average well-controlled dry cleaner uses about 30 to 160 gallons of cleaning solvent per year, with an average of about 100 gallons. Based on these estimates, the South Coast AQMD estimates a potential cancer risk between 25 to 140 in one million at residential locations 75 feet or less from the dry cleaner, with an average of about 80 in one million. The estimate could be as high as 270 in one million for older machines.

CAPCOA's draft industry-wide risk assessment of perc dry cleaning operations indicates that the potential cancer risk for many dry cleaners may be in excess of potential cancer risk levels adopted by the local air districts. The draft document also indicates that, in general, the public's exposure can be reduced by at least 75 percent, by providing a separation distance of about 300 feet from the operation. This assessment is based on a single machine with perc use of about 100 gallons per year. At these distances, the potential cancer risk would be less than 10 potential cases per million for most scenarios.

The risk would be proportionately higher for large, industrial size, dry cleaners. These facilities typically have two or more machines and use 200 gallons or more per year of perc. Therefore, separation distances need to be greater for large dry cleaners. At a distance of 500 feet, the remaining risk for a large plant can be reduced by over 85 percent.

In California, a small number of dry cleaners that are co-located (sharing a common wall, floor, or ceiling) with a residence have the potential to expose the inhabitants of the residence to high levels of perc. However, while special requirements have been imposed on these existing facilities, the potential for exposure still exists. Avoiding these siting situations in the future is an important preventative measure.

Local air districts are a source of information regarding specific dry cleaning operations—particularly for large industrial operations with multiple machines. The 300 foot separation recommended below reflects the most common situation – a dry cleaner with only one machine. While we recommend 500 feet when there are two or more machines, site specific information should be obtained from the local air district for some very large industrial operations. Factors that can impact the risk include the number and type of machines, controls used, source configuration, building dimensions, terrain, and meteorological data.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines provide 500 feet. For operations with 3 or more machines, consult with the local air district.
- Do not site new sensitive land uses in the same building with perc dry cleaning operations.

References

- *Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems*, Final Staff Report. South Coast AQMD. (October 2002)
- *Air Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations*. ARB (1994)
(<http://www.arb.ca.gov/toxics/atcm/percatcm.htm>)
- “An Assessment of Tetrachloroethylene in Human Breast Milk”, Judith Schreiber, New York State Department of Health – Bureau of Toxic Substance Assessment, Journal of Exposure Analysis and Environmental Epidemiology, Vol.2, Suppl.2, pp. 15-26, 1992.
- *Draft Air Toxics “Hot Spots” Program Perchloroethylene Dry Cleaner Industry-wide Risk Assessment Guidelines*. (CAPCOA (November 2002)
- *Final Environmental Assessment for Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems*. South Coast AQMD. (October 18, 2002)

Gasoline Dispensing Facilities

Refueling at gasoline dispensing facilities releases benzene into the air. Benzene is a potent carcinogen and is one of the highest risk air pollutants regulated by ARB. Motor vehicles and motor vehicle-related activity account for over 90 percent of benzene emissions in California. While gasoline-dispensing facilities account for a small part of total benzene emissions, near source exposures for large facilities can be significant.

Since 1990, benzene in the air has been reduced by over 75 percent statewide, primarily due to the implementation of emissions controls on motor vehicle vapor recovery equipment at gas stations, and a reduction in benzene levels in gasoline. However, benzene levels are still significant. In urban areas, average benzene exposure is equivalent to about 50 in one million.

Gasoline dispensing facilities tend to be located in areas close to residential and shopping areas. Benzene emissions from the largest gas stations may result in near source health risk beyond the regional background and district health risk thresholds. The emergence of very high gasoline throughput at large retail or

wholesale outlets makes this a concern as these types of outlets are projected to account for an increasing market share in the next few years.

Key Health Findings

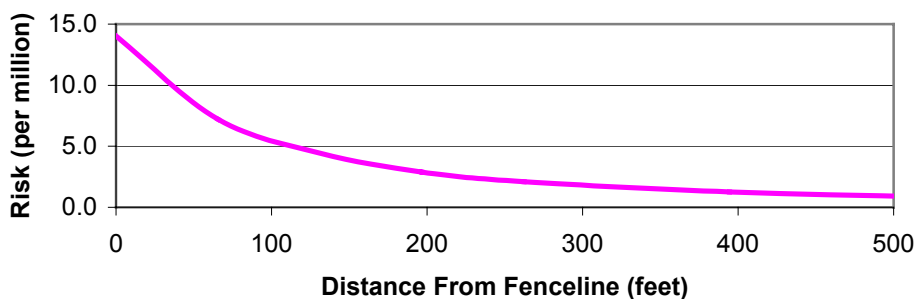
Benzene is a human carcinogen identified by ARB as a toxic air contaminant. Benzene also can cause non-cancer health effects above a certain level of exposure. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. It is unlikely that the public would be exposed to levels of benzene from gasoline dispensing facilities high enough to cause these non-cancer health effects.

Distance Related Findings

A well-maintained vapor recovery system can decrease emissions of benzene by more than 90% compared with an uncontrolled facility. Almost all facilities have emission control systems. Air quality modeling of the health risks from gasoline dispensing facilities indicate that the impact from the facilities decreases rapidly as the distance from the facility increases.

Statistics reported in the ARB's staff reports on Enhanced Vapor Recovery released in 2000 and 2002, indicated that almost 96 percent of the gasoline dispensing facilities had a throughput less than 2.4 million gallons per year. The remaining four percent, or approximately 450 facilities, had throughputs exceeding 2.4 million gallons per year. For these stations, the average gasoline throughput was 3.6 million gallons per year.

**Figure 1-6
Gasoline Dispensing Facility Health Risk
for 3,600,000 gal/yr throughput**



As shown in Figure 1-6, the risk levels for a gasoline dispensing facility with a throughput of 3.6 million gallons per year is about 10 in one million at a distance of 50 feet from the fenceline. However, as the throughput increases, the potential risk increases.

As mentioned above, air pollution levels in the immediate vicinity of large gasoline dispensing facilities may be higher than the surrounding area (although tailpipe emissions from motor vehicles dominates the health impacts). Very large gasoline dispensing facilities located at large wholesale and discount centers may dispense nine million gallons of gasoline per year or more. At nine million gallons, the potential risk could be around 25 in one million at 50 feet, dropping to about five in one million at 300 feet. Some facilities have throughputs as high as 19 million gallons.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of a large gasoline dispensing facility (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

References

- *Gasoline Service Station Industry-wide Risk Assessment Guidelines*. California Air Pollution Control Officers Association (December 1997 and revised November 1, 2001)
- *Staff Report on Enhanced Vapor Recovery*. ARB (February 4, 2000)
- *The California Almanac of Emissions and Air Quality*. ARB (2004)
- *Staff Report on Enhanced Vapor Recovery Technology Review*. ARB (October 2002)

Other Facility Types that Emit Air Pollutants of Concern

In addition to source specific recommendations, Table 1-3 includes a list of other industrial sources that could pose a significant health risk to nearby sensitive individuals depending on a number of factors. These factors include the amount of pollutant emitted and its toxicity, the distance to nearby individuals, and the type of emission controls in place. Since these types of facilities are subject to air permits from local air districts, facility specific information should be obtained where there are questions about siting a sensitive land use close to an industrial facility.

Potential Sources of Odor and Dust Complaints

Odors and dust from commercial activities are the most common sources of air pollution complaints and concerns from the public. Land use planning and permitting processes should consider the potential impacts of odor and dust on surrounding land uses, and provide for adequate separation between odor and dust sources. As with other types of air pollution, a number of factors need to be considered when determining an adequate distance or mitigation to avoid odor or

Table 1-3 – Examples of Other Facility Types That Emit¹ Air Pollutants of Concern

<u>Categories</u>	<u>Facility Type</u>	<u>Air Pollutants of Concern</u>
Commercial	Autobody Shops Furniture Repair Film Processing Services Distribution Centers Printing Shops Diesel Engines	Metals, Solvents Solvents ² , Methylene Chloride Solvents, Perchloroethylene Diesel Particulate Matter Solvents Diesel Particulate Matter
Industrial	Construction Manufacturers Metal Platers, Welders, Metal Spray (flame spray) Operations Chemical Producers Furniture Manufacturers Shipbuilding and Repair Rock Quarries and Cement Manufacturers Hazardous Waste Incinerators Power Plants Research and Development Facilities	Particulate Matter, Asbestos Solvents, Metals Hexavalent Chromium, Nickel, Metals Solvents, Metals Solvents Hexavalent chromium and other metals, Solvents Particulate Matter, Asbestos Dioxin, Solvents, Metals Benzene, Formaldehyde, Particulate Matter Solvents, Metals, etc.
Public	Landfills Waste Water Treatment Plants Medical Waste Incinerators Recycling, Garbage Transfer Stations Municipal Incinerators	Benzene, Vinyl Chloride, Diesel Particulate Matter Hydrogen Sulfide Dioxin, Benzene, PAH, PCBs, 1,3-Butadiene Diesel Particulate Matter Dioxin, Benzene, PAH, PCBs, 1,3-Butadiene
Transportation	Truck Stops	Diesel Particulate Matter
Agricultural Operations	Farming Operations Livestock and Dairy Operations	Diesel Particulate Matter, VOCs, NOx, PM10, CO, SOx, Pesticides Ammonia, VOCs, PM10

¹Not all facilities will emit pollutants of concern due to process changes or chemical substitution. Consult the local air district regarding specific facilities.

²Some solvents may emit toxic air pollutants, but not all solvents are toxic air contaminants.

dust complaints in a specific situation. Local air districts should be consulted for advice when these siting situations arise.

Table 1-4 lists some of the most common sources of odor complaints received by local air districts. Complaints about odors are the responsibility of local air districts and are covered under state law. The types of facilities that can cause odor complaints are varied and can range from small commercial facilities to large industrial facilities, and may include waste disposal and recycling operations. Odors can cause health symptoms such as nausea and headache. Facilities with odors may also be sources of toxic air pollutants (See Table 1-3). Some common sources of odors emitted by facilities are sulfur compounds, organic solvents, and the decomposition/digestion of biological materials. Because of the subjective nature of an individual's sensitivity to a particular type of odor, there is no specific rule for assigning appropriate separations from odor sources. Under the right meteorological conditions, some odors may still be offensive several miles from the source.

Sources of dust are also common sources of air pollution-related complaints. Operations that can result in dust problems are rock crushing, gravel production, stone quarrying, and mining operations. A common source of complaints is the dust and noise associated with blasting that may be part of these operations. Besides the health impacts of dust as particulate matter, thick dust also impairs visibility, aesthetic values, and can soil homes and automobiles. Local air districts typically have rules for regulating dust sources in their jurisdictions, but dust sources can still be a concern. Therefore, separation of these facilities from residential and other new sensitive land uses should be considered.

In some areas of California, asbestos occurs naturally in stone deposits. Asbestos is a potent carcinogenic substance when inhaled. Asbestos-containing dust may be a public health concern in areas where asbestos-containing rock is mined, crushed, processed, or used. Situations where asbestos-containing gravel has been used in road paving materials are also a source of asbestos exposure to the general public. Planners are advised to consult with local air pollution agencies in areas where asbestos-containing gravel or stone products are produced or used.

2. Handbook Development

ARB and local air districts share responsibility for improving statewide air quality. As a result of California's air pollution control programs, air quality has improved and health risk has been reduced statewide. However, state and federal air quality standards are still exceeded in many areas of California and the statewide health risk posed by toxic air contaminants (air toxics) remains too high. Also, some communities experience higher pollution exposures than others - making localized impacts, as well regional or statewide impacts, an important consideration. It is for this reason that this Handbook has been produced - to promote better, more informed decision-making by local land use agencies that will improve air quality and public health in their communities.

Land use policies and practices, including planning, zoning, and siting activities, can play a critical role in air quality and public health at the local level. For instance, even with the best available control technology, some projects that are sited very close to homes, schools, and other public places can result in elevated air pollution exposures. The reverse is also true – siting a new school or home too close to an existing source of air pollution can pose a public health risk. The ARB recommendations in section 1 address this issue.

This Handbook is an informational document that we hope will strengthen the relationship between air quality and land use agencies. It highlights the need for land use agencies to address the potential for new projects to result in localized health risk or contribute to cumulative impacts where air pollution sources are concentrated.

Avoiding these incompatible land uses is a key to reducing localized air pollution exposures that can result in adverse health impacts, especially to sensitive individuals.

Individual siting decisions that result in incompatible land uses are often the result of locating “sensitive” land uses next to polluting sources. These decisions can be of even greater concern when existing air pollution exposures in a community are considered. In general terms, this is often referred to as the issue of “cumulative impacts.” ARB is working with local air districts to better define these situations and to make information about existing air pollution levels (e.g., from local businesses, motor vehicles, and other areawide sources) more readily available to land use agencies.

In December 2001, the ARB adopted “Policies and Actions for Environmental Justice” (Policies). These Policies were developed in coordination with a group of stakeholders, representing local government agencies, community interest

groups, environmental justice organizations, academia, and business (Environmental Justice Stakeholders Group).

The Policies included a commitment to work with land use planners, transportation agencies, and local air districts to develop ways to identify, consider, and reduce cumulative air pollution emissions, exposure, and health risks associated with land use planning and decision-making. Developed under the auspices of the ARB's Environmental Justice Stakeholders Group, this Handbook is a first step in meeting that commitment.

ARB has produced this Handbook to help achieve several objectives:

- Provide recommendations on situations to avoid when siting new residences, schools, day care centers, playgrounds, and medical-related facilities (sensitive sites or sensitive land uses);
- Identify approaches that land use agencies can use to prevent or reduce potential air pollution impacts associated with general plan policies, new land use development, siting, and permitting decisions;
- Improve and facilitate access to air quality data and evaluation tools for use in the land use decision-making process;
- Encourage stronger collaboration between land use agencies and local air districts to reduce community exposure to source-specific and cumulative air pollution impacts; and
- Emphasize community outreach approaches that promote active public involvement in the air quality/land use decision-making process.

This Handbook builds upon California's 2003 General Plan Guidelines. These Guidelines, developed by the Governor's Office of Planning and Research (OPR), explain the land use planning process and applicable legal requirements. This Handbook also builds upon a 1997 ARB report, "The Land Use-Air Quality Linkage" ("Linkage Report").⁹ The Linkage Report was an outgrowth of the California Clean Air Act which, among other things, called upon local air districts to focus particular attention on reducing emissions from sources that indirectly cause air pollution by attracting vehicle trips. Such indirect sources include, but are not limited to, shopping centers, schools and universities, employment centers, warehousing, airport hubs, medical offices, and sports arenas. The Linkage Report summarizes data as of 1997 on the relationships between land use, transportation, and air quality, and highlights strategies that can help to reduce the use of single occupancy automobile use. Such strategies

⁹ To access this report, please refer to ARB's website or click on: <http://www.arb.ca.gov/ch/programs/link97.pdf>

complement ARB regulatory programs that continue to reduce motor vehicle emissions.

In this Handbook, we identify types of air quality-related information that we recommend land use agencies consider in the land use decision-making processes such as the development of regional, general, and community plans; zoning ordinances; environmental reviews; project siting; and permit issuance. The Handbook provides recommendations on the siting of new sensitive land uses based on current analyses. It also contains information on approaches and methodologies for evaluating new projects from an air pollution perspective.

The Handbook looks at air quality issues associated with emissions from industrial, commercial, and mobile sources of air pollution. Mobile sources continue to be the largest overall contributors to the state's air pollution problems, representing the greatest air pollution health risk to most Californians. Based on current health risk information for air toxics, the most serious pollutants on a statewide basis are diesel PM, benzene, and 1,3-butadiene, all of which are primarily emitted by motor vehicles. From a state perspective, ARB continues to pursue new strategies to further reduce motor vehicle-related emissions in order to meet air quality standards and reduce air toxics risk.

While mobile sources are the largest overall contributors to the state's air pollution problems, industrial and commercial sources can also pose a health risk, particularly to people near the source. For this reason, the issue of incompatible land uses is an important focus of this document.

Handbook Audience

Even though the primary users of the Handbook will likely be agencies responsible for air quality and land use planning, we hope the ideas and technical issues presented in this Handbook will also be useful for:

- public and community organizations and community residents;
- federal, state and regional agencies that fund, review, regulate, oversee, or otherwise influence environmental policies and programs affected by land use policies; and
- private developers.

3. Key Community Focused Issues Land Use Agencies Should Consider

Two key air quality issues that land use agencies should consider in their planning, zoning, and permitting processes are:

- 1) **Incompatible Land Uses.** Localized air pollution impacts from incompatible land use can occur when polluting sources, such as a heavily trafficked roadway, warehousing facilities, or industrial or commercial facilities, are located near a land use where sensitive individuals are found such as a school, hospital, or homes.
- 2) **Cumulative Impacts.** Cumulative air pollution impacts can occur from a concentration of multiple sources that individually comply with air pollution control requirements or fall below risk thresholds, but in the aggregate may pose a public health risk to exposed individuals. These sources can be heavy or light-industrial operations, commercial facilities such as autobody shops, large gas dispensing facilities, dry cleaners, and chrome platers, and freeways or other nearby busy transportation corridors.

Incompatible Land Uses

Land use policies and practices can worsen air pollution exposure and adversely affect public health by mixing incompatible land uses. Examples include locating new sensitive land uses, such as housing or schools, next to small metal plating facilities that use a highly toxic form of chromium, or very near large industrial facilities or freeways. Based on recent monitoring and health-based studies, we now know that air quality impacts from incompatible land uses can contribute to increased risk of illness, missed work and school, a lower quality of life, and higher costs for public health and pollution control.¹⁰

Avoiding incompatible land uses can be a challenge in the context of mixed-use industrial and residential zoning. For a variety of reasons, government agencies and housing advocates have encouraged the proximity of affordable housing to employment centers, shopping areas, and transportation corridors, partially as a means to reduce vehicle trips and their associated emissions. Generally speaking, typical distances in mixed-use communities between businesses and industries and other land uses such as homes and schools, should be adequate to avoid health risks. However, generalizations do not always hold as we addressed in section 1 of this Handbook.

In terms of siting air pollution sources, the proposed location of a project is a major factor in determining whether it will result in localized air quality impacts. Often, the problem can be avoided by providing an adequate distance or setback

¹⁰ For more information, the reader should refer to ARB's website on community health: <http://www.arb.ca.gov/ch/ch.htm>

between a source of emissions and nearby sensitive land uses. Sometimes, suggesting project design changes or mitigation measures in the project review phase can also reduce or avoid potential impacts. This underscores the importance of addressing potential incompatible land uses as early as possible in the project review process, ideally in the general plan itself.

Cumulative Air Pollution Impacts

The broad concept of cumulative air pollution impacts reflects the combination of regional air pollution levels and any localized impacts. Many factors contribute to air pollution levels experienced in any location. These include urban background air pollution, historic land use patterns, the prevalence of freeways and other transportation corridors, the concentration of industrial and commercial businesses, and local meteorology and terrain.

When considering the potential air quality impacts of polluting sources on individuals, project location and the concentration of emissions from air pollution sources need to be considered in the land use decision-making process. In section 4, the Handbook offers a series of questions that helps land use agencies determine if a project should undergo a more careful analysis. This holds true regardless of whether the project being sited is a polluting source or a sensitive land use project.

Large industrial areas are not the only land uses that may result in public health concerns in mixed-use communities. Cumulative air pollution impacts can also occur if land uses do not adequately provide setbacks or otherwise protect sensitive individuals from potential air pollution impacts associated with nearby light industrial sources. This can occur with activities such as truck idling and traffic congestion, or from indirect sources such as warehousing facilities that are located in a community or neighborhood.

In October 2004, Cal/EPA published its Environmental Justice Action Plan. In February 2005, the Cal/EPA Interagency Working Group approved a working definition of “cumulative impacts” for purposes of initially guiding the pilot projects that are being conducted pursuant to that plan. Cal/EPA is now in the process of developing a Cumulative Impacts Assessment Guidance document. Cal/EPA will revisit the working definition of “cumulative impacts” as the Agency develops that guidance. The following is the working definition:

“Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socio-economic factors, where applicable, and to the extent data are available.”

4. Mechanisms for Integrating Localized Air Quality Concerns Into Land Use Processes

Land use agencies should use each of their existing planning, zoning, and permitting authorities to address the potential health risk associated with new projects. Land use-specific mechanisms can go a long way toward addressing both localized and cumulative impacts from new air pollution sources that are not otherwise addressed by environmental regulations. Likewise, close collaboration and communication between land use agencies and local air districts in both the planning and project approval stages can further reduce these impacts. Local agency partnerships can also result in early identification of potential impacts from proposed activities that might otherwise escape environmental review. When this happens, pollution problems can be prevented or reduced before projects are approved, when it is less complex and expensive to mitigate.

The land use entitlement process requires a series of planning decisions. At the highest level, the General Plan sets the policies and direction for the jurisdiction, and includes a number of mandatory elements dealing with issues such as housing, circulation, and health hazards. Zoning is the primary tool for implementing land use policies. Specific or community plans created in conjunction with a specific project also perform many of the same functions as a zoning ordinance. Zoning can be modified by means of variances and conditional use permits. The latter are frequently used to insure compatibility between otherwise conflicting land uses. Finally, new development usually requires the approval of a parcel or tract map before grading and building permits can be issued. These parcel or tract maps must be consistent with the applicable General Plan, zoning and other standards.

Land use agencies can use their planning authority to separate industrial and residential land uses, or to require mitigation where separation is not feasible. By separating incompatible land uses, land use agencies can prevent or reduce both localized and cumulative air pollution impacts without denying what might otherwise be a desirable project.¹¹ For instance:

- a dry cleaner could open a storefront operation in a community with actual cleaning operations performed at a remote location away from residential areas;
- gas dispensing facilities with lower fuel throughput could be sited in mixed-use areas;
- enhanced building ventilation or filtering systems in schools or senior care centers can reduce ambient air from nearby busy arterials; or
- landscaping and regular watering can be used to reduce fugitive dust at a building construction site near a school yard.

¹¹ It should be noted that such actions should also be considered as part of the General Plan or Plan element process.

The following general and specific land use approaches can help to reduce potential adverse air pollution impacts that projects may have on public health.

General Plans

The primary purpose of planning, and the source of government authority to engage in planning, is to protect public health, safety, and welfare. In its most basic sense, a local government General Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, forming the basis for most land use decisions. Therefore, the most effective mechanism for dealing with the central land use concept of compatibility and its relationship to cumulative air pollution impacts is the General Plan. Well before projects are proposed within a jurisdiction, the General Plan sets the stage for where projects can be sited, and their compatibility with comprehensive community goals, objectives, and policies.

In 2003, OPR revised its General Plan Guidelines, highlighting the importance of incorporating sustainable development and environmental justice policies in the planning process. The OPR General Plan Guidelines provides an effective and long-term approach to reduce cumulative air pollution impacts at the earliest planning stages. In light of these important additions to the Guidelines, land use agencies should consider updating their General Plans or Plan elements to address these revisions.

The General Plan and related Plan elements can be used to avoid incompatible land uses by incorporating air quality considerations into these documents. For instance, a General Plan safety element with an air quality component could be used to incorporate policies or objectives that are intended to protect the public from the potential for facility breakdowns that may result in a dangerous release of air toxics. Likewise, an air quality component to the transportation circulation element of the General Plan could include policies or standards to prevent or reduce local exposure to diesel exhaust from trucks and other vehicles. For instance, the transportation circulation element could encourage the construction of alternative routes away from residential areas for heavy-duty diesel trucks. By considering the relationship between air quality and transportation, the circulation element could also include air quality policies to prevent or reduce trips and travel, and thus vehicle emissions. Policies in the land use element of the General Plan could identify areas appropriate for future industrial, commercial, and residential uses. Such policies could also introduce design and distance parameters that reduce emissions, exposure, and risk from industrial and some commercial land uses (e.g., dry cleaners) that are in close proximity to residential areas or schools.

Land use agencies should also consider updating or creating an air quality element in the jurisdiction's General Plan. In the air quality element, local decision-makers could develop long-term, effective plans and policies to address

air quality issues, including cumulative impacts. The air quality element can also provide a general reference guide that informs local land use planners about regional and community level air quality, regulatory air pollution control requirements and guidelines, and references emissions and pollution source data bases and assessment and modeling tools. As is further described in Appendix C of the Handbook, new assessment tools that ARB is developing can be included into the air quality element by reference. For instance, ARB's statewide risk maps could be referenced in the air quality element as a resource that could be consulted by developers or land use agencies

Zoning

The purpose of "zoning" is to separate different land uses. Zoning ordinances establish development controls to ensure that private development takes place within a given area in a manner in which:

- All uses are compatible (e.g., an industrial plant is not permitted in a residential area);
- Common development standards are used (e.g., all homes in a given area are set back the same minimum distance from the street); and,
- Each development does not unreasonably impose a burden upon its neighbors (e.g., parking is required on site so as not to create neighborhood parking problems).

To do this, use districts called "zones" are established and standards are developed for these zones. The four basic zones are residential, commercial, industrial and institutional.

Land use agencies may wish to consider how zoning ordinances, particularly those for mixed-use areas, can be used to avoid exacerbating poor land use practices of the past or contributing to localized and cumulative air pollution impacts in the community.

Sometimes, especially in mixed-use zones, there is a potential for certain categories of existing businesses or industrial operations to result in cumulative air pollution impacts to new development projects. For example:

- An assisted living project is proposed for a mixed-use zone adjacent to an existing chrome plating facility, or several dry cleaners;
- Multiple industrial sources regulated by a local air district are located directly upwind of a new apartment complex;
- A new housing development is sited in a mixed-use zone that is downwind or adjacent to a distribution center that attracts diesel-fueled delivery trucks and TRUs; or
- A new housing development or sensitive land use is sited without adequate setbacks from an existing major transportation corridor or rail yard.

As part of the public process for making zoning changes, local land use agencies could work with community planning groups, local businesses, and community residents to determine how best to address existing incompatible land uses.

Land Use Permitting Processes

■ Questions to Consider When Reviewing New Projects

Very often, just knowing what questions to ask can yield critical information about the potential air pollution impacts of proposed projects – both from the perspective of a specific project as well as in the nature of existing air pollution sources in the same impact area. Available land use information can reveal the proximity of air pollution sources to sensitive individuals, the potential for incompatible land uses, and the location and nature of nearby air pollution sources. Air quality data, available from the ARB and local air districts, can provide information about the types and amounts of air pollution emitted in an area, regional air quality concentrations, and health risk estimates for specific sources.

General Plans and zoning maps are an excellent starting point in reviewing project proposals for their potential air pollution impacts. These documents contain information about existing or proposed land uses for a specific location as well as the surrounding area. Often, just looking at a map of the proposed location for a facility and its surrounding area will help to identify a potential adjacent incompatible land use.

The following pages are a “pull-out” list of questions to consider along with cross-references to pertinent information in the Handbook. These questions are intended to assist land use agencies in evaluating potential air quality-related concerns associated with new project proposals.

The first group of questions contains project-related queries designed to help identify the potential for localized project impacts, particularly associated with incompatible land uses. The second group of questions focuses on the issue of potential cumulative impacts by including questions about existing emissions and air quality in the community, and community feedback. Depending on the answers to these questions, a land use agency may decide a more detailed review of the proposal is warranted.

The California Department of Education has already developed a detailed process for school siting which is outlined in Appendix E. However, school districts may also find this section helpful when evaluating the most appropriate site for new schools in their area. At a minimum, using these questions may encourage school districts to engage throughout their siting process with land use agencies and local air districts. The combined expertise of these entities can be useful in devising relevant design standards and mitigation measures that can

reduce exposure to cumulative emissions, exposure, and health risk to students and school workers.

As indicated throughout the Handbook, we strongly encourage land use agencies to consult early and often with local air districts. Local air districts have the expertise, many of the analytical tools, and a working knowledge of the sources they regulate. It is also critical to fully involve the public and businesses that could be affected by the siting decision. The questions provided in the chart below do not imply any particular action should be taken by land use agencies. Rather the questions are intended to improve the assessment process and facilitate informed decision-making.

■ **Project-Related Questions**

This section includes project-related questions that, in conjunction with the questions in the next section, can be used to tailor the project evaluation. These questions are designed to help identify the potential for incompatible land uses from localized project impacts.

Questions to Consider When Reviewing New Projects

Project-Related Questions	Cross-Reference to Relevant Handbook Sections
<p>1. Is the proposed project:</p> <ul style="list-style-type: none"> ▲ A business or commercial license renewal ▲ A new or modified commercial project ▲ A new or modified industrial project ▲ A new or modified public facility project ▲ A new or modified transportation project ▲ A housing or other development in which sensitive individuals may live or play 	<p>See Appendix A for typical land use classifications and associated project categories that could emit air pollutants.</p>
<p>2. Does the proposed project:</p> <ul style="list-style-type: none"> ▲ Conform to the zoning designation? ▲ Require a variance to the zoning designation? ▲ Include plans to expand operations over the life of the business such that additional emissions may increase the pollution burden in the community (e.g., from additional truck operations, new industrial operations or process lines, increased hours of operation, build-out to the property line, etc.)? 	<p>See Appendix F for a general explanation of land use processes.</p> <p>In addition, Section 3 contains a discussion of how land use planning, zoning, and permitting practices can result in incompatible land uses or cumulative air pollution impacts.</p>
<p>3. Has the local air district provided comments or information to assist in the analysis?</p>	<p>See Section 5 and Appendix C for a description of air quality-related tools that the ARB and local air districts use to provide information on potential air pollution impacts.</p>
<p>4. Have public meetings been scheduled with the affected community to solicit their involvement in the decision-making process for the proposed project?</p>	<p>See Section 7 for a discussion of public participation, information and outreach tools.</p>
<p>5. If the proposed project will be subject to local air district regulations:</p> <ul style="list-style-type: none"> ▲ Has the project received a permit from the local air district? ▲ Would it comply with applicable local air district requirements? ▲ Is the local air district contemplating new regulations that would reduce emissions from the source over time? ▲ Will potential emissions from the project 	<p>See Appendix C for a description of local air district programs.</p>

Project-Related Questions	Cross-Reference to Relevant Handbook Sections
<p>trigger the local air district's new source review for criteria pollutants or air toxics emissions?</p> <ul style="list-style-type: none"> ▲ Is the local air district expected to ask the proposed project to perform a risk assessment? ▲ Is there sufficient new information or public concern to call for a more thorough environmental analysis of the proposed project? ▲ Are there plans to expand operations over time? ▲ Are there land-use based air quality significance thresholds or design standards that could be applied to this project in addition to applicable air district requirements? 	
<p>6. If the proposed project will release air pollution emissions, either directly or indirectly, but is not regulated by the local air district:</p> <ul style="list-style-type: none"> ▲ Is the local air district informed of the project? ▲ Does the local air district believe that there could be potential air pollution impacts associated with this project category because of the proximity of the project to sensitive individuals? ▲ If the project is one in which individuals live or play (e.g., a home, playground, convalescent home, etc.), does the local air district believe that the project's proximity to nearby sources could pose potential air pollution impacts? ▲ Are there indirect emissions that could be associated with the project (e.g., truck traffic or idling, transport refrigeration unit operations, stationary diesel engine operations, etc.) that will be in close proximity to sensitive individuals? ▲ Will the proposed project increase or serve as a magnet for diesel traffic? ▲ Are there land-use based air quality significance thresholds or design standards that could be applied to this project in addition to applicable air district requirements? ▲ Is there sufficient new information or public concern to call for a more thorough environmental analysis of the proposed project? ▲ Should the site approval process include identification and mitigation of potential 	<p>See Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).</p>

Project-Related Questions	Cross-Reference to Relevant Handbook Sections
<p>direct or indirect emissions associated with the potential project?</p>	
<p>7. Does the local air district or land use agency have pertinent information on the source, such as:</p> <ul style="list-style-type: none"> ▲ Available permit and enforcement data, including for the owner or operator of the proposed source that may have other sources in the State. ▲ Proximity of the proposed project to sensitive individuals. ▲ Number of potentially exposed individuals from the proposed project. ▲ Potential for the proposed project to expose sensitive individuals to odor or other air pollution nuisances. ▲ Meteorology or the prevailing wind patterns between the proposed project and the nearest receptor, or between the proposed sensitive receptor project and sources that could pose a localized or cumulative air pollution impact. 	<p>See Appendix C for a description of local air district programs.</p> <p>See Appendix B for a listing of useful information that land use agencies should have on hand or have accessible when reviewing proposed projects for potential air pollution impacts.</p> <p>Also, do not hesitate to contact your local air district regarding answers to any of these questions that might not be available at the land use agency.</p> <p>See Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).</p>
<p>8. Based upon the project application, its location, and the nature of the source, could the proposed project:</p> <ul style="list-style-type: none"> ▲ Be a polluting source that is located in proximity to, or otherwise upwind, of a location where sensitive individuals live or play? ▲ Attract sensitive individuals and be located in proximity to or otherwise downwind, of a source or multiple sources of pollution, including polluting facilities or transportation-related sources that contribute emissions either directly or indirectly? ▲ Result in health risk to the surrounding community? 	<p>See Section 3 for a discussion of what is an incompatible land use and the potential cumulative air pollution impacts.</p> <p>See Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).</p>
<p>9. If a CEQA categorical exemption is proposed, were the following questions considered:</p> <ul style="list-style-type: none"> ▲ Is the project site environmentally sensitive as defined by the project's location? (A project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant.) ▲ Would the project and successive future projects of the same type in the approximate location potentially result in cumulative impacts? ▲ Are there "unusual circumstances" creating the possibility of significant effects? 	<p>See CEQA Guidelines section 15300, and Public Resources Code, section 21084.</p> <p>See Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).</p> <p>See also Section 5 and Appendix C for a description of air quality-related tools that the ARB and local air districts use to provide information on potential air pollution impacts.</p>

■ **Questions Related to Cumulative Impact Assessment**

The following questions can be used to provide the decision-maker with a better understanding of the potential for cumulative air pollution impacts to an affected community. Answers to these questions will help to determine if new projects or activities warrant a more detailed review. It may also help to see potential environmental concerns from the perspective of the affected community. Additionally, responses can provide local decision-makers with information with which to assess the best policy options for addressing neighborhood-scale air pollution concerns.

The questions below can be used to identify whether existing tools and procedures are adequate to address land use-related air pollution issues. This process can also be used to pinpoint project characteristics that may have the greatest impact on community-level emissions, exposure, and risk. Such elements can include: the compliance record of existing sources including those owned or operated by the project proponent; the concentration of emissions from polluting sources within the approximate area of sensitive sites; transportation circulation in proximity to the proposed project; compatibility with the General Plan and General Plan elements; etc.

The local air district can provide useful assistance in the collection and evaluation of air quality-related information for some of the questions and should be consulted early in the process.

Questions Related to Cumulative Impact Assessment

Technical Questions	Cross-Reference to Relevant Handbook Sections
1. Is the community home to industrial facilities?	See Appendix A for typical land use classifications and associated project categories that could emit air pollutants.
2. Do one or more major freeways or high-traffic volume surface streets cut through the community?	See transportation circulation element of your general plan. See also Appendix B for useful information that land use agencies should have on hand or have accessible when reviewing proposed projects for potential air pollution impacts. See Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).
3. Is the area classified for mixed-use zoning?	See your general plan and zoning ordinances.
4. Is there an available list of air pollution sources in the community?	Contact your local air district.
5. Has a walk-through of the community been conducted to gather the following information:	See Appendix B for a listing of useful information that land use agencies

Technical Questions	Cross-Reference to Relevant Handbook Sections
<ul style="list-style-type: none"> ▲ Corroborate available information on land use activities in the area (e.g., businesses, housing developments, sensitive individuals, etc.)? ▲ Determine the proximity of existing and anticipated future projects to residential areas or sensitive individuals? ▲ Determine the concentration of emission sources (including anticipated future projects) to residential areas or sensitive individuals? 	<p>should have on hand or have accessible when reviewing proposed projects for potential air pollution impacts. Also contact your local air district.</p>
<p>6. Has the local air district been contacted to obtain information on sources in the community?</p>	<p>See Section 7 for a discussion of public participation, information and outreach tools.</p>
<p>7. What categories of commercial establishments are currently located in the area and does the local air district have these sources on file as being regulated or permitted?</p>	<p>See Appendix A for typical land use classifications and associated project categories that could emit air pollutants. Also contact your local air district.</p>
<p>8. What categories of indirect sources such as distribution centers or warehouses are currently located in the area?</p>	<p>See Appendix A for typical land use classifications and associated project categories that emit air pollutants.</p>
<p>9. What air quality monitoring data are available?</p>	<p>Contact your local air district.</p>
<p>10. Have any risk assessments been performed on emission sources in the area?</p>	<p>Contact your local air district.</p>
<p>11. Does the land use agency have the capability of applying a GIS spatial mapping tool that can overlay zoning, sub-development information, and other neighborhood characteristics, with air pollution and transportation data?</p>	<p>See Appendix B for a listing of useful information that land use agencies should have on hand or have accessible when reviewing proposed projects for potential air pollution impacts. Also contact your local air district for tools that can be used to supplement available land use agency tools.</p>
<p>12. Based on available information, is it possible to determine if the affected community or neighborhood experiences elevated health risk due to a concentration of air pollution sources in close proximity, and if not, can the necessary information be obtained?</p>	<p>Contact your local air district. Also see Section 1 for recommendations on situations to avoid when siting projects where sensitive individuals would be located (sensitive sites).</p>
<p>13. Does the community have a history of chronic complaints about air quality?</p>	<p>See Section 7 for a discussion of public participation, information and outreach tools. Also contact your local air district.</p>
<p>14. Is the affected community included in the public participation process for the agency's decision?</p>	<p>See Section 7 for a discussion of public participation, information and outreach tools.</p>
<p>15. Have community leaders or groups been contacted about any pre-existing or chronic community air quality concerns?</p>	<p>See Section 7 for a discussion of public participation, information and outreach tools. Also contact your local air district.</p>

■ **Mitigation Approaches**

In addition to considering the suitability of the project location, opportunities for mitigation of air pollution impacts should be considered. Sometimes, a land use agency may find that selection of a different project location to avoid a health risk is not feasible. When that happens, land use agencies should consider design improvements or other strategies that would reduce the risk. Such strategies could include performance or design standards, consultation with local air districts and other agencies on appropriate actions that these agencies should, or plan to, undertake, and consultation and outreach in the affected community. Potential mitigation measures should be feasible, cost-effective solutions within the available resources and authority of implementing agencies to enforce.¹²

■ **Conditional Use Permits and Performance Standards**

Some types of land uses are only allowed upon approval of a conditional use permit (also called a CUP or special use permit). A conditional use permit does not re-zone the land but specifies conditions under which a particular land use will be permitted. Such land uses could be those with potentially significant environmental impacts. Local zoning ordinances specify the uses for which a conditional use permit is required, the zones they may be allowed in, and public hearing procedures. The conditional use permit imposes special requirements to ensure that the use will not be detrimental to its surroundings.

In the context of land use planning, performance standards are requirements imposed on projects or project categories through conditional use permits to ensure compliance with general plan policies and local ordinances. These standards could apply to such project categories as distribution centers, very large gas dispensing facilities, autobody shops, dry cleaners, and metal platers. Land use agencies may wish to consider adding land use-based performance standards to zoning ordinances in existing mixed-use communities for certain air pollution project categories. Such standards would provide certainty and equitable treatment to all projects of a similar nature, and reserve the more resource intensive conditional or special use permits to projects that require a more detailed analysis. In developing project design or performance standards, land use agencies should consult with the local air district. Early and regular consultation can avoid duplication or inconsistency with local air district control requirements when considering the site-specific design and operation of a project.

¹² A land use agency has the authority to condition or deny a project based upon information collected and evaluated through the land use decision-making process. However, any denial would need to be based upon identifiable, generally applicable, articulated standards set forth in the local government's General Plan and zoning codes. One way of averting this is to conduct early and regular outreach to the community and the local air district so that community and environmental concerns can be addressed and accommodated into the project proposal.

Examples of land use-based air quality-specific performance standards include the following:

- Placing a process vent away from the direction of the local playground that is nearby or increasing the stack height so that emissions are dispersed to reduce the emissions impact on surrounding homes or schools.
- Setbacks between the project fence line and the population center.
- Limiting the hours of operation of a facility to avoid excess emissions exposure or foul odors to nearby individuals.
- An ordinance that requires fleet operators to use cleaner vehicles before project approval (if a new business), or when expanding the fleet (if an existing business); and
- Providing alternate routes for truck operations that discourage detours into residential neighborhoods.

Outreach to Other Agencies

When questions arise regarding the air quality impacts of projects, including potential cumulative impacts, land use agencies should consult the local air district. Land use agencies should also consider the following suggestions to avoid creating new incompatible land uses:

- Consult with the local air district to help determine if emissions from a particular project will adversely impact sensitive individuals in the area, if existing or future effective regulations or permit requirements will affect the proposed project or other sources in the vicinity of the proposed project, or if additional inspections should be required.
- Check with ARB for new information and modeling tools that can help evaluate projects seeking to site within your jurisdiction.
- Become familiar with ARB's Land Use-Air Quality Linkage Report to determine whether approaches and evaluation tools contained in the Report can be used to reduce transportation-related impacts on communities.
- Contact and collaborate with other state agencies that play a role in the land use decision-making process, e.g., the State Department of Education, the California Energy Commission, and Caltrans. These agencies have information on mitigation measures and mapping tools that could be useful in addressing local problems.

■ **Information Clearinghouse**

- Land use agencies can refer to the ARB statewide electronic information clearinghouse for information on what measures other jurisdictions are using to address comparable issues or sources.¹³

¹³ This information can be accessed from ARB's website by going to:
<http://www.arb.ca.gov/ch/clearinghouse.htm>

The next section addresses available air quality assessment tools that land use agencies can use to evaluate the potential for localized or cumulative impacts in their communities.

5. Available Tools to Evaluate Cumulative Air Pollution Emissions and Risk

Until recently, California has traditionally approached air pollution control from the perspective of assessing whether the pollution was regional, category-specific, or from new or existing sources. This methodology has been generally effective in reducing statewide and regional air pollution impacts and risk levels. However, such an incremental, category-by-category, source-by-source approach may not always address community health impacts from multiple sources - including mobile, industrial, and commercial facilities.

As a result of air toxics and children's health concerns over the past several years, ARB and local air districts have begun to develop new tools to evaluate and inform the public about cumulative air pollution impacts at the community level. One aspect of ARB's programs now underway is to consolidate and make accessible air toxics emissions and monitoring data by region, using modeling tools and other analytical techniques to take a preliminary look at emissions, exposure, and health risk in communities.

ARB has developed multiple tools to assist local air districts perform assessments of cumulative emissions, exposure, and risk on a neighborhood scale. These tools include:

- Regional risk maps that show trends in potential cancer risk from toxic air pollutants in southern and central California between 1990 and 2010. These maps are based on the U.S. EPA's ASPEN model. These maps provide an estimate of background levels of toxic air pollutant risk but are not detailed enough to assess individual neighborhoods or facilities.¹⁴
- The Community Health Air Pollution Information System (CHAPIS) is a user-friendly, Internet-based system for displaying information on emissions from sources of air pollution in an easy to use mapping format. CHAPIS contains information on air pollution emissions from selected large facilities and small businesses that emit criteria and toxic air pollutants. It also contains information on air pollution emissions from motor vehicles. When released in 2004, CHAPIS did not contain information on every source of air pollution or every air pollutant. However, ARB continues to work with local air districts to include all of the largest air pollution sources and those with the highest documented air pollution risk. Additional facilities will be added to CHAPIS as more data become available.¹⁵

¹⁴ For further information on these maps, please visit ARB's website at:

<http://www.arb.ca.gov/toxics/cti/hlthrisk/hlthrisk.htm>

¹⁵ For further information on CHAPIS, please click on:

<http://www.arb.ca.gov/ch/chapis1/chapis1.htm>

- The Hot Spots Analysis and Reporting Program (HARP) is a software database package that evaluates emissions from one or more facilities to determine the overall health risk posed by the facility(-ies) on the surrounding community. Proper use of HARP ensures that the risk assessment meets the latest risk assessment guidelines published by the State Office of Environmental Health Hazard Assessment (OEHHA). HARP is designed with air quality professionals in mind and is available from the ARB.
- The Urban Emissions Model (URBEMIS) is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, office buildings, and construction projects. URBEMIS uses emission factors available from the ARB to estimate vehicle emissions associated with new land uses.

Local air districts, and others can use these tools to assess a new project, or plan revision. For example, these tools can be used to:

- Identify if there are multiple sources of air pollution in the community;
- Identify the major sources of air pollution in the area under consideration;
- Identify the background potential cancer risk from toxic air pollution in the area under consideration;
- Estimate the risk from a new facility and how it adds to the overall risk from other nearby facilities; and
- Provide information to decision-makers and key stakeholders on whether there may be significant issues related to cumulative emissions, exposure, and health risk due to a permitting or land use decision.

If an air agency wishes to perform a cumulative air pollution impact analysis using any of these tools, it should consult with the ARB and/or the local air district to obtain information or assistance on the data inputs and procedures necessary to operate the program. In addition, land use agencies could consult with local air districts to determine the availability of land use and air pollution data for entry into an electronic Geographical Information System (GIS) format. GIS is an easier mapping tool than the more sophisticated models described in Appendix C. GIS mapping makes it possible to superimpose land use with air pollution information so that the spatial relationship between air pollution sources, sensitive receptors, and air quality can be visually represented. Appendix C provides a general description of the impact assessment process and micro-scale, or community level modeling tools that are available to evaluate potential cumulative air pollution impacts. Modeling protocols will be accessible on ARB's website as they become available. The ARB will also provide land use agencies and local air districts with statewide regional modeling results and information regarding micro-scale modeling.

6. ARB Programs to Reduce Air Pollution in Communities

ARB's regulatory programs reduce air pollutant emissions through statewide strategies that improve public health in all California communities. ARB's overall program addresses motor vehicles, consumer products, air toxics, air-quality planning, research, education, enforcement, and air monitoring. Community health and environmental justice concerns are a consideration in all these programs. ARB's programs are statewide but recognize that extra efforts may be needed in some communities due to historical mixed land-use patterns, limited participation in public processes in the past, and a greater concentration of air pollution sources in some communities.

ARB's strategies are intended to result in better air quality and reduced health risk to residents throughout California. The ARB's priority is to prevent or reduce the public's exposure to air pollution, including from toxic air contaminants that pose the greatest risk, particularly to infants and children who are more vulnerable to air pollution.

In October 2003, ARB updated its statewide control strategy to reduce emissions from source categories within its regulatory authority. A primary focus of the strategy is to achieve federal and state air quality standards for ozone and particulate matter throughout California, and to reduce health risk from diesel PM. Along with local air districts, ARB will continue to address air toxics emissions from regulated sources (see Table 6-1 for a summary of ARB activities). As indicated earlier, ARB will also provide analytical tools and information to land use agencies and local air districts to help assess and mitigate cumulative air pollution impacts.

The ARB will continue to consider the adoption of or revisions to needed air toxics control measures as part of the state's ongoing air toxics assessment program.¹⁶

As part of its effort to reduce particulate matter and air toxics emissions from diesel PM, the ARB has developed a Diesel Risk Reduction Program¹⁷ that lays out several strategies in a three-pronged approach to reduce emissions and their associated risk:

- Stringent emission standards for all new diesel-fueled engines;
- Aggressive reductions from in-use engines; and
- Low sulfur fuel that will reduce PM and still provide the quality of diesel fuel needed to control diesel PM.

¹⁶ For continuing information and updates on state measures, the reader can refer to ARB's website at <http://www.arb.ca.gov/toxics/toxics.htm>.

¹⁷ For a comprehensive description of the program, please refer to ARB's website at <http://www.arb.ca.gov/diesel/dieselrrp.htm>.

Table 6-1
ARB ACTIONS TO ADDRESS
CUMULATIVE AIR POLLUTION IMPACTS IN COMMUNITIES

Information Collection

- Improve emission inventories, air monitoring data, and analysis tools that can help to identify areas with high cumulative air pollution impacts
- Conduct studies in coordination with OEHHA on the potential for cancer and non-cancer health effects from air pollutants emitted by specific source categories
- Establish web-based clearinghouse for local land use strategies

Emission Reduction Approaches (2004-2006)*

- Through a public process, consider development and/or amendment of regulations and related guidance to reduce emissions, exposure, and health risk at a statewide and local level for the following sources:
 - Diesel PM sources such as stationary diesel engines, transport refrigeration units, portable diesel engines, on-road public fleets, off-road public fleets, heavy-duty diesel truck idling, harbor craft vessels, waste haulers
 - Other air toxics sources, such as formaldehyde in composite wood products, hexavalent chromium for chrome plating and chromic acid anodizing, thermal spraying, and perchloroethylene dry cleaning
- Develop technical information for the following:*
 - Distribution centers
 - Modeling tools such as HARP and CHAPIS
- Adopt rules and pollution prevention initiatives within legal authority to reduce emissions from mobile sources and fuels, and consumer products
- Develop and maintain Air Quality Handbook as a tool for use by land use agencies and local air districts to address cumulative air pollution impacts

Other Approaches

- Establish guidelines for use of statewide incentive funding for high priority mobile source emission reduction projects

*Because ARB will continue to review the need to adopt or revise statewide measures, the information contained in this chart will be updated on an ongoing basis.

A number of ARB's diesel risk reduction strategies have been adopted. These include measures to reduce emissions from refuse haulers, urban buses, transport refrigeration units, stationary and portable diesel engines, and idling trucks and school buses. These sources are all important from a community perspective.¹⁸

¹⁸ The reader can refer to ARB's website for information on its mobile source-related programs at: <http://www.arb.ca.gov/msprog/msprog.htm>, as well as regulations adopted and under consideration as part of the Diesel Risk Reduction Program at: <http://www.arb.ca.gov/diesel/dieselrrp.htm>

The ARB will continue to evaluate the health effects of air pollutants while implementing programs with local air districts to reduce air pollution in all California communities.

Local air districts also have ambitious programs to reduce criteria pollutants and air toxics from regulated sources in their region. Many of these programs also benefit air quality in local communities as well as in the broader region. For more information on what is being done in your area to reduce cumulative air pollution impacts through air pollution control programs, you should contact your local air district.¹⁹

¹⁹ Local air district contacts can be found on the inside cover to this Handbook.

7. Ways to Enhance Meaningful Public Participation

Community involvement is an important part of the land use process. The public is entitled to the best possible information about the air they breathe and what is being done to prevent or reduce unhealthy air pollution in their communities. In particular, information on how land use decisions can affect air pollution and public health should be made accessible to all communities, including low-income and minority communities.

Effective community participation consistently relies on a two-way flow of information – from public agencies to community members about opportunities, constraints, and impacts, and from community members back to public officials about needs, priorities, and preferences. The outreach process needed to build understanding and local neighborhood involvement requires data, methodologies, and formats tailored to the needs of the specific community. More importantly, it requires the strong collaboration of local government agencies that review and approve projects and land uses to improve the physical and environmental surroundings of the local community.

Many land use agencies, especially those in major metropolitan areas, are familiar with, and have a long-established public review process. Nevertheless, public outreach can often be improved. Active public involvement requires engaging the public in ways that do not require their previous interest in or knowledge of the land use or air pollution control requirements, and a commitment to taking action where appropriate to address the concerns that are raised.

■ Direct Community Outreach

In conjunction with local air districts, land use agencies should consider designing an outreach program for community groups, other stakeholders, and local government agency staffs that address the problem of cumulative air pollution impacts, and the public and government role in reducing them. Such a program could consider analytical tools that assist in the preparation and presentation of information in a way that supports sensible decision-making and public involvement. Table 7-1 contains some general outreach approaches that might be considered.

**Table 7-1
Public Participation Approaches**

- Staff and community leadership awareness training on environmental justice programs and community-based issues
- Surveys to identify the website information needs of interested community-based organizations and other stakeholders
- Information materials on local land use and air district authorities
- Community-based councils to facilitate and invite resident participation in the planning process
- Neighborhood CEQA scoping sessions that allows for community input prior to technical analysis
- Public information materials on siting issues are under review including materials written for the affected community, and in different media that widens accessibility
- Public meetings
- Identify other opportunities to include community-based organizations in the process

To improve outreach, local land use agencies should consider the following activities:

- Hold meetings in communities affected by agency programs, policies, and projects at times and in places that encourage public participation, such as evenings and weekends at centrally located community meeting rooms, libraries, and schools.
- Assess the need for and provide translation services at public meetings.
- Hold community meetings to update residents on the results of any special air monitoring programs conducted in their neighborhood.
- Hold community meetings to discuss and evaluate the various options to address cumulative impacts in their community.
- In coordination with local air districts, make staff available to attend meetings of community organizations and neighborhood groups to listen to and, where appropriate, act upon community concerns.
- Establish a specific contact person for environmental justice issues.
- Increase student and community awareness of local government land use activities and policies through outreach opportunities.
- Make air quality and land use information available to communities in an easily understood and useful format, including fact sheets, mailings, brochures, public service announcements, and web pages, in English and other languages.
- On the local government web-site, dedicate a page or section to what the land use program is doing regarding environmental justice and cumulative environmental impacts, and, as applicable, activities conducted with local air districts such as neighborhood air monitoring studies, pollution prevention, air pollution sources in neighborhoods, and risk reduction.

- Allow, encourage, and promote community access to land use activities, including public meetings, General Plan or Community Plan updates, zoning changes, special studies, CEQA reviews, variances, etc.
 - Distribute information in multiple languages, as needed, on how to contact the land use agency or local air district to obtain information and assistance regarding environmental justice programs, including how to participate in public processes.
 - Create and distribute a simple, easy-to-read, and understandable public participation handbook, which may be based on the “Public Participation Guidebook” developed by ARB.
- **Other Opportunities for Meaningful Public Outreach**
- Community-Based Planning Committees

Neighborhood-based or community planning advisory councils could be established to invite and facilitate direct resident participation into the planning process. With the right training and technical assistance, such councils can provide valuable input and a forum for the review of proposed amendments to plans, zone changes, land use permits, and suggestions as to how best to prevent or reduce cumulative air pollution impacts in their community.

- Regional Partnerships

Consider creating regional coalitions of key growth-related organizations from both the private and public sectors, with corporations, communities, other jurisdictions, and government agencies. Such partnerships could facilitate agreement on common goals and win-win solutions tailored specifically for the region. With this kind of dialogue, shared vision, and collaboration, barriers can be overcome and locally acceptable sustainable solutions implemented. Over the long term, such strategies will help to bring about clean air in communities as well as regionally.

**LAND USE CLASSIFICATIONS AND ASSOCIATED FACILITY CATEGORIES
THAT COULD EMIT AIR POLLUTANTS**

(1) Land Use Classifications – by Activity ⁱ	(2) Facility or Project Examples	(3) Key Pollutants ^{ii,iii}	(4) Air Pollution Permits ^{iv}
COMMERCIAL/ LIGHT INDUSTRIAL: SHOPPING, BUSINESS, AND COMMERCIAL			
▲ Primarily retail shops and stores, office, commercial activities, and light industrial or small business	Dry cleaners; drive-through restaurants; gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; textiles; apparel and furniture upholstery; leather and leather products; appliance repair shops; mechanical assembly cleaning; printing shops	VOCs, air toxics, including diesel PM, NOx, CO, SOx	Limited; Rules for applicable equipment
▲ Goods storage or handling activities, characterized by loading and unloading goods at warehouses, large storage structures, movement of goods, shipping, and trucking.	Warehousing; freight-forwarding centers; drop-off and loading areas; distribution centers	VOCs, air toxics, including diesel PM, NOx, CO, SOx	No ^v
LIGHT INDUSTRIAL: RESEARCH AND DEVELOPMENT			
▲ Medical waste at research hospitals and labs	Incineration; surgical and medical instrument manufacturers, pharmaceutical manufacturing, biotech research facilities	Air toxics, NOx, CO, SOx	Yes
▲ Electronics, electrical apparatus, components, and accessories	Computer manufacturer; integrated circuit board manufacturer; semiconductor production	Air toxics, VOCs	Yes
▲ College or university lab or research center	Medical waste incinerators; lab chemicals handling, storage and disposal	Air toxics, NOx, CO, SOx, PM10	Yes
▲ Research and development labs	Satellite manufacturer; fiber-optics manufacturer; defense contractors; space research and technology; new vehicle and fuel testing labs	Air toxics, VOCs	Yes
▲ Commercial testing labs	Consumer products; chemical handling, storage and disposal	Air toxics, VOCs	Yes

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(1) Land Use Classifications – by Activity ⁱ	(2) Facility or Project Examples	(3) Key Pollutants ^{ii,iii}	(4) Air Pollution Permits ^{iv}
INDUSTRIAL: NON-ENERGY-RELATED			
▲ Assembly plants, manufacturing facilities, industrial machinery	Adhesives; chemical; textiles; apparel and furniture upholstery; clay, glass, and stone products production; asphalt materials; cement manufacturers, wood products; paperboard containers and boxes; metal plating; metal and canned food product fabrication; auto manufacturing; food processing; printing and publishing; drug, vitamins, and pharmaceuticals; dyes; paints; pesticides; photographic chemicals; polish and wax; consumer products; metal and mineral smelters and foundries; fiberboard; floor tile and cover; wood and metal furniture and fixtures; leather and leather products; general industrial and metalworking machinery; musical instruments; office supplies; rubber products and plastics production; saw mills; solvent recycling; shingle and siding; surface coatings	VOCs, air toxics, including diesel PM, NOx, PM, CO, SOx	Yes
INDUSTRIAL: ENERGY AND UTILITIES			
▲ Water and sewer operations	Pumping stations; air vents; treatment	VOCs, air toxics, NOx, CO, SOx, PM10	Yes
▲ Power generation and distribution	Power plant boilers and heaters; portable diesel engines; gas turbine engines	NOx, diesel PM, NOx, CO, SOx, PM10, VOCs	Yes
▲ Refinery operations	Refinery boilers and heaters; coke cracking units; valves and flanges; flares	VOCs, air toxics, including diesel PM, NOx, CO, SOx, PM10	Yes
▲ Oil and gas extraction	Oil recovery systems; uncovered wells	NOx, diesel PM, VOCs, CO, SOx, PM10	Yes
▲ Gasoline storage, transmission, and marketing	Above and below ground storage tanks; floating roof tanks; tank farms; pipelines	VOCs, air toxics, including diesel PM, NOx, CO, SOx, PM10	Yes
▲ Solid and hazardous waste treatment, storage, and disposal activities.	Landfills; methane digester systems; process recycling facility for concrete and asphalt materials	VOCs, air toxics, NOx, CO, SOx, PM10	Yes
CONSTRUCTION (NON-TRANSPORTATION)			
	Building construction; demolition sites	PM (re-entrained road dust), asbestos, diesel PM, NOx, CO, SOx, PM10, VOCs	Limited; state and federal off-road equipment standards

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(1) Land Use Classifications – by Activity ⁱ	(2) Facility or Project Examples	(3) Key Pollutants ^{ii,iii}	(4) Air Pollution Permits ^{iv}
	Ordnance and explosives demolition; range and testing activities; chemical production; degreasing; surface coatings; vehicle refueling; vehicle and engine operations and maintenance	VOCs, air toxics, including diesel PM, NOx, CO, SOx, PM10	Limited; prescribed burning; equipment and solvent rules
TRANSPORTATION			
▲ Vehicular movement	Residential area circulation systems; parking and idling at parking structures; drive-through establishments; car washes; special events; schools; shopping malls, etc.	VOCs, NOx, PM (re-entrained road dust) air toxics e.g., benzene, diesel PM, formaldehyde, acetaldehyde, 1,3 butadiene, CO, SOx, PM10	No
▲ Road construction and surfacing	Street paving and repair; new highway construction and expansion	VOCs, air toxics, including diesel PM, NOx, CO, SOx, PM10	No
▲ Trains	Railroads; switch yards; maintenance yards		
▲ Marine and port activities	Recreational sailing; commercial marine operations; hotelling operations; loading and un-loading; servicing; shipping operations; port or marina expansion; truck idling	VOCs, NOx, CO, SOx, PM10, air toxics, including diesel PM	Limited; Applicable state and federal MV standards, and possible equipment rules
▲ Aircraft	Takeoff, landing, and taxiing; aircraft maintenance; ground support activities		
▲ Mass transit and school buses	Bus repair and maintenance		
NATURAL RESOURCES			
▲ Farming operations	Agricultural burning; diesel operated engines and heaters; small food processors; pesticide application; agricultural off-road equipment	Diesel PM, VOCs, NOx, PM10, CO, SOx, pesticides	Limited ^{vi} ; Agricultural burning requirements, applicable state and federal mobile source standards; pesticide rules
▲ Livestock and dairy operations	Dairies and feed lots	Ammonia, VOCs, PM10	Yes ^{vii}
▲ Logging	Off-road equipment e.g., diesel fueled chippers, brush hackers, etc.	Diesel PM, NOx, CO, SOx, PM10, VOCs	Limited; Applicable state/federal mobile source standards
▲ Mining operations	Quarrying or stone cutting; mining; drilling or dredging	PM10, CO, SOx, VOCs, NOx, and asbestos in some geographical areas	Applicable equipment rules and dust controls

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(1) Land Use Classifications – by Activity ⁱ	(2) Facility or Project Examples	(3) Key Pollutants ^{ii,iii}	(4) Air Pollution Permits ^{iv}
RESIDENTIAL			
Housing	Housing developments; retirement developments; affordable housing	Fireplace emissions (PM10, NOx, VOCs, CO, air toxics); Water heater combustion (NOx, VOCs, CO)	No ^{vii}
ACADEMIC AND INSTITUTIONAL			
▲ Schools, including school-related recreational activities	Schools; school yards; vocational training labs/classrooms such as auto repair/painting and aviation mechanics	Air toxics	Yes/No ^{viii}
▲ Medical waste	Incineration	Air toxics, NOx, CO, PM10	Yes
▲ Clinics, hospitals, convalescent homes		Air toxics	Yes

ⁱ These classifications were adapted from the American Planning Association’s “Land Based Classification Standards.” The Standards provide a consistent model for classifying land uses based on their characteristics. The model classifies land uses by refining traditional categories into multiple dimensions, such as activities, functions, building types, site development character, and ownership constraints. Each dimension has its own set of categories and subcategories. These multiple dimensions allow users to have precise control over land-use classifications. For more information, the reader should refer to the Association’s website at <http://www.planning.org/LBCS/GeneralInfo/>.

ⁱⁱ This column includes key criteria pollutants and air toxic contaminants that are most typically associated with the identified source categories.

Additional information on specific air toxics that are attributed to facility categories can be found in ARB’s Emission Inventory Criteria and Guidelines Report for the Air Toxics Hot Spots Program (May 15, 1997). This information can be viewed at ARB’s web site at <http://www.arb.ca.gov/ab2588/final96/guide96.pdf>.

Criteria air pollutants are those air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. Criteria pollutants include ozone (formed by the reaction of volatile organic compounds and nitrogen oxides in the presence of sunlight), particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead.

Volatile organic compounds (VOCs) combine with nitrogen oxides to form ozone, as well as particulate matter. VOC emissions result primarily from incomplete fuel combustion and the evaporation of chemical solvents and fuels. On-road mobile sources are the largest contributors to statewide VOC emissions. Stationary sources of VOC emissions include processes that use solvents (such as dry-cleaning, degreasing, and coating operations) and petroleum-related processes (such as petroleum refining, gasoline marketing and dispensing, and oil and gas extraction). Areawide VOC sources include consumer products, pesticides, aerosols and paints, asphalt paving and roofing, and other evaporative emissions.

Nitrogen oxides (NOx) are a group of gaseous compounds of nitrogen and oxygen, many of which contribute to the formation of ozone and particulate matter. Most NOx emissions are produced by the combustion of fuels. Mobile sources make up about 80 percent of the total statewide NOx emissions. Mobile sources include on-road vehicles and trucks, aircraft, trains, ships, recreational boats, industrial and construction equipment, farm

equipment, off-road recreational vehicles, and other equipment. Stationary sources of NO_x include both internal and external combustion processes in industries such as manufacturing, food processing, electric utilities, and petroleum refining. Areawide source, which include residential fuel combustion, waste burning, and fires, contribute only a small portion of the total statewide NO_x emissions, but depending on the community, may contribute to a cumulative air pollution impact.

Particulate matter (PM) refers to particles small enough to be breathed into the lungs (under 10 microns in size). It is not a single substance, but a mixture of a number of highly diverse types of particles and liquid droplets. It can be formed directly, primarily as dust from vehicle travel on paved and unpaved roads, agricultural operations, construction and demolition.

Carbon monoxide (CO) is a colorless and odorless gas that is directly emitted as a by-product of combustion. The highest concentrations are generally associated with cold stagnant weather conditions that occur during winter. CO problems tend to be localized.

An Air Toxic Contaminant (air toxic) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. Similar to criteria pollutants, air toxics are emitted from stationary, areawide, and mobile sources. They contribute to elevated regional and localized risks near industrial and commercial facilities and busy roadways. The ten compounds that pose the greatest statewide risk are: acetaldehyde; benzene; 1,3-butadiene; carbon tetrachloride; diesel particulate matter (diesel PM); formaldehyde; hexavalent chromium; methylene chloride; para-dichlorobenzene; and perchloroethylene. The risk from diesel PM is by far the largest, representing about 70 percent of the known statewide cancer risk from outdoor air toxics. The exhaust from diesel-fueled engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. Diesel PM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute about 26 percent of statewide diesel PM emissions, with an additional 72 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and other equipment. Stationary engines in shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations contribute about two percent of statewide emissions. However, when this number is disaggregated to a sub-regional scale such as neighborhoods, the risk factor can be far greater.

ⁱⁱⁱ The level of pollution emitted is a major determinant of the significance of the impact.

^{iv} Indicates whether facility activities listed in column 4 are generally subject to local air district permits to operate. This does not include regulated products such as solvents and degreasers that may be used by sources that may not require an operating permit per se, e.g., a gas station or dry cleaner.

^v Generally speaking, warehousing or distribution centers are not subject to local air district permits. However, depending on the district, motor vehicle fleet rules may apply to trucks or off-road vehicles operated and maintained by the facility operator. Additionally, emergency generators or internal combustion engines operated on the site may require an operating permit.

^{vi} Authorized by recent legislation SB700.

^{vii} Local air districts do not require permits for woodburning fireplaces inside private homes. However, some local air districts and land use agencies do have rules or ordinances that require new housing developments or home re-sales to install U.S. EPA –certified stoves. Some local air districts also ban residential woodburning during weather inversions that concentrate smoke in residential areas. Likewise, home water heaters are not subject to permits; however, new heaters could be subject to emission limits that are imposed by federal or local agency regulations.

^{viii} Technical training schools that conduct activities normally permitted by a local air district could be subject to an air permit.

**LAND USE-BASED REFERENCE TOOLS TO EVALUATE
NEW PROJECTS FOR POTENTIAL AIR POLLUTION IMPACTS**

Land use agencies generally have a variety of tools and approaches at hand, or accessible from local air districts that can be useful in performing an analysis of potential air pollution impacts associated with new projects. These tools and approaches include:

- Base map of the city or county planning area and terrain elevations.
- General Plan designations of land use (existing and proposed).
- Zoning maps.
- Land use maps that identify existing land uses, including the location of facilities that are permitted or otherwise regulated by the local air district. Land use agencies should consult with their local air district for information on regulated facilities.
- Demographic data, e.g., population location and density, distribution of population by income, distribution of population by ethnicity, and distribution of population by age. The use of population data is a normal part of the planning process. However, from an air quality perspective, socioeconomic data is useful to identify potential community health and environmental justice issues.
- Emissions, monitoring, and risk-based maps created by the ARB or local air districts that show air pollution-related health risk by community across the state.
- Location of public facilities that enhance community quality of life, including parks, community centers, and open space.
- Location of industrial and commercial facilities and other land uses that use hazardous materials, or emit air pollutants. These include chemical storage facilities, hazardous waste disposal sites, dry cleaners, large gas dispensing facilities, auto body shops, and metal plating and finishing shops.
- Location of sources or facility types that result in diesel on-road and off-road emissions, e.g., stationary diesel power generators, forklifts, cranes, construction equipment, on-road vehicle idling, and operation of transportation refrigeration units. Distribution centers, marine terminals and ports, rail yards, large industrial facilities, and facilities that handle bulk goods are all examples of complex facilities where these types of emission sources are frequently concentrated.¹ Very large facilities, such as ports, marine terminals, and airports, could be analyzed regardless of proximity to a receptor if they are within the modeling area.
- Location and zoning designations for existing and proposed schools, buildings, or outdoor areas where sensitive individuals may live or play.
- Location and density of existing and proposed residential development.
- Zoning requirements, property setbacks, traffic flow requirements, and idling restrictions for trucks, trains, yard hostlers², construction equipment, or school buses.
- Traffic counts (including diesel truck traffic counts), within a community to validate or augment existing regional motor vehicle trip and speed data.

¹ The ARB is currently evaluating the types of facilities that may act as complex point sources and developing methods to identify them.

² Yard hostler means a tractor less than 300 horsepower that is used to transfer semi-truck or tractor-trailer containers in and around storage, transfer, or distribution yards or areas and is often equipped with a hydraulic lifting fifth wheel for connection to trailer containers.

ARB AND LOCAL AIR DISTRICT INFORMATION AND TOOLS CONCERNING CUMULATIVE AIR POLLUTION IMPACTS

It is the ARB's policy to support research and data collection activities toward the goal of reducing cumulative air pollution impacts. These efforts include updating and improving the air toxics emissions inventory, performing special air monitoring studies in specific communities, and conducting a more complete assessment of non-cancer health effects associated with air toxics and criteria pollutants.¹ This information is important because it helps us better understand links between air pollution and the health of sensitive individuals -- children, the elderly, and those with pre-existing serious health problems affected by air quality.

ARB is working with CAPCOA and OEHHA to improve air pollutant data and evaluation tools to determine when and where cumulative air pollution impacts may be a problem. The following provides additional information on this effort.

How are emissions assessed?

Detailed information about the sources of air pollution in an area is collected and maintained by local air districts and the ARB in what is called an emission inventory. Emission inventories contain information about the nature of the business, the location, type and amount of air pollution emitted, the air pollution-producing processes, the type of air pollution control equipment, operating hours, and seasonal variations in activity. Local districts collect emission inventory data for most stationary source categories.

Local air districts collect air pollution emission information directly from facilities and businesses that are required to obtain an air pollution operating permit. Local air districts use this information to compile an emission inventory for areas within their jurisdiction. The ARB compiles a statewide emission inventory based on the information collected by the ARB and local air districts. Local air districts provide most of the stationary source emission data, and ARB provides mobile source emissions as well as some areawide emission sources such as consumer products and paints. ARB is also developing map-based tools that will display information on air pollution sources.

Criteria pollutant data have been collected since the early 1970's, and toxic pollutant inventories began to be developed in the mid-1980's.

¹ A criteria pollutant is any air pollutant for which EPA has established a National Ambient Air Quality Standard or for which California has established a State Ambient Air Quality Standard, including: carbon monoxide, lead, nitrogen oxides, ozone, particulates and sulfur oxides. Criteria pollutants are measured in each of California's air basins to determine whether the area meets or does not meet specific federal or state air quality standards. Air toxics or air toxic contaminants are listed pollutants recognized by California or EPA as posing a potential risk to health.

How is the toxic emission inventory developed?

Emissions data for toxic air pollutants is a high priority for communities because of concerns about potential health effects. Most of ARB's air toxics data is collected through the toxic "Hot Spots" program. Local air districts collect emissions data from industrial and commercial facilities. Facilities that exceed health-based thresholds are required to report their air toxics emissions as part of the toxic "Hot Spots" program and update their emissions data every four years. Facilities are required to report their air toxics emissions data if there is an increase that would trigger the reporting threshold of the hotspots program. Air toxics emissions from motor vehicles and consumer products are estimated by the ARB. These estimates are generally regional in nature, reflecting traffic and population.

The ARB also maintains chemical speciation profiles that can be used to estimate toxics emissions when no toxic emissions data is available.

What additional toxic emissions information is needed?

In order to assess cumulative air pollution impacts, updated information from individual facilities is needed. Even for sources where emissions data are available, additional information such as the location of emissions release points is often needed to better model cumulative impacts. In terms of motor vehicles, emissions data are currently based on traffic models that only contain major roads and freeways. Local traffic data are needed so that traffic emissions can be more accurately assigned to specific streets and roads. Local information is also needed for off-road emission sources, such as ships, trains, and construction equipment. In addition, hourly maximum emissions data are needed for assessing acute air pollution impacts.

What work is underway?

ARB is working with CAPCOA to improve toxic emissions data, developing a community health air pollution information system to improve access to emission information, conducting neighborhood assessment studies to better understand toxic emission sources, and conducting surveys of sources of toxic pollutants.

How is air pollution monitored?

While emissions data identify how much air pollution is going into the air, the state's air quality monitoring network measures air pollutant levels in outdoor air. The statewide air monitoring network is primarily designed to measure regional exposure to air pollutants, and consists of more than 250 air monitoring sites.

The air toxics monitoring network consists of approximately 20 permanent sites. These sites are supplemented by special monitoring studies conducted by ARB and local air districts. These sites measure approximately sixty toxic air pollutants. Diesel PM, which is the major driver of urban air toxic risk, is not monitored directly. Ten of the

60 toxic pollutants, not including diesel, account for most of the remaining potential cancer risk in California urban areas.

What additional monitoring has been done?

Recently, additional monitoring has been done to look at air quality at the community level. ARB's community monitoring was conducted in six communities located throughout the state. Most sites were in low-income, minority communities located near major sources of air pollution, such as refineries or freeways. The monitoring took place for a year or more in each community, and included measurements of both criteria and toxic pollutants.

What is being learned from community monitoring?

In some cases, the ARB or local air districts have performed air quality monitoring or modeling studies covering a particular region of the state. When available, these studies can give information about regional air pollution exposures.

The preliminary results of ARB's community monitoring are providing insights into air pollution at the community level. Urban background levels are a major contributor to the overall risk from air toxics in urban areas, and this urban background tends to mask the differences between communities. When localized elevated air pollutant levels were measured, they were usually associated with local ground-level sources of toxic pollutants. The most common source of this type was busy streets and freeways. The impact these ground-level sources had on local air quality decreased rapidly with distance from the source. Pollutant levels usually returned to urban background levels within a few hundred meters of the source.

These results indicate that tools to assess cumulative impacts must be able to account for both localized, near-source impacts, as well as regional background air pollution. The tools that ARB is developing for this purpose are air quality models.

How can air quality modeling be used?

While air monitoring can directly measure cumulative exposure to air pollution, it is limited because all locations cannot be monitored. To address this, air quality modeling provides the capability to estimate exposure when air monitoring is not feasible. Air quality modeling can be refined to assess local exposure, identify locations of potential hot spots, and identify the relative contribution of emission sources to exposure at specific locations. The ARB has used this type of information to develop regional cumulative risk maps that estimate the cumulative cancer air pollution risk for most of California. While these maps only show one air pollution-related health risk, it does provide a useful starting point.

What is needed for community modeling?

Air quality models have been developed to assess near-source impacts, but they have very exacting data requirements. These near-source models estimate the impact of local sources, but do not routinely include the contribution from regional air pollution background. To estimate cumulative air pollution exposure at a neighborhood scale, a modeling approach needs to combine features of both micro-scale and regional models.

In addition, improved methods are needed to assess near-source impacts under light and variable wind conditions, when high local concentrations are more likely to occur. A method for modeling long-term exposure to air pollutants near freeways and other high traffic areas is also needed.

What modeling work has ARB developed?

A key component of ARB's Community Health Program is the Neighborhood Assessment Program (NAP). As described later in this section, the NAP studies are being conducted to better understand pollution impacts at the community level. Through two such studies conducted in Barrio Logan (San Diego) and Wilmington (Los Angeles), ARB is refining community-level modeling methodologies. Regional air toxics modeling is also being performed to better understand regional air pollution background levels.

In a parallel effort, ARB is developing modeling protocols for estimating cumulative emissions, exposure, and risk from air pollution. The protocols will cover modeling approaches and uncertainties, procedures for running the models, the development of statewide risk maps, and methods for estimating health risks. The protocols are subject to an extensive peer review process prior to release.

How are air pollution impacts on community health assessed?

On a statewide basis, ARB's toxic air contaminant program identifies and reduces public exposure to air toxics. The focus of the program has been on reducing potential cancer risk, because monitoring results show potential urban cancer risk levels are too high. ARB has also looked for potential non-cancer risks based on health reference levels provided by OEHHA. On a regional basis, the pollutants measured in ARB's toxic monitoring network are generally below the OEHHA non-cancer reference exposure levels.

As part of its community health program, the ARB is looking at potential cancer and non-cancer risk. This could include chronic or acute health effects. If the assessment work shows elevated exposures on a localized basis, ARB will work with OEHHA to assess the health impacts.

What tools has ARB developed to assess cumulative air pollution impacts?

ARB has developed the following tools and reports to assist land use agencies and local air districts assess and reduce cumulative emissions, exposure, and risk on a neighborhood scale.

Statewide Risk Maps

ARB has produced regional risk maps that show the statewide trends for Southern and Central California in estimated potential cancer risk from air toxics between 1990 and 2010.² These maps will supplement U.S. EPA's ASPEN model and are available on the ARB's Internet site. These maps are best used to obtain an estimate of the regional background air pollution health risk and are not detailed enough to estimate the exact risk at a specific location.

ARB also has maps that focus in more detail on smaller areas that fall within the Southern and Central California regions for these same modeled years. The finest visual resolution available in the maps on this web site is two by two kilometers. These maps are not detailed enough to assess individual neighborhoods or facilities.

Community Health Air Pollution Information System (CHAPIS)

CHAPIS is an Internet-based procedure for displaying information on emissions from sources of air pollution in an easy to use mapping format. CHAPIS uses Geographical Information System (GIS) software to deliver interactive maps over the Internet. CHAPIS relies on emission estimates reported to the ARB's emission inventory database - California Emissions Inventory Development and Reporting System, or CEIDARS.

Through CHAPIS, air district staff can quickly and easily identify pollutant sources and emissions within a specified area. CHAPIS contains information on air pollution emissions from selected large facilities and small businesses that emit criteria and toxic air pollutants. It also contains information on air pollution emissions from motor vehicle and areawide emissions. CHAPIS does not contain information on every source of air pollution or every air pollutant. It is a major long-term objective of CHAPIS to include all of the largest air pollution sources and those with the highest documented air pollution risk. CHAPIS will be updated on a periodic basis and additional facilities will be added to CHAPIS as more data becomes available.

CHAPIS is being developed in stages to assure data quality. The initial release of CHAPIS will include facilities emitting 10 or more tons per year of nitrogen oxides, sulfur dioxide, carbon monoxide, PM10, or reactive organic gases; air toxics from refineries and power plants of 50 megawatts or more; and facilities that conducted health risk

²ARB maintains state trends and local potential cancer risk maps that show statewide trends in potential inhalable cancer risk from air toxics between 1990 and 2010. This information can be viewed at ARB's web site at <http://www.arb.ca.gov/toxics/cti/hlthrisk/hlthrisk.htm>)

assessments under the California Air Toxics “Hot Spots” Information and Assessment Program.³

CHAPIS can be used to identify the emission contributions from mobile, area, and point sources on that community.

“Hot Spots” Analysis and Reporting Program (HARP)

HARP⁴ is a software package available from the ARB and is designed with air quality professionals in mind. It models emissions and release data from one or more facilities to estimate the potential health risk posed by the selected facilities on the neighboring community. HARP uses the latest risk assessment guidelines published by OEHHA.

With HARP, a user can perform the following tasks:

- Create and manage facility databases;
- Perform air dispersion modeling;
- Conduct health risk analyses;
- Output data reports; and
- Output results to GIS mapping software.

HARP can model downwind concentrations of air toxics based on the calculated emissions dispersion at a single facility. HARP also has the capability of assessing the risk from multiple facilities, and for multiple locations of concern near those facilities. While HARP has the capability to assess multiple source impacts, there had been limited application of the multiple facility assessment function in the field at the time of HARP’s debut in 2003. HARP can also evaluate multi-pathway, non-inhalation health risk resulting from air pollution exposure, including skin and soil exposure, and ingestion of meat and vegetables contaminated with air toxics, and other toxics that have accumulated in a mother’s breast milk.

Neighborhood Assessment Program (NAP)

The NAP⁵ has been a key component of ARB’s Community Health Program. It includes the development of tools that can be used to perform assessments of cumulative air pollution impacts on a neighborhood scale. The NAP studies have been done to better understand how air pollution affects individuals at the neighborhood level. Thus far, ARB has conducted neighborhood scale assessments in Barrio Logan and Wilmington.

As part of these studies, ARB is collecting data and developing a modeling protocol that can be used to conduct cumulative air pollution impact assessments. Initially these

³ California Health & Safety Code section 44300, et seq.

⁴ More detailed information can be found on ARB’s website at:

<http://www.arb.ca.gov/toxics/harp/harp.htm>

⁵ For more information on the Program, please refer to: <http://www.arb.ca.gov/ch/programs/nap/nap.htm>

assessments will focus on cumulative inhalation cancer health risk and chronic non-cancer impacts. The major challenge is developing modeling methods that can combine both regional and localized air pollution impacts, and identifying the critical data necessary to support these models. The objective is to develop methods and tools from these studies that can ultimately be applied to other areas of the state. In addition, the ARB plans to use these methods to replace the ASPEN regional risk maps currently posted on the ARB Internet site.

Urban Emissions Model (URBEMIS)

URBEMIS⁶ is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, office buildings, and construction projects. URBEMIS uses emission factors available from the ARB to estimate vehicle emissions associated with new land uses. URBEMIS estimates sulfur dioxide emissions from motor vehicles in addition to reactive organic gases, nitrogen oxides, carbon monoxide, and PM10.

Land-Use Air Quality Linkage Report⁷

This report summarizes data currently available on the relationships between land use, transportation and air quality. It also highlights strategies that can help to reduce the use of the private automobile. It also briefly summarizes two ARB-funded research projects. The first project analyzes the travel patterns of residents living in five higher density, mixed use neighborhoods in California, and compares them to travel in more auto-oriented areas. The second study correlates the relationship between travel behavior and community characteristics, such as density, mixed land uses, transit service, and accessibility for pedestrians.

⁶ For more information on this model, please refer to ARB's website at <http://www.arb.ca.gov/html/soft.htm>.

⁷To access this report, please refer to ARB's website or click on: <http://www.arb.ca.gov/ch/programs/link97.pdf>

LAND USE AND AIR QUALITY AGENCY ROLES IN THE LAND USE PROCESS

A wide variety of federal, state, and local government agencies are responsible for regulatory, planning, and siting decisions that can have an impact on air pollution. They include local land use agencies, regional councils of government, school districts, local air districts, ARB, the California Department of Transportation (Caltrans), and the Governor's Office of Planning and Research (OPR) to name a few. This Section will focus on the roles and responsibilities of local and state agencies. The role of school districts will be discussed in Appendix E.

Local Land Use Agencies

Under the State Constitution, land use agencies have the primary authority to plan and control land use.¹ Each of California's incorporated cities and counties are required to adopt a comprehensive, long-term General Plan.²

The General Plan's long-term goals are implemented through zoning ordinances. These are local laws adopted by counties and cities that describe for specific areas the kinds of development that will be allowed within their boundaries.

Land use agencies are also the lead for doing environmental assessments under CEQA for new projects that may pose a significant environmental impact, or for new or revised General Plans.

Local Agency Formation Commissions (LAFCOs)

Operating in each of California's 58 counties, LAFCOs are composed of local elected officials and public members who are responsible for coordinating changes in local governmental boundaries, conducting special studies that review ways to reorganize, simplify, and streamline governmental structures, and preparing a sphere of influence for each city and special district within each county. Each Commission's efforts are directed toward seeing that local government services are provided efficiently and economically while agricultural and open-space lands are protected. LAFCO decisions strive to balance the competing needs in California for efficient services, affordable housing, economic opportunity, and conservation of natural resources.

¹ The legal basis for planning and land use regulation is the "police power" of the city or county to protect the public's health, safety and welfare. The California Constitution gives cities and counties the power to make and enforce all local police, sanitary and other ordinances and regulations not in conflict with general laws. State law reference: California Constitution, Article XI §7.

²OPR General Plan Guidelines, 2003:

http://www.opr.ca.gov/planning/PDFs/General_Plan_Guidelines_2003.pdf

Councils of Government (COG)

COGs are organizations composed of local counties and cities that serve as a focus for the development of sound regional planning, including plans for transportation, growth management, hazardous waste management, and air quality. They can also function as the metropolitan planning organization for coordinating the region's transportation programs. COGs also prepare regional housing need allocations for updates of General Plan housing elements.

Local Air Districts

Under state law, air pollution control districts or air quality management districts (local air districts) are the local government agencies responsible for improving air quality and are generally the first point of contact for resolving local air pollution issues or complaints. There are 35 local air districts in California³ that have authority and primary responsibility for regional clean air planning. Local air districts regulate stationary sources of air pollutants within their jurisdiction including but not limited to industrial and commercial facilities, power plants, construction activities, outdoor burning, and other non-mobile sources of air pollution. Some local air districts also regulate public and private motor vehicle fleet operators such as public bus systems, private shuttle and taxi services, and commercial truck depots.

■ Regional Clean Air Plans

Local air districts are responsible for the development and adoption of clean air plans that protect the public from the harmful effects of air pollution. These plans incorporate strategies that are necessary to attain ambient air quality standards. Also included in these regional air plans are ARB and local district measures to reduce statewide emissions from mobile sources, consumer products, and industrial sources.

■ Facility-Specific Considerations

Permitting. In addition to the planning function, local air districts adopt and enforce regulations, issue permits, and evaluate the potential environmental impacts of projects.

Pollution is regulated through permits and technology-based rules that limit emissions from operating units within a facility or set standards that vehicle fleet operators must meet. Permits to construct and permits to operate contain very specific requirements and conditions that tell each regulated source what it must do to limit its air pollution in compliance with local air district rules, regulations, and state law. Prior to receiving a permit, new facilities must go through a New Source Review (NSR) process that establishes air pollution control requirements for the facility. Permit conditions are typically contained in the permit to operate and specify requirements that businesses must follow; these may include limits on the amount of pollution that can be emitted, the

³ Contact information for local air districts in California is listed in the front of this Handbook.

type of pollution control equipment that must be installed and maintained, and various record-keeping requirements.

Local air districts also notify the public about new permit applications for major new facilities, or major modifications to existing facilities that seek to locate within 1,000 feet of a school.

Local air districts can also regulate other types of sources to reduce emissions. These include regulations to reduce emissions from the following sources:

- hazardous materials in products used by industry such as paints, solvents, and degreasers;
- agricultural and residential burning;
- leaking gasoline nozzles at service stations;
- public fleet vehicles such as sanitation trucks and school buses; and
- fugitive or uncontrolled dust at construction sites.

However, while emissions from industrial and commercial sources are typically subject to the permit authority of the local air district, sensitive sites such as a day care center, convalescent home, or playground are not ordinarily subject to an air permit. Local air district permits address the air pollutant emissions of a project but not its location.

Under the state's air toxics program, local air districts regulate air toxic emissions by adopting ARB air toxic control measures, or more stringent district-specific requirements, and by requiring individual facilities to perform a health risk assessment if emissions at the source exceed district-specific health risk thresholds^{4, 5} (See the section on ARB programs for a more detailed summary of this program).

One approach by which local air districts regulate air toxics emissions is through the "Hot Spots" program.⁶ The risk assessments submitted by the facilities under this

⁴ Cal/EPA's Office of Environmental Health Hazard Assessment has published "A Guide to Health Risk Assessment" for lay people involved in environmental health issues, including policymakers, businesspeople, members of community groups, and others with an interest in the potential health effects of toxic chemicals. To access this information, please refer to <http://www.oehha.ca.gov/pdf/HRsguide2001.pdf>

⁵ Section 44306 of the California Health & Safety Code defines a health risk assessment as a detailed comprehensive analysis that a polluting facility uses to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations, and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure.

⁶ AB-2588 (the Air Toxics "Hot Spots" Information and Assessment Act) requires local air districts to prioritize facilities by high, intermediate, and low priority categories to determine which must perform a health risk assessment. Each district is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In establishing priorities for each facility, local air districts must consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the district determines may indicate that the facility may pose a significant risk. All facilities within the highest category must prepare a health risk assessment. In addition, each district may require facilities in the intermediate and low priority categories to also submit a health risk assessment.

**Table D-1
Local Sources of Air Pollution, Responsible Agencies,
and Associated Regulatory Programs**

Source	Examples	Primary Agency	Applicable Regulations
Large Stationary	Refineries, power plants, chemical facilities, certain manufacturing plants	Local air districts	Operating permit rules Air Toxics “Hot Spots” Law (AB 2588) Local district rules Air Toxic Control Measures (ATCMs)* New Source Review rules Title V permit rules
Small Stationary	Dry cleaners, auto body shops, welders, chrome plating facilities, service stations, certain manufacturing plants	Local air districts	Operating permit conditions, Air Toxics “Hot Spots” Law (AB 2588) Local district rules ATCMs* New Source Review rules
Mobile (non-fleet)	Cars, trucks, buses	ARB	Emission standards Cleaner-burning fuels (e.g., unleaded gasoline, low-sulfur diesel) Inspection and repair programs (e.g., Smog Check)
Mobile Equipment	Construction equipment	ARB, U.S. EPA	ARB rules U.S. EPA rules
Mobile (fleet)	Truck depots, school buses, taxi services	Local air districts, ARB	Local air district rules ARB urban bus fleet rule
Areawide	Paints and consumer products such as hair spray and spray paint	Local air district, ARB	ARB rules Local air district rules

*ARB adopts ATCMs, but local air districts have the responsibility to implement and enforce these measures or more stringent ones.

program are reviewed by OEHHA and approved by the local air district. Risk assessments are available by contacting the local air district.

Enforcement. Local air districts also take enforcement action to ensure compliance with air quality requirements. They enforce air toxic control measures, agricultural and residential burning programs, gasoline vapor control regulations, laws that prohibit air pollution nuisances, visible emission limits, and many other requirements designed to

clean the air. Local districts use a variety of enforcement tools to ensure compliance. These include notices of violation, monetary penalties, and abatement orders. Under some circumstances, a permit may be revoked.

■ Environmental Review

As required by the California Environmental Quality Act (CEQA), local air districts also review and comment on proposed land use plans and development projects that can have a significant effect on the environment or public health.⁷

California Air Resources Board

The ARB is the air pollution control agency at the state level that is responsible for the preparation of air plans required by state and federal law. In this regard, it coordinates the activities of all local air districts to ensure all statutory requirements are met and to reduce air pollution emissions for sources under its jurisdiction.

Motor vehicles are the single largest emissions source category under ARB's jurisdiction as well as the largest overall emissions source statewide. ARB also regulates emissions from other mobile equipment and engines as well as emissions from consumer products such as hair sprays, perfumes, cleaners, and aerosol paints.

Air Toxics Program

Under state law, the ARB has a critical role to play in the identification, prioritization, and control of air toxic emissions. The ARB statewide comprehensive air toxics program was established in the early 1980's. The Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807, Tanner 1983) created California's program to reduce exposure to air toxics.⁸ The Air Toxics "Hot Spots" Information and Assessment Act (Hot Spots program) supplements the AB 1807 program, by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Under AB 1807, the ARB is required to use certain criteria to prioritize the identification and control of air toxics. In selecting substances for review, the ARB must consider criteria relating to emissions, exposure, and health risk, as well as persistence in the atmosphere, and ambient concentrations in the community. AB 1807 also requires the ARB to use available information gathered from the Hot Spots program when prioritizing compounds.

The ARB identifies pollutants as toxic air contaminants and adopts statewide air toxic control measures (ATCMs). Once ARB adopts an ATCM, local air districts must

⁷ Section 4 of this Handbook contains more information on the CEQA process.

⁸ For a general background on California's air toxics program, the reader should refer to ARB's website at <http://www.arb.ca.gov/toxics/tac/appendxb.htm>.

implement the measure, or adopt and implement district-specific measures that are at least as stringent as the state standard. Taken in the aggregate, these ARB programs will continue to further reduce emissions, exposure, and health risk statewide.

With regard to the land use decision-making process, ARB, in conjunction with local air districts, plays an advisory role by providing technical information on land use-related air issues.

Other Agencies

Governor's Office of Planning and Research (OPR)

In addition to serving as the Governor's advisor on land use planning, research, and liaison with local government, OPR develops and implements the state's policy on land use planning and coordinates the state's environmental justice programs. OPR updated its General Plan Guidelines in 2003 to highlight the importance of sustainable development and environmental justice policies in the planning process. OPR also advises project proponents and government agencies on CEQA provisions and operates the State Clearinghouse for environmental and federal grant documents.

California Department of Housing and Community Development

The Department of Housing and Community Development (HCD) administers a variety of state laws, programs and policies to preserve and expand housing opportunities, including the development of affordable housing. All local jurisdictions must update their housing elements according to a staggered statutory schedule, and are subject to certification by HCD. In their housing elements, cities and counties are required to include a land inventory which identifies and zones sites for future residential development to accommodate a mix of housing types, and to remove barriers to the development of housing.

An objective of state housing element law is to increase the overall supply and affordability of housing. Other fundamental goals include conserving existing affordable housing, improving the condition of the existing housing stock, removing regulatory barriers to housing production, expanding equal housing opportunities, and addressing the special housing needs of the state's most vulnerable residents (frail elderly, disabled, large families with children, farmworkers, and the homeless).

Transportation Agencies

Transportation agencies can also influence mobile source-related emissions in the land use decision-making process. Local transportation agencies work with land use agencies to develop a transportation (circulation) element for the General Plan. These local government agencies then work with other transportation-related agencies, such as the Congestion Management Agency (CMA), Metropolitan Planning Organization

(MPO), Regional Transportation Planning Agency (RTPA), and Caltrans to develop long and short range transportation plans and projects.

Caltrans is the agency responsible for setting state transportation goals and for state transportation planning, design, construction, operations and maintenance activities. Caltrans is also responsible for delivering California's multibillion-dollar state Transportation Improvement Program, a list of transportation projects that are approved for funding by the California Transportation Commission in a 4-year cycle.

When safety hazards or traffic circulation problems are identified in the existing road system, or when land use changes are proposed such as a new residential subdivision, shopping mall or manufacturing center, Caltrans and/or the local transportation agency ensure the projects meet applicable state, regional, and local goals and objectives.

Caltrans also evaluates transportation-related projects for regional air quality impacts, from the perspective of travel-related emissions as well as road congestion and increases in road capacity (new lanes).

California Energy Commission (CEC)

The CEC is the state's CEQA lead agency for permitting large thermal power plants (50 megawatts or greater). The CEC works closely with local air districts and other federal, state and local agencies to ensure compliance with applicable laws, ordinances, regulations and standards in the permitting, construction, operation and closure of such plants. The CEC uses an open and public review process that provides communities with outreach and multiple opportunities to participate and be heard. In addition to its comprehensive environmental impact and engineering design assessment process, the CEC also conducts an environmental justice evaluation. This evaluation involves an initial demographic screening to determine if a qualifying minority or low-income population exists in the vicinity of the proposed project. If such a population is present, staff considers possible environmental justice impacts including from associated project emissions in its technical assessments.⁹

Department of Pesticides Regulation (DPR)

Pesticides are industrial chemicals produced specifically for their toxicity to a target pest. They must be released into the environment to do their job. Therefore, regulation of pesticides focuses on using toxicity and other information to ensure that when pesticides are used according to their label directions, potential for harm to people and the environment is minimized. DPR imposes strict controls on use, beginning before pesticide products can be sold in California, with an extensive scientific program to ensure they can be used safely. DPR and county enforcement staff tracks the use of pesticides to ensure that pesticides are used properly. DPR collects periodic

⁹ See California Energy Commission, "Environmental Performance Report," July 2001 at http://www.energy.ca.gov/reports/2001-11-20_700-01-001.PDF

measurements of any remaining amounts of pesticides in water, air, and on fresh produce. If unsafe levels are found, DPR requires changes in how pesticides are used, to reduce the possibility of harm. If this cannot be done - that is, if a pesticide cannot be used safely - use of the pesticide will be banned in California.¹⁰

Federal Agencies

Federal agencies have permit authority over activities on federal lands and certain resources, which have been the subject of congressional legislation, such as air, water quality, wildlife, and navigable waters. The U.S. Environmental Protection Agency generally oversees implementation of the federal Clean Air Act, and has broad authority for regulating certain activities such as mobile sources, air toxics sources, the disposal of toxic wastes, and the use of pesticides. The responsibility for implementing some federal regulatory programs such as those for air and water quality and toxics is delegated by management to specific state and local agencies. Although federal agencies are not subject to CEQA they must follow their own environmental process established under the National Environmental Policy Act (NEPA).

¹⁰ For more information, the reader is encouraged to visit the Department of Pesticide Regulation web site at www.cdpr.ca.gov/docs/empm/pubs/tacmenu.htm.

SPECIAL PROCESSES THAT APPLY TO SCHOOL SITING

The [California Education Code](#) and the [California Public Resources Code](#) place primary authority for siting public schools with the local school district, which is the 'lead agency' for purposes of CEQA. The California Education Code requires public school districts to notify the local planning agency about siting a new public school or expanding an existing school. The planning agency then reports back to the school district regarding a project's conformity with the adopted General Plan. However, school districts can overrule local zoning and land use designations for schools if they follow specified procedures. In addition, all school districts must evaluate new school sites using site selection standards established in Section 14010 of Title 5 of the California Code of Regulations. Districts seeking state funding for school site acquisition must also obtain site approval from the California Department of Education.

Before making a final decision on a school site acquisition, a school district must comply with CEQA and evaluate the proposed site acquisition/new school project for air emissions and health risks by preparing and certifying an environmental impact report or negative declaration. Both the California Education Code section 17213 and the California Public Resources Code section 21151.8 require school districts to consult with administering agencies and local air districts when preparing the environmental assessment. Such consultation is required to identify both permitted and non-permitted "facilities" that might significantly affect health at the new site. These facilities include, but are not limited to, freeways and other busy traffic corridors, large agricultural operations, and rail yards that are within one-quarter mile of the proposed school site, and that might emit hazardous air emissions, or handle hazardous or acutely hazardous materials, substances, or waste.

As part of the CEQA process and before approving a school site, the school district must make a finding that either it found none of the facilities or significant air pollution sources, or alternatively, if the school district finds that there are such facilities or sources, it must determine either that they pose no significant health risks, or that corrective actions by another governmental entity would be taken so that there would be no actual or potential endangerment to students or school workers.

In addition, if the proposed school site boundary is within 500 feet of the edge of the closest traffic lane of a freeway or traffic corridor that has specified minimum average daily traffic counts, the school district is required to determine through specified risk assessment and air dispersion modeling that neither short-term nor long term exposure poses significant health risks to pupils.

State law changes effective January 1, 2004 (SB352, Escutia 2003, amending Education Code section 17213 and Public Resources Code section 21151.8) also provides for cases in which the school district cannot make either of those two findings and cannot find a suitable alternative site. When this occurs, the school district must adopt a statement of over-riding considerations, as part of an environmental impact

report, that the project should be approved based on the ultimate balancing of the merits.

Some school districts use a standardized assessment process to determine the environmental impacts of a proposed school site. In the assessment process, school districts can use maps and other available information to evaluate risk, including a local air district's database of permitted source emissions. School districts can also perform field surveys and record searches to identify and calculate emissions from non-permitted sources within one-quarter mile radius of a proposed site. Traffic count data and vehicular emissions data can also be obtained from Caltrans for major roadways and freeways in proximity to the proposed site to model potential emissions impacts to students and school employees. This information is available from the local COG, Caltrans, or local cities and counties for non-state maintained roads.

GENERAL PROCESSES USED BY LAND USE AGENCIES TO ADDRESS AIR POLLUTION IMPACTS

There are several separate but related processes for addressing the air pollution impacts of land use projects. One takes place as part of the planning and zoning function. This consists of preparing and implementing goals and policies contained in county or city General Plans, community or area plans, and specific plans governing land uses such as residential, educational, commercial, industrial, and recreational activities. It also includes recommending locations for thoroughfares, parks and other public improvements.

Land use agencies also have a permitting function that includes performing environmental reviews and mitigation when projects may pose a significant environmental impact. They conduct inspections for zoning permits issued, enforce the zoning regulations and issue violations as necessary, issue zoning certificates of compliance, and check compliance when approving certificates of occupancy.

Planning

■ **General Plan¹**

The General Plan is a local government “blueprint” of existing and future anticipated land uses for long-term future development. It is composed of the goals, policies, and general elements upon which land use decisions are based. Because the General Plan is the foundation for all local planning and development, it is an important tool for implementing policies and programs beneficial to air quality. Local governments may choose to adopt a separate air quality element into their General Plan or to integrate air quality-beneficial objectives, policies, and strategies in other elements of the Plan, such as the land use, circulation, conservation, and community design elements.

More information on General Plan elements is contained in Appendix D.

■ **Community Plans**

Community or area plans are terms for plans that focus on a particular region or community within the overall general plan area. It refines the policies of the general plan as they apply to a smaller geographic area and is implemented by ordinances and other discretionary actions, such as zoning.

¹ In October 2003, OPR revised its General Plan Guidelines. An entire chapter is now devoted to a discussion of how sustainable development and environmental justice goals can be incorporated into the land use planning process. For further information, the reader is encouraged to obtain a copy of OPR’s General Plan Guidelines, or refer to their website at:
http://www.opr.ca.gov/planning/PDFs/General_Plan_Guidelines_2003.pdf

■ **Specific Plan**

A specific plan is a hybrid that can combine policies with development regulations or zoning requirements. It is often used to address the development requirements for a single project such as urban infill or a planned community. As a result, its emphasis is on concrete standards and development criteria.

■ **Zoning**

Zoning is the public regulation of the use of land. It involves the adoption of ordinances that divide a community into various districts or zones. For instance, zoning ordinances designate what projects and activities can be sited in particular locations. Each zone designates allowable uses of land within that zone, such as residential, commercial, or industrial. Zoning ordinances can address building development standards, e.g., minimum lot size, maximum building height, minimum building setback, parking, signage, density, and other allowable uses.

Land Use Permitting

In addition to the planning and zoning function, land use agencies issue building and business permits, and evaluate the potential environmental impacts of projects. To be approved, projects must be located in a designated zone and comply with applicable ordinances and zoning requirements.

Even if a project is sited properly in a designated zone, a land use agency may require a new source to mitigate potential localized environmental impacts to the surrounding community below what would be required by the local air district. In this case, the land use agency could condition the permit by limiting or prescribing allowable uses including operating hour restrictions, building standards and codes, property setbacks between the business property and the street or other structures, vehicle idling restrictions, or traffic diversion.

Land use agencies also evaluate the environmental impacts of proposed land use projects or activities. If a project or activity falls under CEQA, the land use agency requires an environmental review before issuing a permit to determine if there is the potential for a significant impact, and if so, to mitigate the impact or possibly deny the project.

■ **Land Use Permitting Process**

In California, the authority to regulate land use is delegated to city and county governments. The local land use planning agency is the local government administrative body that typically provides information and coordinates the review of development project applications. Conditional Use Permits (CUP) typically fall within a land use agency's discretionary authority and therefore are subject to CEQA. CUPs are

intended to provide an opportunity to review the location, design, and manner of development of land uses prior to project approval. A traditional purpose of the CUP is to enable a municipality to control certain uses that could have detrimental environmental effects on the community.

The process for permitting new discretionary projects is quite elaborate, but can be broken down into five fundamental components:

- Project application
- Environmental assessment
- Consultation
- Public comment
- Public hearing and decision

Project Application

The permit process begins when the land use agency receives a project application, with a detailed project description, and support documentation. During this phase, the agency reviews the submitted application for completeness. When the agency deems the application to be complete, the permit process moves into the environmental review phase.

Environmental Assessment

If the project is discretionary and the application is accepted as complete, the project proposal or activity must undergo an environmental clearance process under CEQA and the CEQA Guidelines adopted by the California Resources Agency.² The purpose of the CEQA process is to inform decision-makers and the public of the potential significant environmental impacts of a project or activity, to identify measures to minimize or eliminate those impacts to the point they are no longer significant, and to discuss alternatives that will accomplish the project goals and objectives in a less environmentally harmful manner.

What is a “Lead Agency”?

A lead agency is the public agency that has the principal responsibility for carrying out or approving a project that is subject to CEQA. In general, the land use agency is the preferred public agency serving as lead agency because it has jurisdiction over general land uses. The lead agency is responsible for determining the appropriate environmental document, as well as its preparation.

What is a “Responsible Agency”?

A responsible agency is a public agency with discretionary approval authority over a portion of a CEQA project (e.g., projects requiring a permit). As a responsible agency, the agency is available to the lead agency and project proponent for early consultation on a project to apprise them of applicable rules and regulations, potential adverse impacts, alternatives, and mitigation measures, and provide guidance as needed on applicable methodologies or other related issues.

What is a “Commenting Agency”?

A commenting agency is any public agency that comments on a CEQA document, but is neither a lead agency nor a responsible agency. For example, a local air district, as the agency with the responsibility for comprehensive air pollution control, could review and comment on an air quality analysis in a CEQA document for a proposed distribution center, even though the project was not subject to a permit or other pollution control requirements.

² Projects and activities that may have a significant adverse impact on the environment are evaluated under CEQA Guidelines set forth in title 14 of the California Code of Regulations, sections 15000 et seq.

To assist the lead agency in determining whether the project or activity may have a significant effect that would require the preparation of an EIR, the land use agency may consider criteria, or thresholds of significance, to assess the potential impacts of the project, including its air quality impacts. The land use agency must consider any credible evidence in addition to the thresholds, however, in determining whether the project or activity may have a significant effect that would trigger the preparation of an EIR.

The screening criteria to determine significance is based on a variety of factors, including local, state, and federal regulations, administrative practices of other public agencies, and commonly accepted professional standards. However, the final determination of significance for individual projects is the responsibility of the lead agency. In the case of land use projects, the lead agency would be the City Council or County Board of Supervisors.

A new land use plan or project can also trigger an environmental assessment under CEQA if, among other things, it will expose sensitive sites such as schools, day care centers, hospitals, retirement homes, convalescence facilities, and residences to substantial pollutant concentrations.³

CEQA only applies to “discretionary projects.” Discretionary means the public agency must exercise judgment and deliberation when deciding to approve or disapprove a particular project or activity, and may append specific conditions to its approval. Examples of discretionary projects include the issuance of a CUP, re-zoning a property, or widening of a public road. Projects that are not subject to the exercise of agency discretion, and can therefore be approved administratively through the application of set standards are referred to as ministerial projects. CEQA does not apply to ministerial projects.⁴ Examples of typical ministerial projects include the issuance of most building permits or a business license.

Once a potential environmental impact associated with a project is identified through an environmental assessment, mitigation must be considered. A land use agency should incorporate mitigation measures that are suggested by the local air district as part of the project review process.

Consultation

Application materials are provided to various departments and agencies that may have an interest in the project (e.g., air pollution, building, police, fire, water agency, Fish and Game, etc.) for consultation and input.

³ Readers interested in learning more about CEQA should contact OPR or visit their website at <http://www.opr.ca.gov/>.

⁴ See California Public Resources Code section 21080(b)(1).

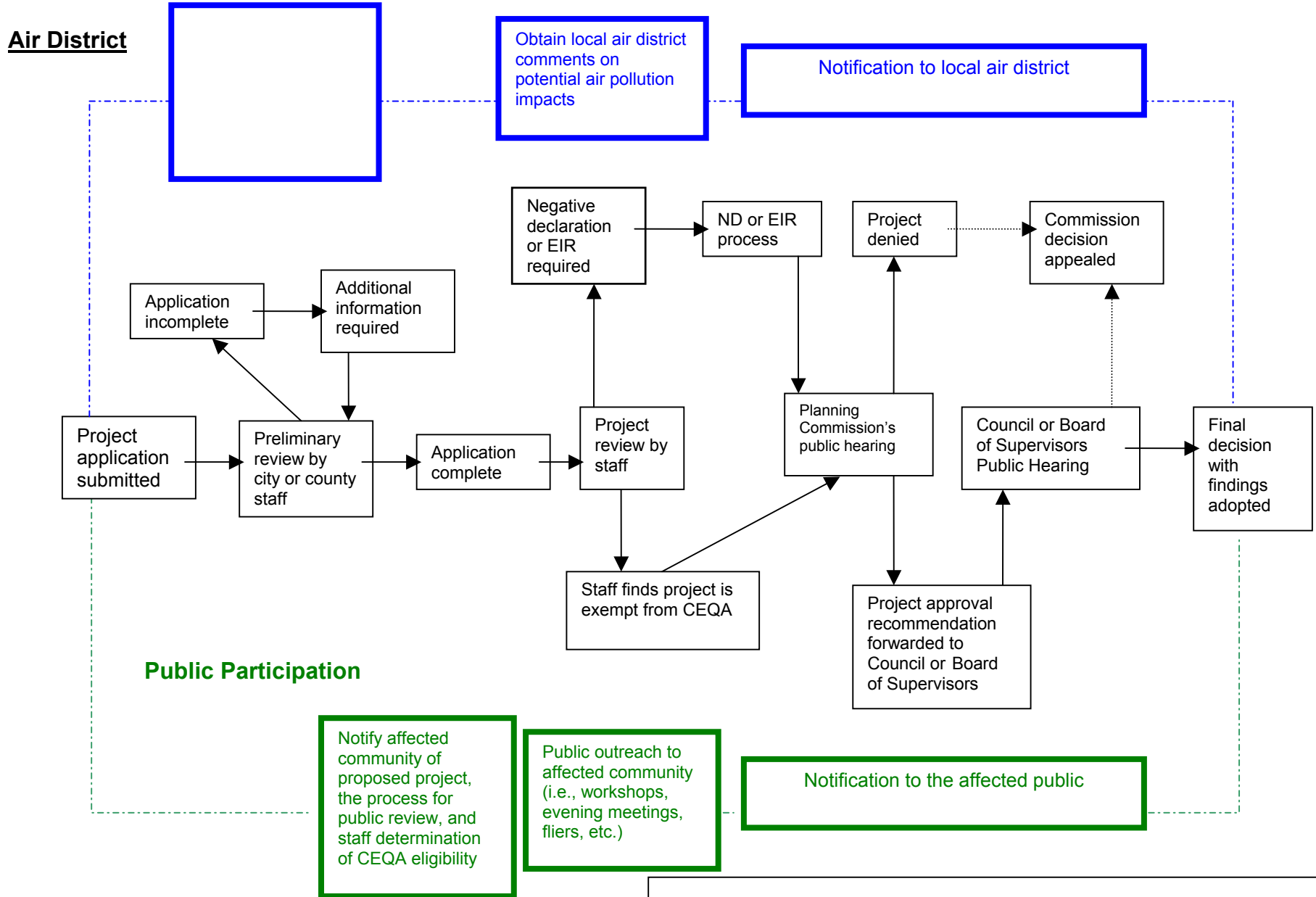
Public Comment

Following the environmental review process, the Planning Commission reviews application along with the staff's report on the project assessment and a public comment period is set and input is solicited.

Public Hearing and Decision

Permit rules vary depending on the particular permit authority in question, but the process generally involves comparing the proposed project with the land use agency standards or policies. The procedure usually leads to a public hearing, which is followed by a written decision by the agency or its designated officer. Typically, a project is approved, denied, or approved subject to specified conditions.

USE PERMIT (DISCRETIONARY ACTION) REVIEW PROCESS*



illustrative purposes only. In reality, the land use siting process involves the ongoing participation of multiple affected agencies and stakeholders throughout the process.

GLOSSARY OF KEY AIR POLLUTION TERMS

Air Pollution Control Board or Air Quality Management Board: Serves as the governing board for local air districts. It consists of appointed or elected members from the public or private sector. It conducts public hearings to adopt local air pollution regulations.

Air Pollution Control Districts or Air Quality Management Districts (local air district): A county or regional agency with authority to regulate stationary and area sources of air pollution within a given county or region. Governed by a district air pollution control board.

Air Pollution Control Officer (APCO): Head of a local air pollution control or air quality management district.

Air Toxic Control Measures (ATCM): A control measure adopted by the ARB (Health and Safety Code section 39666 et seq.), which reduces emissions of toxic air contaminants.

Ambient Air Quality Standards: An air quality standard defines the maximum amount of a pollutant that can be present in the outdoor air during a specific time period without harming the public's health. Only U.S. EPA and the ARB may establish air quality standards. No other state has this authority. Air quality standards are a measure of clean air. More specifically, an air quality standard establishes the concentration at which a pollutant is known to cause adverse health effects to sensitive groups within the population, such as children and the elderly. Federal standards are referred to as National Ambient Air Quality Standards (NAAQS); state standards are referred to as California ambient air quality standards (CAAQS).

Area-wide Sources: Sources of air pollution that individually emit small amounts of pollution, but together add up to significant quantities of pollution. Examples include consumer products, fireplaces, road dust, and farming operations.

Attainment vs. Nonattainment Area: An attainment area is a geographic area that meets the National Ambient Air Quality Standards for the criteria pollutants and a non-attainment area is a geographic area that doesn't meet the NAAQS for criteria pollutants.

Attainment Plan: Attainment plans lay out measures and strategies to attain one or more air quality standards by a specified date.

California Clean Air Act (CCAA): A California law passed in 1988, which provides the basis for air quality planning and regulation independent of federal regulations. A major element of the Act is the requirement that local air districts in violation of the CAAQS

must prepare attainment plans which identify air quality problems, causes, trends, and actions to be taken to attain and maintain California's air quality standards by the earliest practicable date.

California Environmental Quality Act (CEQA): A California law that sets forth a process for public agencies to make informed decisions on discretionary project approvals. The process helps decision-makers determine whether any potential, significant, adverse environmental impacts are associated with a proposed project and to identify alternatives and mitigation measures that will eliminate or reduce such adverse impacts.¹

California Health and Safety Code: A compilation of California laws, including state air pollution laws, enacted by the Legislature to protect the health and safety of people in California. Government agencies adopt regulations to implement specific provisions of the California Health and Safety Code.

Clean Air Act (CAA): The federal Clean Air Act was adopted by the United States Congress and sets forth standards, procedures, and requirements to be implemented by the U.S. Environmental Protection Agency (U.S. EPA) to protect air quality in the United States.

Councils of Government (COGs): There are 25 COGs in California made up of city and county elected officials. COGs are regional agencies concerned primarily with transportation planning and housing; they do not directly regulate land use.

Criteria Air Pollutant: An air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. Examples include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and PM10 and PM2.5. The term "criteria air pollutants" derives from the requirement that the U.S. EPA and ARB must describe the characteristics and potential health and welfare effects of these pollutants. The U.S. EPA and ARB periodically review new scientific data and may propose revisions to the standards as a result.

District Hearing Board: Hears local air district permit appeals and issues variances and abatement orders. The local air district board appoints the members of the hearing board.

Emission Inventory: An estimate of the amount of pollutants emitted into the atmosphere from mobile, stationary, area-wide, and natural source categories over a specific period of time such as a day or a year.

Environmental Impact Report (EIR): The public document used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify

¹ To track the submittal of CEQA documents to the State Clearinghouse within the Office of Planning and Research, the reader can refer to CEQAnet at <http://www.ceqanet.ca.gov>.

alternatives, and to disclose possible ways to reduce or avoid the possible negative environmental impacts.

Environmental Justice: California law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (California Government Code sec.65040.12(c)).

General Plans: A statement of policies developed by local governments, including text and diagrams setting forth objectives, principles, standards, and plan proposals for the future physical development of the city or county.

Hazardous Air Pollutants (HAPs): An air pollutant listed under section 112 (b) of the federal Clean Air Act as particularly hazardous to health. U.S. EPA identifies emission sources of hazardous air pollutants, and emission standards are set accordingly. In California, HAPs are referred to as toxic air contaminants.

Land Use Agency: Local government agency that performs functions associated with the review, approval, and enforcement of general plans and plan elements, zoning, and land use permitting. For purposes of this Handbook, a land use agency is typically a local planning department.

Mobile Source: Sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats, and airplanes.

National Ambient Air Quality Standard (NAAQS): A limit on the level of an outdoor air pollutant established by the US EPA pursuant to the Clean Air Act. There are two types of NAAQS. Primary standards set limits to protect public health and secondary standards set limits to protect public welfare.

Negative Declaration (ND): When the lead agency (the agency responsible for preparing the EIR or ND) under CEQA, finds that there is no substantial evidence that a project may have a significant environmental effect, the agency will prepare a "negative declaration" instead of an EIR.

New Source Review (NSR): A federal Clean Air Act requirement that state implementation plans must include a permit review process, which applies to the construction and operation of new or modified stationary sources in nonattainment areas. Two major elements of NSR to reduce emissions are best available control technology requirements and emission offsets.

Office of Planning and Research (OPR): OPR is part of the Governor's office. OPR has a variety of functions related to local land-use planning and environmental programs. It provides General Plan Guidelines for city and county planners, and coordinates the state clearinghouse for Environmental Impact Reports.

Ordinance: A law adopted by a City Council or County Board of Supervisors. Ordinances usually amend, repeal or supplement the municipal code; provide zoning specifications; or appropriate money for specific purposes.

Overriding Considerations: A ruling made by the lead agency in the CEQA process when the lead agency finds the importance of the project to the community outweighs potential adverse environmental impacts.

Public Comment: An opportunity for the general public to comment on regulations and other proposals made by government agencies. You can submit written or oral comments at the public meeting or send your written comments to the agency.

Public Hearing: A public hearing is an opportunity to testify on a proposed action by a governing board at a public meeting. The public and the media are welcome to attend the hearing and listen to, or participate in, the proceedings.

Public Notice: A public notice identifies the person, business, or local government seeking approval of a specific course of action (such as a regulation). It describes the activity for which approval is being sought, and describes the location where the proposed activity or public meeting will take place.

Public Nuisance: A public nuisance, for the purposes of air pollution regulations, is defined as a discharge from any source whatsoever of such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. (Health and Safety Code section 41700).

Property Setback: In zoning parlance, a setback is the minimum amount of space required between a lot line and a building line.

Risk: For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million (e.g., 10 chances in a million).

Sensitive Individuals: Refers to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality).

Sensitive Sites or Sensitive Land Uses: Land uses where sensitive individuals are most likely to spend time, including schools and schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities.

Setback: An area of land separating one parcel of land from another that acts to soften or mitigate the effects of one land use on the other.

State Implementation Plan (SIP): A plan prepared by state and local agencies and submitted to U.S. EPA describing how each area will attain and maintain national ambient air quality standards. SIPs include the technical information about emission inventories, air quality monitoring, control measures and strategies, and enforcement mechanisms. A SIP is composed of local air quality management plans and state air quality regulations.

Stationary Sources: Non-mobile sources such as power plants, refineries, and manufacturing facilities.

Toxic Air Contaminant (TAC): An air pollutant, identified in regulation by the ARB, which may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. TACs are considered under a different regulatory process (California Health and Safety Code section 39650 et seq.) than pollutants subject to State Ambient Air Quality Standards. Health effects associated with TACs may occur at extremely low levels. It is often difficult to identify safe levels of exposure, which produce no adverse health effects.

Urban Background: The term is used in this Handbook to represent the ubiquitous, elevated, regional air pollution levels observed in large urban areas in California.

Zoning ordinances: City councils and county boards of supervisors adopts zoning ordinances that set forth land use classifications, divides the county or city into land use zones as delineated on the official zoning, maps, and set enforceable standards for future develop

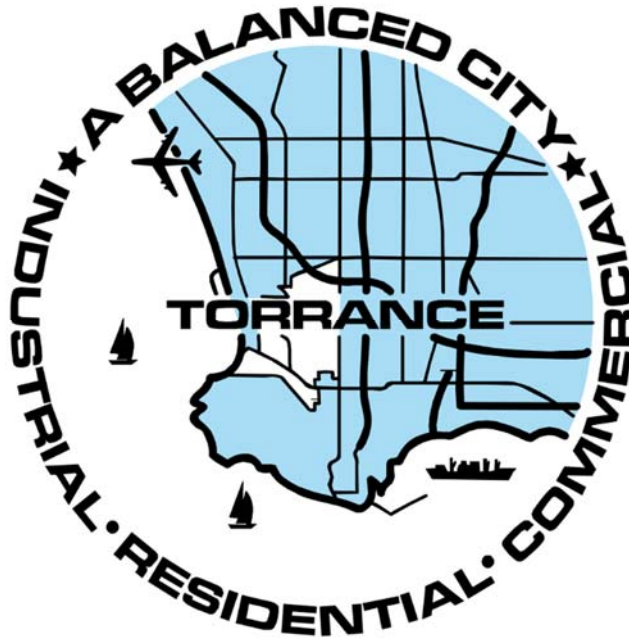


APPENDIX C

Traffic Impact Assessment Guidelines for Land Use Projects

January 2021

City of Torrance



Traffic Impact Assessment Guidelines for Land Use Projects

January 2021

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1.0 Introduction

1.1 Purpose

This Guideline provides Vehicle Miles Traveled (VMT) screening criteria, analysis methodology, significance thresholds, and potential mitigation strategies for Land Use Projects (i.e. development projects) within the City of Torrance that require environmental review in compliance with the California Environmental Quality Act (CEQA).

1.2 Background

Senate Bill 743 (Steinberg, 2013) was codified in Public Resources Code Section 21099 and required changes to the guidelines implementing CEQA regarding the analysis of transportation impacts.

Section 21099 states that the criteria for determining the significance of transportation impacts must promote:

- reduction of greenhouse gas (GHG) emissions;
- development of multimodal transportation networks; and
- a diversity of land uses.

Section 21099 also directed the Governor's Office of Planning and Research (OPR) to prepare and develop criteria for determining significance. The OPR concluded that the use of VMT, with thresholds linked to GHG reduction targets, would adequately analyze a project's transportation impacts while supporting all three statutory goals.

In December 2018, the OPR published an advisory [1] that provides recommendations on how to assess VMT as part of a Transportation Impact Analysis (TIA) under CEQA. This Guideline is consistent with the said advisory.

1.3 Technical Resources

The following resources referenced in this Guideline provide supplemental information for VMT-Based TIA preparation:

- OPR Technical Advisory [1]
- Los Angeles County TIA Guidelines [2]
- California Air Pollution Control Officers Association (CAPCOA) Report [3]

A complete list of references is provided in Section 8.0.

2.0 Transportation Setting

2.1 Local Vicinity and Major Roads

The City of Torrance covers roughly 21 square miles (12,312 acres) and is situated in the South Bay area of south western Los Angeles County.

Figure 1 presents a map of the South Bay Cities Council of Governments (SBCOG), depicting Torrance and adjacent cities.

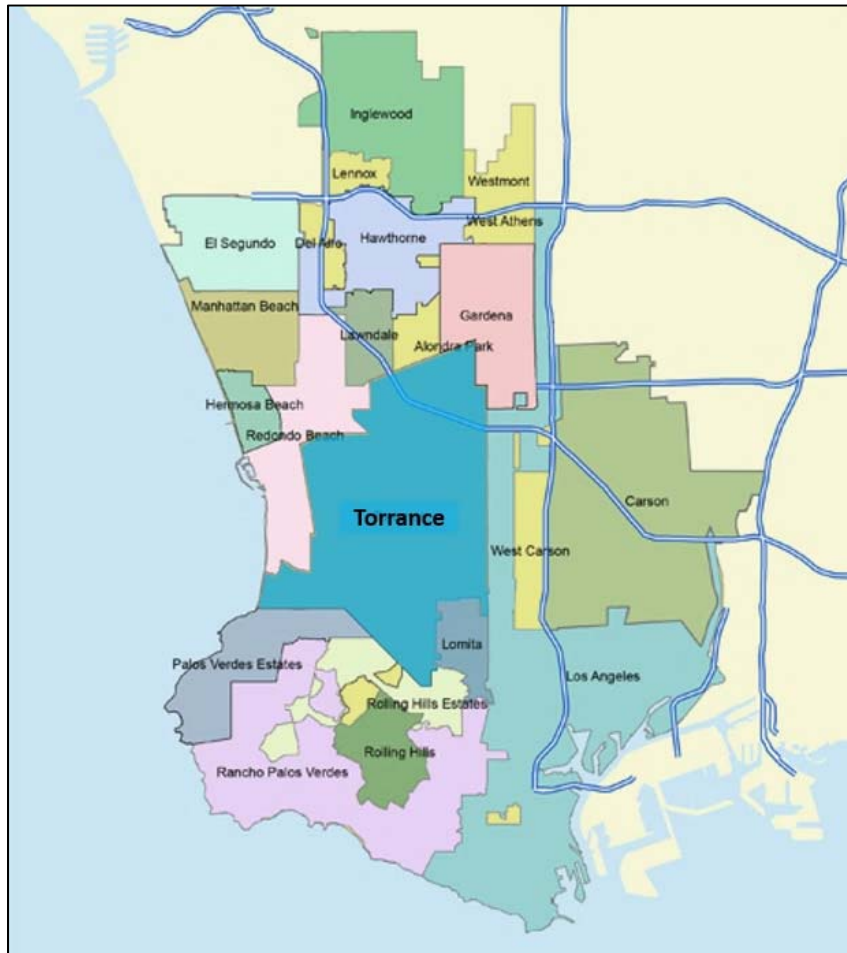


Figure 1 - Torrance and Vicinity
Source: SBCCOG

I-405 passes through the northern portion of Torrance and has five access points within the City at Artesia Boulevard, Crenshaw Boulevard, 182nd Street, and 190th Street.

Three State Routes pass through Torrance: Hawthorne Boulevard (SR 107) goes through the center of the City from north to south, Western Avenue (SR 213) borders the City to the east, and Pacific Coast Highway (SR 1) runs from northwest to southeast just north of the south City limits.

2.2 Regional Area

2.2.1 Southern California Association of Governments (SCAG)

Torrance is a member of SCAG, an association of local governments and agencies in six counties (shown in *Figure 2*) that voluntarily convene as a forum to address regional issues.



Figure 2 - SCAG Member Counties
Source: SCAG

SCAG is designated as a Metropolitan Planning Organization (MPO) under federal law and as a Regional Transportation Planning Agency and a Council of Governments under state law.

2.2.2 SCAG RTP/SCS

As an MPO, SCAG is mandated by federal law to research and develop a Regional Transportation Plan (RTP), which incorporates a Sustainable Communities Strategy (SCS) per California state law.

Every four years, SCAG prepares an RTP/SCS that outlines how the region can better integrate land use and transportation planning. In September 2020, SCAG formally adopted the 2020–2045 RTP/SCS [4] - a long-range visioning plan that

balances future mobility and housing needs with economic, environmental and public health goals.

2.2.3 SCAG RTDM

SCAG develops and maintains transportation models to support its planning program. The SCAG Regional Travel Demand Model (RTDM) is a trip-based model that provides travel forecasting capabilities for the analysis of SCAG's plans and programs.

The 2012 SCAG RTDM contains 2012 base year travel data and has been validated for use in preparing travel forecasts for the SCAG 2016-2040 RTP/SCS [5][6, p. 2]. Thus, it has a "base year" of 2012 and forecast year of 2040 [6, p. 1_5].

2.3 Transportation Analysis Zones (TAZs)

A TAZ is the unit of geography most commonly used in transportation planning models. TAZs are typically bounded by arterial roadways and streets.

The SCAG RTDM uses a dataset of Tier-2 TAZs that highly resembles the U.S. Census Bureau's Block Groups.

Torrance is comprised of 97 Tier-2 TAZs under the SCAG RTDM. *Figure 3* illustrates the TAZs within and adjacent to the City of Torrance.

2.4 Transit and Active Transportation System

Torrance Transit operates eleven bus lines within the City. *Figure 4* shows the public transit bus service provided by Torrance Transit within the City. Metro, City of Los Angeles Department of Transportation, and Gardena Transit also operate bus service in portions of the City.

Torrance has various bikeways and 550 miles of sidewalks throughout the City. *Figure 5* presents the Class II bike lanes¹ and Class III bike routes² within the City.

¹ On-street facilities exclusively designated for bicyclists using stripes and stencils.

² Streets designated for bicycle travel and shared with motor vehicles.

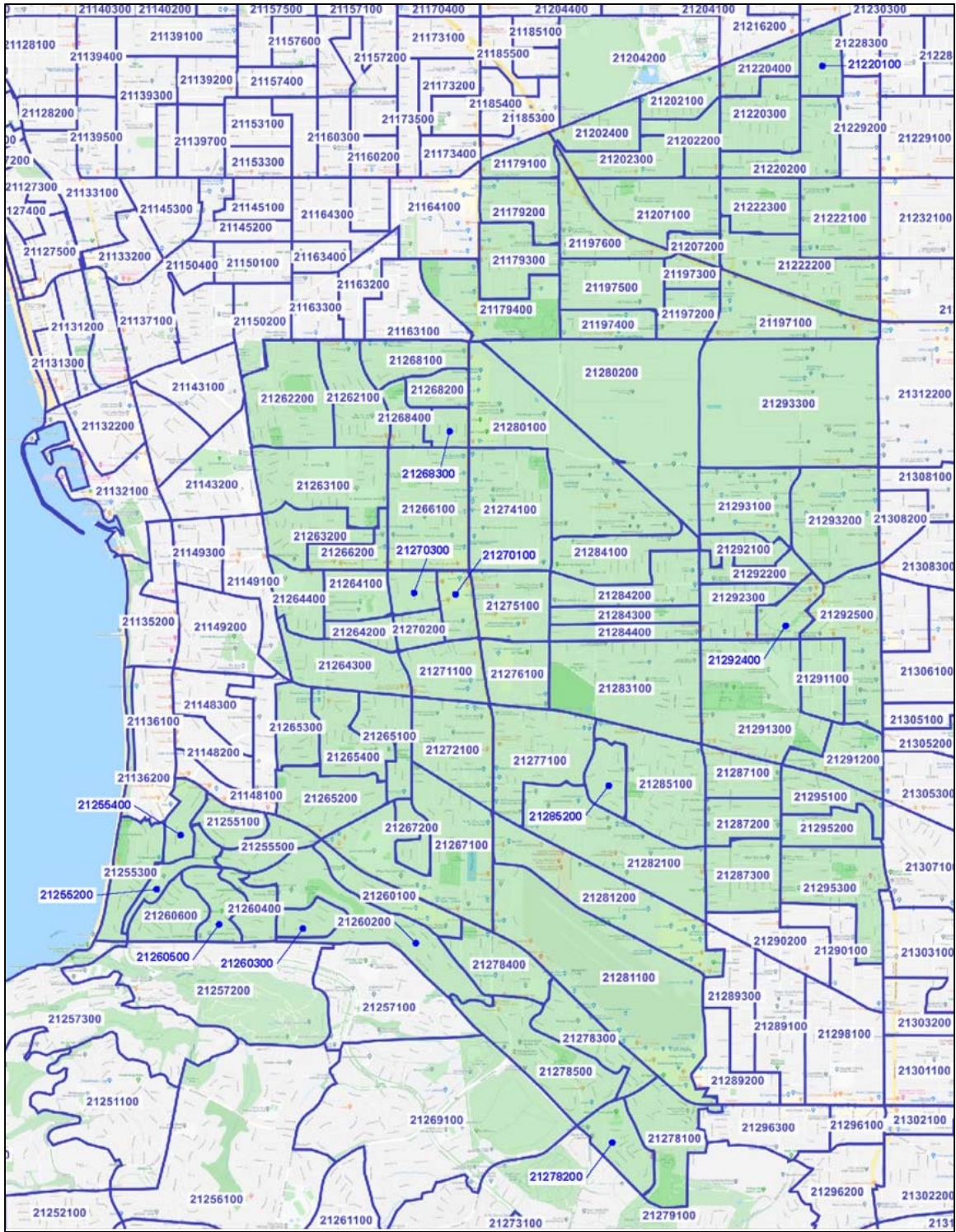


Figure 3 - SCAG RTDM Tier-2 TAZs
 Source: SCAG RTDM



Figure 4 - Existing Transit
Source: Torrance Transit

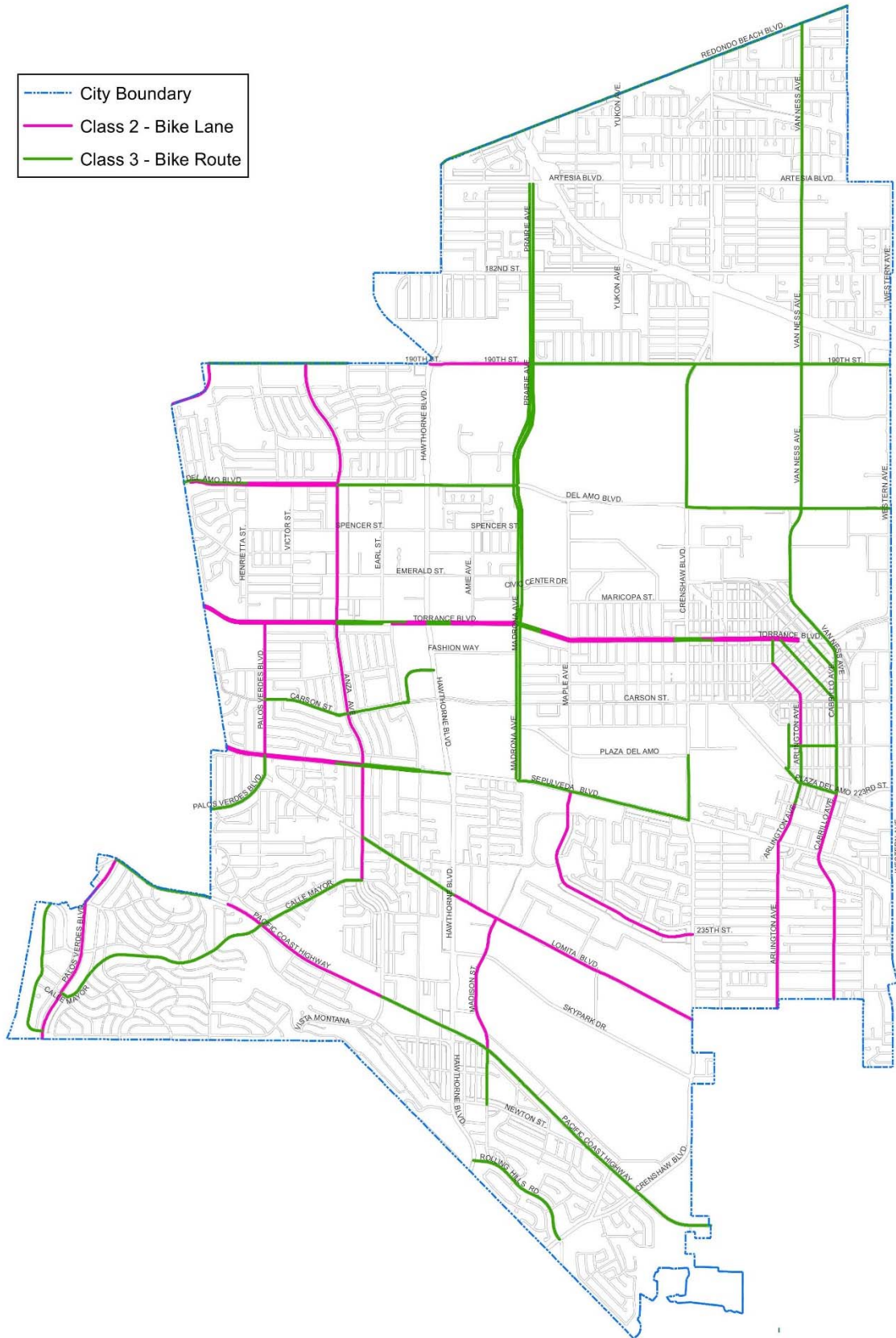


Figure 5 - Existing Bicycle Facilities

3.0 Transportation Analysis Requirements

3.1 Required Transportation Reports

All proposed development projects within the City of Torrance, except when screened per Sections 3.2 and/or 3.3, must provide the following reports:

3.1.1 VMT-Based TIA

This report will be the basis for answering the following question under *XVII. Transportation* of the amended CEQA Guidelines, Appendix G (Environmental Checklist Form) [7, p. 320]:

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

A TIA will not be required for projects that are exempt from CEQA review.

The recommended methodology for this report is discussed in Section 4.0.

3.1.2 Level-of-Service (LOS)-Based Traffic Circulation Analysis (TCA)

The guideline for this report is posted at www.TorranceCA.Gov/tca-guidelines.

3.1.3 Exemption Screening Flowcharts

A flowchart for screening for exemption from TIA or TCA preparation is presented in *Figure 6*. Sections 3.2 and 3.3 provide further discussion on TIA and TCA screening criteria.

Figure 7 is the sub-process that will determine whether a project has the potential to be TIA exempt, i.e., whether it satisfies at least one TIA Exemption Screening criteria (A) or not (B). If a project has the potential for TIA exemption, further steps outlined in *Figure 6* have to be completed in order to confirm exemption from TIA preparation.

The City Traffic Engineer has the final discretion to require a TIA or TCA for a proposed development, and exemption from report submittal for any project that passes screening has to be confirmed by the City Traffic Engineer.

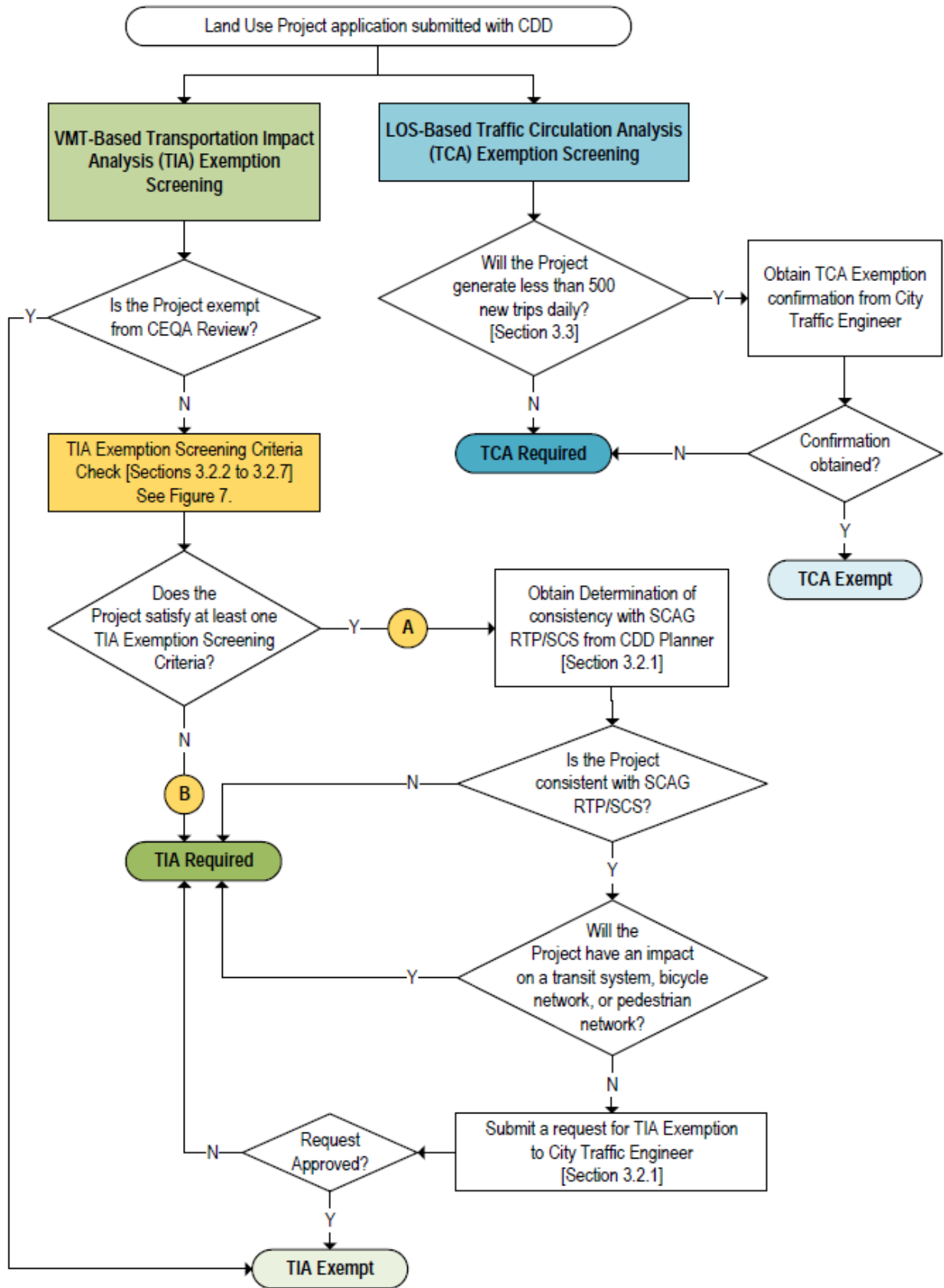


Figure 6 - Exemption Screening Flowchart for Transportation Analysis Reports

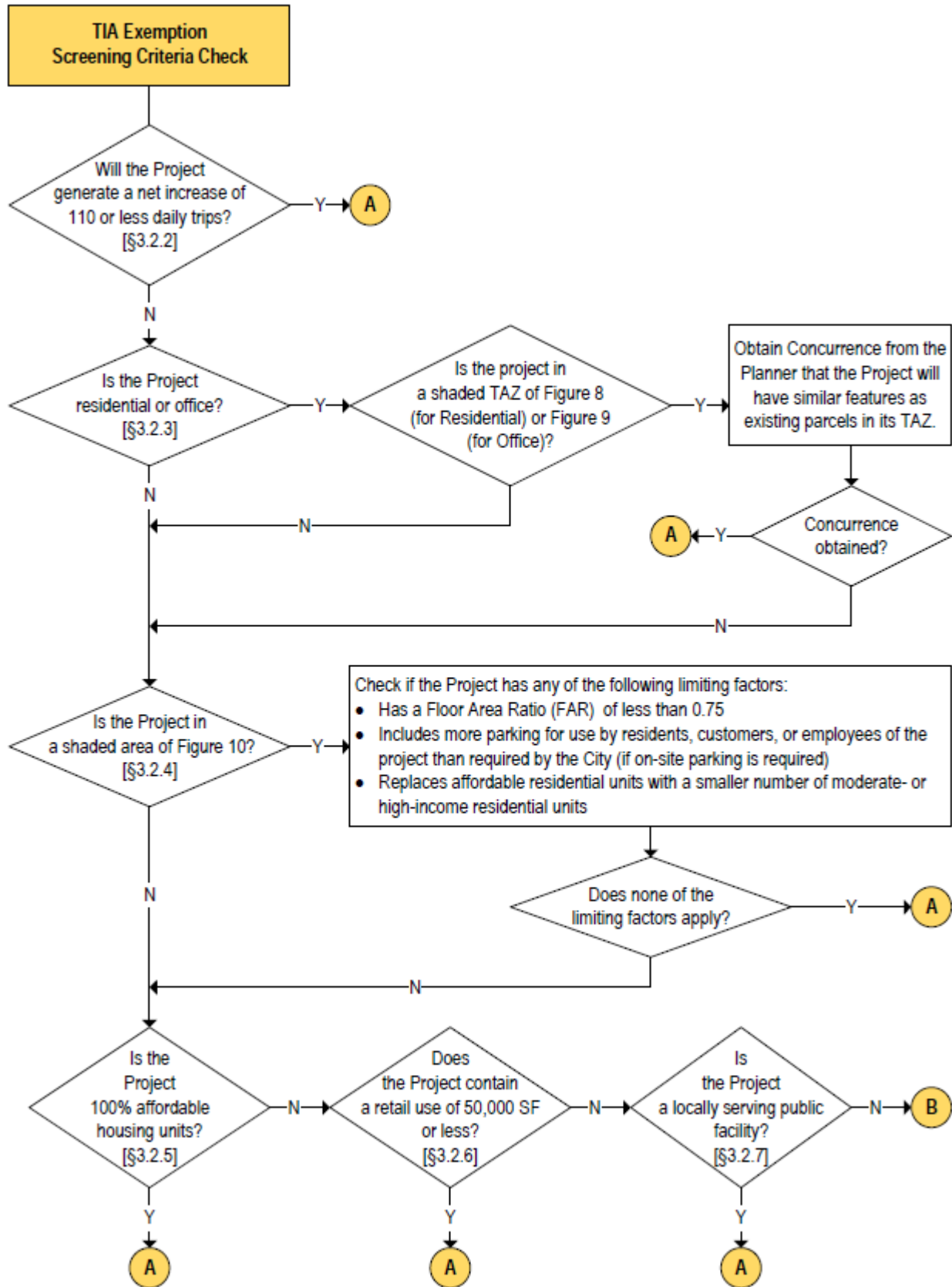


Figure 7 - Flowchart for TIA Exemption Screening Potential

3.2 Screening Criteria for VMT-Based TIA Exemption

3.2.1 Applicability

A TIA is only required for projects that are subject to CEQA review.

Projects that pass at least one Screening Criteria from Sections 3.2.2 through 3.2.7 are generally expected to cause a less-than-significant impact without conducting a detailed VMT analysis [1].

However, any project that is inconsistent with the 2020-2045 SCAG RTP/SCS has to be evaluated to determine whether that inconsistency indicates a significant impact on transportation [1].

In addition, any project that impacts transit systems and bicycle and pedestrian networks will require further evaluation [1].

If a project has the potential for TIA exemption because it passes at least one Screening Criteria, the applicant has to contact the Planner assigned to the project to obtain a Determination on whether the project is consistent with the 2020-2045 SCAG RTP/SCS. If the project is deemed inconsistent, a TIA will be required.

If the project is deemed consistent with the 2020-2045 SCAG RTP/SCS, the applicant shall submit a request for TIA exemption to the City Traffic Engineer for approval. The request has to include the following:

- Screening Criteria applicable to the project
- supporting documentation on how the Screening Criteria will be satisfied (e.g., for Screening Criteria 3.2.2, a Trip Generation Memo prepared by a California-registered Civil or Traffic Engineer showing a net increase of 110 or less daily trips)
- site plan, with access points clearly indicated
- conceptual plan for any anticipated modification to the public right-of-way (whether required or voluntary)
- copy of the Determination (per this Section), and if applicable, Concurrence (per Section 3.2.3) from the Planner

3.2.2 Small Projects

CRITERIA: *Will the Project generate a net increase of 110 or less daily trips?*

“Daily trips” shall be the unadjusted driveway, i.e., gross weekday trips calculated for the proposed project, based on the most current ITE Trip Generation Manual.

3.2.3 Map-Based Screening for Residential and Office Projects

CRITERIA: *Is the Project a residential project in a low VMT per capita area or an office project in a low VMT per employee area?*

Residential and office projects that are located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT [1].

Using VMT data obtained from the 2012 SCAG RTDM, *Figure 8* and *Figure 9* were created to show TAZs with VMTs below the significance thresholds discussed in Section 5.0 (i.e., 85% or less than the average VMTs for Los Angeles County for 2021).

The following projects have the potential to pass this screening criteria:

- Residential projects within a yellow TAZ in *Figure 8*, and
- Office projects within a yellow TAZ in *Figure 9*

The TAZ associated with a project can be confirmed or clarified by contacting the Planner assigned to the project. *Appendix 1* also presents a list of TAZs with low VMTs that are highlighted in yellow in *Figure 8* and *Figure 9*.

To satisfy this screening criteria, the applicant has to get Concurrence from the Planner that the Project will have similar features as existing parcels within the TAZ.

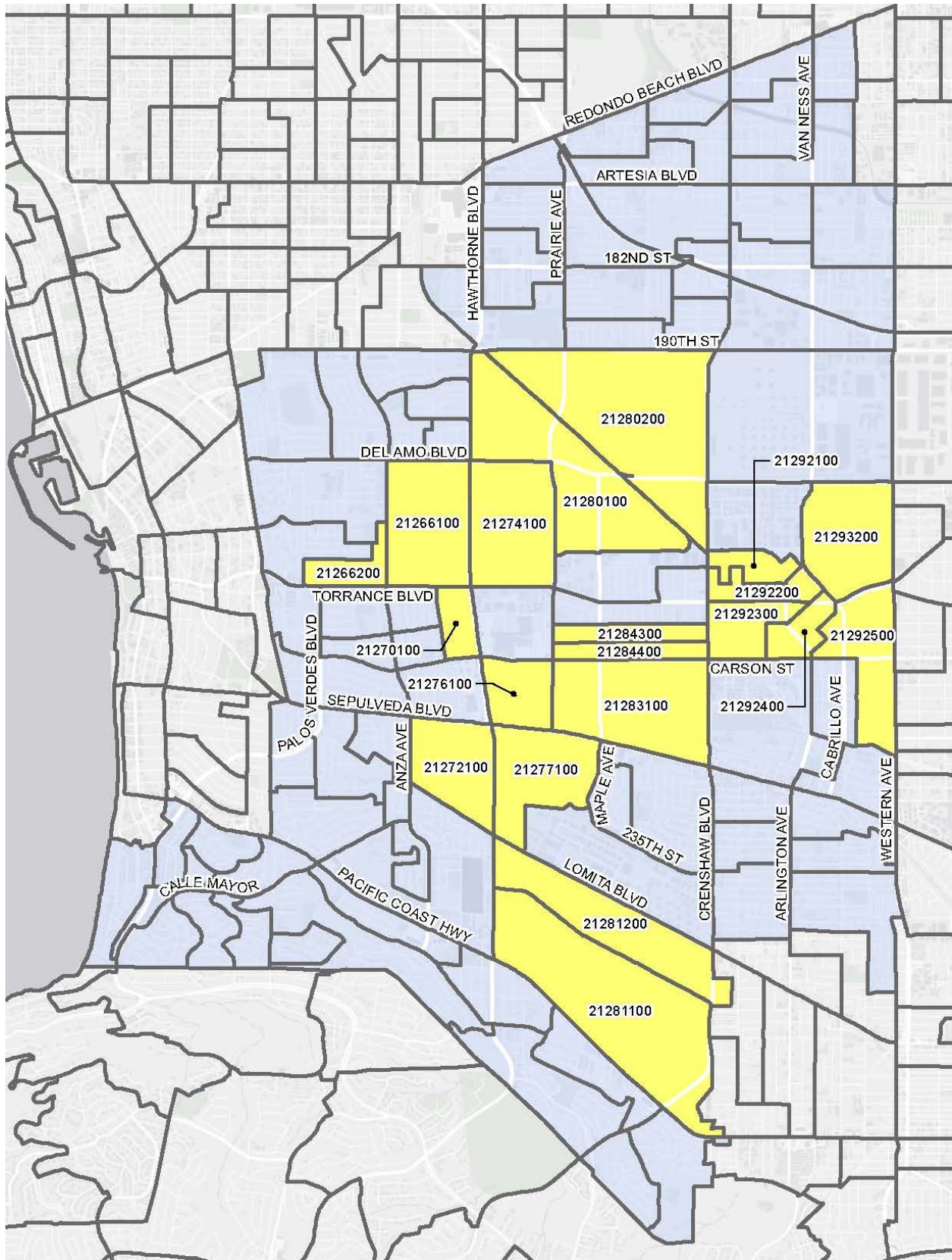


Figure 8 - TAZs with Low (85% or less than 2021 LA County Average) VMT per Capita

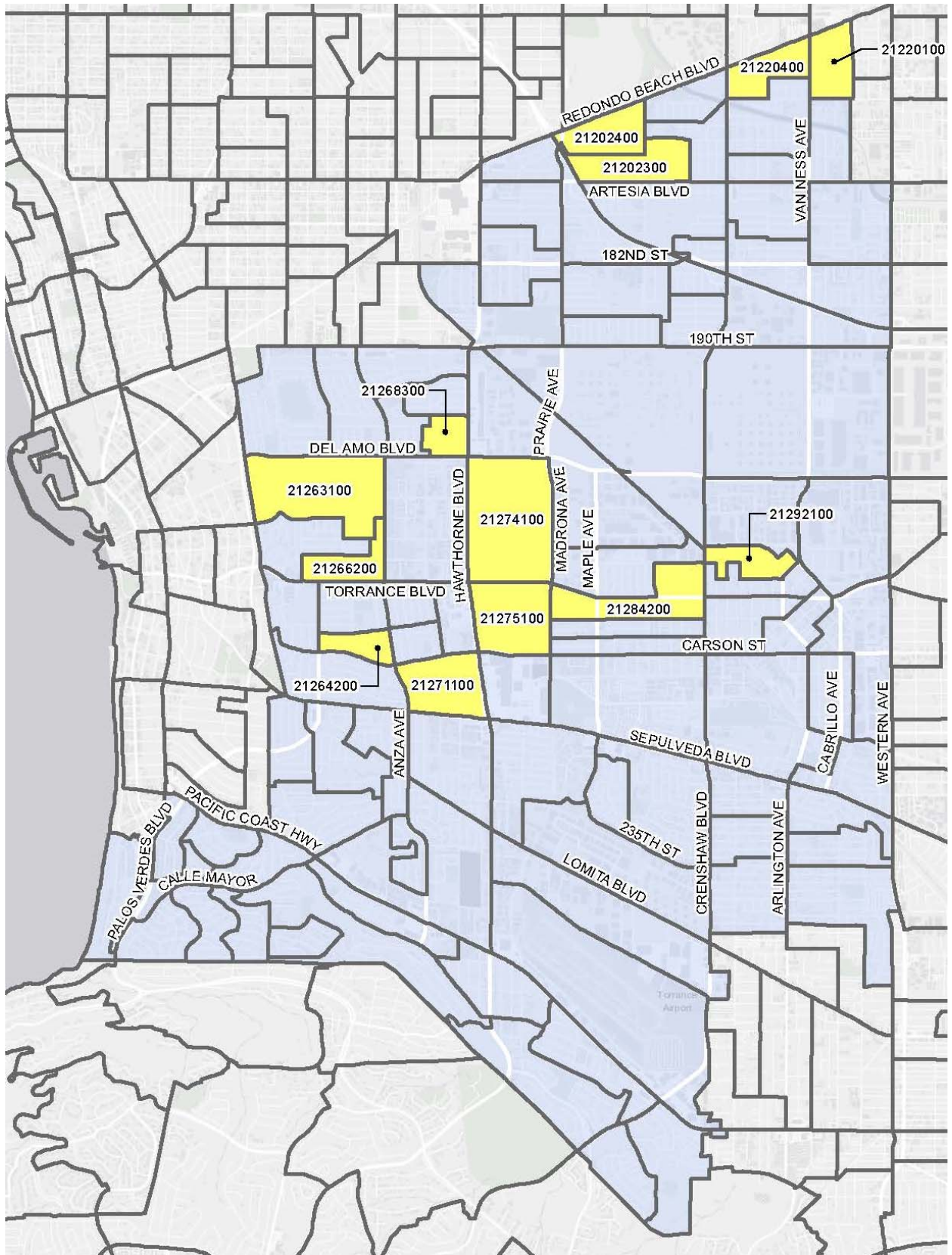


Figure 9 - TAZs with Low VMT (85% or less than 2021 LA County Average) per Employee

3.2.4 Proximity to Transit

CRITERIA: *Is the Project located within one-half mile of either an existing major transit stop or an existing stop along an existing high quality transit corridor?*

'Major transit stop' means a site containing an existing rail or bus rapid transit station; a ferry terminal served by either a bus or rail transit service; or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods [8] .

A high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours [9] .

Figure 10 presents a Transit Priority Area (TPA) map illustrating a one-half mile radius from existing major transit stops and stops along high quality transit corridors.

Major transit stops that are included in the applicable regional transportation plan are also considered in the identification of a transit priority project under Section 21155 of the Public Resources Code [9]. The Green Line Extension to Torrance is identified as a Transit Capital Project in the 2020-2045 SCAG RTP/SCS. Accordingly, the Torrance Transit Park and Ride Regional Terminal, which will be the final stop of the Green Line extension, will be identified as a major traffic stop in *Figure 10* upon its completion.

Any development project located within the shaded areas of *Figure 10* has the potential to pass screening.

A project shall be considered to be within one-half mile of a major transit stop or a stop along a high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop [9].

This transit-based screening criteria cannot be utilized if a project has at least one of the following limiting factors [1]:

- Has a Floor Area Ratio (FAR)³ of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the City (if on-site parking is required)
- Is inconsistent with the 2020-2045 SCAG RTP/SCS
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units, i.e., the total number of existing lower income housing units is greater than the total number of lower income and market-rate residential units proposed by the project

³ As defined in the City of Torrance Municipal Code Section 91.2.82, and confirmed by the Planning Department.

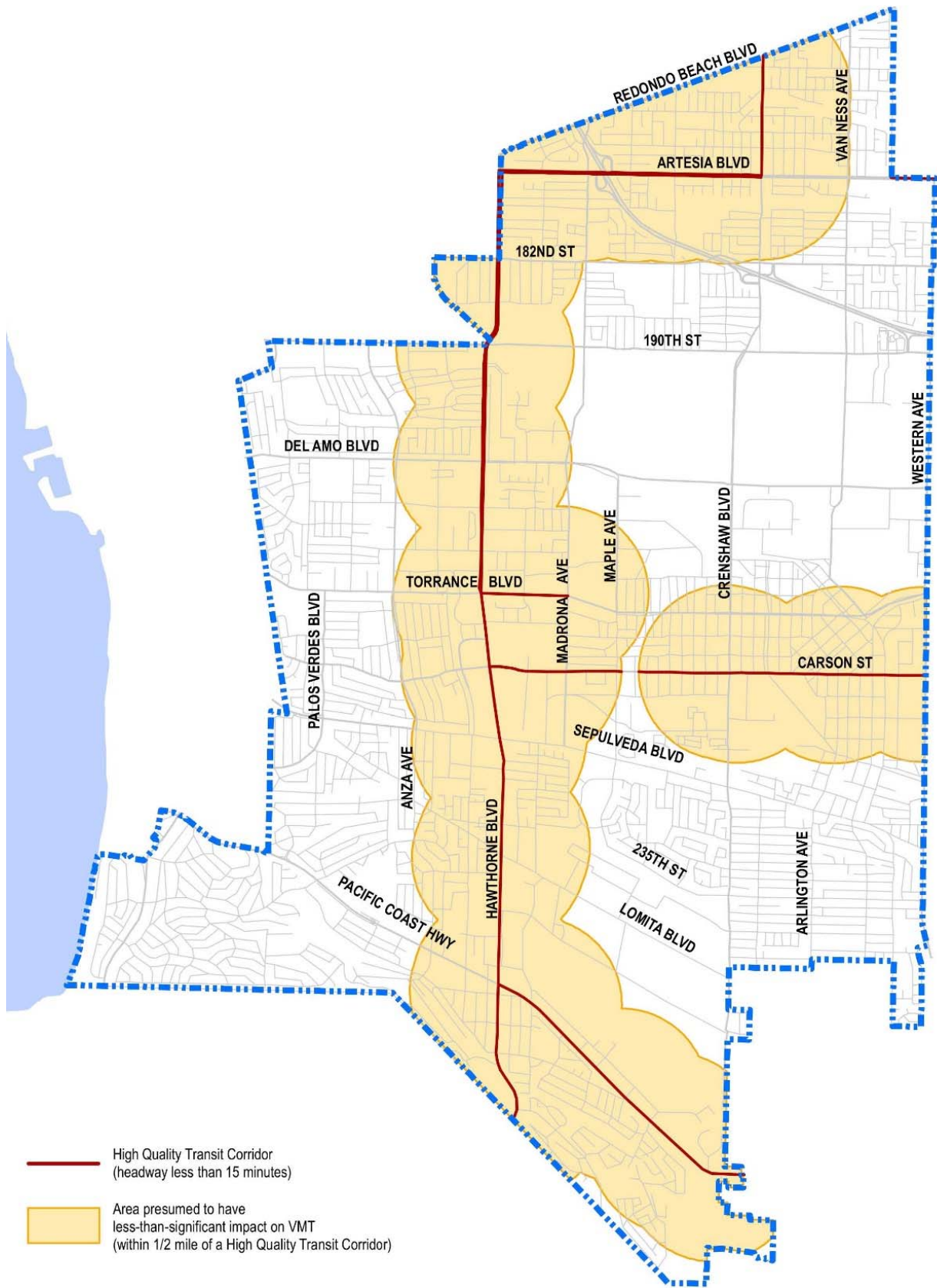


Figure 10 - Transit Priority Area Map

3.2.5 Affordable Residential Development

CRITERIA: Is the Project 100%⁴ affordable housing units⁵?

If the residential component of a mixed-use project is 100% affordable housing, a less than significant determination can be made for the residential component, and the remaining portion of the project shall be subject to further VMT analysis.

3.2.6 Local-Serving Retail

CRITERIA: *Does the Project contain a retail use of 50,000 SF or less?*

For the purpose of this screening criteria, retail land uses refer to those listed under categories 800's (Retail) or 900's (Services) within the most current ITE Trip Generation Manual [10].

For mixed-use projects containing retail:

- If the retail component of a mixed-use project is 50,000 SF or less, a less than significant determination can be made for the portion of the project that contains retail use, and the remaining portion of the project may be subject to further VMT analysis
- If the retail component of a mixed-use project is greater than 50,000 SF, the entirety of the project shall be subject to VMT analysis.

3.2.7 Local-Serving Public Facility

CRITERIA: *Is the project a locally serving public facility?*

Local-serving public facilities such as transit centers, public schools, libraries, parks, post offices, park-and-ride lots, police and fire facilities, and government offices are presumed to have less than significant impact on VMT [10]. Private schools are not considered locally serving public facilities.

3.3 Screening Criteria for LOS-Based TCA Exemption

A TCA is generally not required for projects that will generate less than 500 new trips per weekday, based on the most current ITE Trip Generation Manual.

Exemption from TCA preparation has to be confirmed by the City Traffic Engineer. The applicant may be required to submit a Trip Generation Memo for to facilitate exemption review.

⁴ Excluding Manager's units

⁵ As confirmed by the Planning Department

4.0 VMT Analysis Methodology

4.1 Overview

A project that does not meet any of the screening criteria under Section 3.2 must complete a full VMT⁶ analysis.

The VMT metric for a project shall be estimated per this section and evaluated against the significance thresholds presented in Section 5.0.

A project shall initially be analyzed for Project-Level VMT impact significance. Cumulative VMT impact evaluation, if required, shall be performed per Section 4.6.

If a project will incorporate a transportation demand management (TDM) strategy per Section 6.0, VMT analysis shall be presented for both “without TDM” and “with TDM” scenarios.

4.2 Estimating Tool

The 2012 SCAG RTDM shall be utilized to estimate the VMT values to be analyzed.

4.3 VMT Metric

4.3.1 VMT Metrics

The SCAG RTDM reports the following VMT metrics:

- Residential VMT per capita
Total length of daily home-based trip⁷ production within the area being analyzed divided by the population within that area.
- Employment VMT per employee
Total length of daily home-based work trip⁸ attraction within the area being analyzed divided by the number of employees within that area.
- Total VMT per Service Population
Total length of all daily trips to and from the area being analyzed divided by the service population⁹ within that area.
- Total VMT
Total daily VMT for all TAZs within the study area.

⁶ Under the CEQA Guidelines, VMT is specified as the amount and distance of automobile travel attributable to a project. The term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks.

⁷ Home-based trips are those that either start or end at the residence of the trip maker.

⁸ Home-based work trips are those that start from home and end at work, and vice versa.

⁹ Service population is the sum of the number of residents and number of employees.

4.3.2 Typical Land Uses

The VMT metric to be analyzed will depend on the type of project, per *Table 1*.

Land Use Category	VMT Metric
Residential <i>(e.g., single-family and multi-family housing)</i>	VMT per capita
Office <i>(e.g., general office, medical office)</i>	VMT per employee
Industrial <i>(e.g., light industrial, manufacturing, warehousing, self-storage)</i>	VMT per employee
Regional-Serving Retail <i>(e.g., general retail, furniture store, pharmacy/ drugstore, supermarket bank, health club, restaurant, auto repair, home improvement superstore, discount store, movie theater)</i>	Total City VMT
Private School/ University <i>(K-12, college, university)</i>	Total City VMT
Lodging <i>(e.g., hotel, motel, inn)</i>	Total City VMT

Table 1 - VMT Metrics by Land Use Category

The appropriate land use and VMT metric for a proposed project shall be confirmed with the City Traffic Engineer prior to running the SCAG RTDM.

4.3.3 Unique Land Uses

For projects that do not fit into any of the categories in Section 4.3.2 (*e.g. fulfillment centers, conference centers, sports venues*), the VMT metric shall be determined on a project-by-project basis and approved by the City Traffic Engineer.

4.3.4 Mixed-Use Projects

Each component of a mixed-use project has to be analyzed individually per Section 4.3.2 or Section 4.3.3.

4.4 Analysis Year

4.4.1 Project-Level VMT Analysis Year

The VMT values to be analyzed shall correspond to the opening year of the Project.

The Baseline¹⁰ VMT values for the Project's opening year shall be estimated by linear interpolation between the values obtained from the 2012 SCAG RTDM for base year 2012 and forecast year 2040.

4.4.2 Cumulative Impact VMT Analysis Year

Cumulative impact VMT evaluation per Section 4.6 shall correspond to Buildout Year 2040¹¹.

4.5 Methodology

4.5.1 Using Efficiency-Based Metric

Projects that use an efficiency-based VMT metric such as VMT per capita, VMT per employee, or VMT per service population shall be analyzed by comparing the VMT metric for the proposed project to the County Average of the same VMT metric.

4.5.2 Using Absolute Metric

Projects that use an absolute VMT metric such as Total City VMT shall be analyzed by comparing the "with project" Total VMT to the "without project" Total VMT.

The steps outlined in the LA County TIA Guidelines for regional-serving retail projects [2, pp. 12-13] may be used as a guide.

4.6 Cumulative Impact

For projects that are analyzed using efficiency-based metrics, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa [1, p. 6].

Thus, evaluation of a project's cumulative impacts is not required for projects that are analyzed using VMT per capita, VMT per employee, or VMT per service population, unless the project is inconsistent with the 2020-2045 SCAG RTP/SCS.

Projects that are inconsistent with the 2020-2045 SCAG RTP/SCS or that are analyzed using Total VMT have to be evaluated for cumulative impacts per Sections 4.5.2 and 5.2.

The steps outlined in the LA County TIA Guidelines for cumulative analysis of regional-serving retail projects [2, pp. 14-15] may be used as a guide.

¹⁰ Business-as-usual/ "Do Nothing" Scenario

¹¹ Full plan buildout Scenario based on the SCAG 2016-2040 RTP/SCS, which corresponds to the 2012 RTDM.

5.0 VMT Significance Thresholds

5.1 Project-Level VMT Significance Thresholds

A project that triggers the applicable threshold in *Table 2* will have a significant Project-Level VMT impact.

Land Use Category	Threshold
Residential	Project VMT per capita exceeds 85% of County Average VMT per capita
Office	Project VMT per employee exceeds 85% of County Average VMT per employee
Industrial	Project VMT per employee exceeds 85% of County Average VMT per employee
Regional-Serving Retail	Generates a net increase ¹² in Total City VMT ¹³
Private School/ University	Generates a net increase in Total City VMT
Lodging	Generates a net increase in Total City VMT

Table 2 - Project VMT Thresholds for Typical Land Use Categories

A project that does not fit into any of the categories in *Table 2* will have a significant Project-Level VMT impact if it triggers the applicable threshold in *Table 3*.

Type of VMT Metric	Threshold
Efficiency-based	Project VMT exceeds 85% of County Average VMT
Absolute	Generates a net increase in Total VMT ¹⁴

Table 3 - Project VMT Thresholds for Unique Land Uses

Each component of a mixed-use project has to be individually analyzed for significance per *Table 2* or *Table 3*. Credit for internal capture may be applied, with the approval of the City Traffic Engineer.

5.2 Cumulative (Buildout) VMT Significance Threshold

Projects that will generate a net increase in Total VMT for Buildout Year 2040 will have a significant Cumulative VMT impact.

¹² "With Project" Total VMT is greater than "Without Project" Total VMT

¹³ Total VMT for all TAZs within the City

¹⁴ Total VMT for all TAZs within the study area, as determined or approved by the City Traffic Engineer

6.0 VMT Mitigation Strategies

6.1 Overview

If a project is found to introduce a significant VMT impact, mitigation can be achieved by changing the proposed land uses, modifying project design features, or by implementing Transportation Demand Management (TDM) strategies.

Modifications to project land use will be reflected in the VMT analysis methodology in Section 4.0. This section will cover further VMT reductions that will be introduced by additional project design features and TDM implementation.

6.2 Resource

The reduction in VMT associated with transportation-related mitigation measures shall be estimated based on the CAPCOA Report [3].

6.3 Estimation of VMT Reduction Using the CAPCOA Report

6.3.1 Applicability

To prevent “double counting” of VMT reduction strategies, the following shall not apply towards Project VMT mitigation:

- Any project design feature originally required by the Planning Department for Plan or Code compliance
- All existing infrastructure already accounted for in the 2012 SCAG RTDM (e.g., proximity to existing transit)

6.3.2 Transportation Strategies

Transportation-related strategies for reducing greenhouse gas (GHG) are categorized into transportation measures, road pricing/ management, and strategies to improve the fuel efficiency of vehicles.

Transportation measures are sub-categorized into:

- (1) Land Use / Location
- (2) Neighborhood / Site Enhancement
- (3) Parking Policy / Pricing
- (4) Transit System Improvements
- (5) Commute Trip Reduction

A chart showing the organization of transportation strategies is presented in *Appendix 2*.

6.3.3 Maximum Reductions

Appendix 2 indicates the maximum reduction allowed to be attributed to each transportation strategy.

All GHG reductions from transportation measures and road pricing strategies are quantified through VMT reductions, while traffic flow and vehicle efficiency improvements directly correlate to GHG emissions, and do not correspond to VMT reductions.

For the purpose of VMT-Based TIA preparation, only VMT reductions will be applied to mitigations for land use project.

Rules for combining the VMT reduction effects of multiple mitigation strategies are laid out in Chapter 6 of the CAPCOA Report [3, pp. 57-63].

Maximum VMT reduction values for suburban areas shall apply to proposed land use projects within the City:

- 5% Land Use/ Location Maximum Reduction
- 10% Transportation Measures¹⁵ Cross-Category Maximum Reduction
- 15% Transportation Measures¹⁶ Global Maximum Reduction

6.3.4 Strategies for Land Use Projects

Table 4 presents transportation mitigation strategies that are applicable to land use projects within the City. The first column indicates the CAPCOA Report section that discusses the methodology for quantifying the VMT reduction associated with the corresponding measure.

All TDM strategies recommended to reduce a project's VMT impact shall get approval/concurrence from City staff.

Mitigation measures shall be applied to the appropriate user group (e.g., residents, employees, or guests/patrons). If a certain measure applies to multiple user groups, the weighted average must be considered, as the effect of the mitigation measure will vary based on the user group [10].

¹⁵ Four Categories: (1) to (4) under Section 6.3.2

¹⁶ Five Subcategories: (1) to (5) under Section 6.3.2

Ref. ¹⁷	Transportation Measure	Meas. #	Range of Effectiveness
3.2 Neighborhood/Site Enhancements			
3.2.1	Provide Pedestrian Network Improvements	SDT-1	0% - 2%
3.2.2	Provide Traffic Calming Measures	SDT-2	0.25% - 1%
3.2.3	Implement a Neighborhood Electric Vehicle (NEV) Network	SDT-3	0.5% - 12.7%
3.2.4	Create Urban Non-Motorized Zones	SDT-4	N/A ¹⁸
3.2.5	Incorporate Bike Lane Street Design (on-site)	SDT-5	N/A
3.2.6	Provide Bike Parking in Non-Residential Projects	SDT-6	N/A
3.2.7	Provide Bike Parking with Multi-Unit Residential Projects	SDT-7	N/A
3.2.8	Provide Electric Vehicle Parking	SDT-8	N/A
3.2.9	Dedicate Land for Bike Trails	SDT-9	N/A
3.3 Parking Policy/Pricing			
3.3.2	Unbundle Parking Costs from Property Cost	PDT-2	2.6% - 13%
3.4 Commute Trip Reduction Programs			
3.4.1	Implement Commute Trip Reduction Program - Voluntary	TRT-1	1% - 6.2%
3.4.2	Implement Commute Trip Reduction Program - Required	TRT-2	4.2% - 21%
3.4.3	Provide Ride-Sharing Programs	TRT-3	1% - 15%
3.4.4	Implement Subsidized or Discounted Transit Program	TRT-4	0.3% - 20%
3.4.5	Provide End of Trip Facilities	TRT-5	N/A
3.4.6	Encourage Telecommuting and Alternative Work Schedules	TRT-6	0.07% - 5.5%
3.4.7	Implement Commute Trip Reduction Marketing	TRT-7	0.8% - 4%
3.4.8	Implement Preferential Parking Permit Program	TRT-8	N/A
3.4.9	Implement Car-Sharing Program	TRT-9	0.4% - 0.7%
3.4.10	Implement a School Pool Program	TRT-10	7.2% - 15.8%
3.4.11	Provide Employer-Sponsored Vanpool/Shuttle	TRT-11	0.3% - 13.4%
3.4.12	Implement Bike-Sharing Programs	TRT-12	N/A
3.4.13	Implement School Bus Program	TRT-13	38% - 63%
3.4.14	Price Workplace Parking	TRT-14	0.1% - 19.7%
3.4.15	Implement Employee Parking "Cash -Out"	TRT-15	0.6% - 7.7%
3.5 Transit System Improvements			
3.5.1	Provide a Bus Rapid Transit System	TST-1	0.02% - 3.2%
3.5.2	Implement Transit Access Improvements	TST-2	N/A
3.5.3	Expand Transit Network	TST-3	0.1% - 8.2%
3.5.4	Increase Transit Service Frequency/Speed	TST-4	0.02% - 2.5%
3.5.5	Provide Bike Parking Near Transit	TST-5	N/A
3.5.6	Provide Local Shuttles	TST-6	N/A
3.6 Road Pricing/Management			
3.6.4	Install Park-and-Ride Lots	RPT-4	N/A

Table 4 - Applicable CAPCOA Mitigation Measures

¹⁷ CAPCOA Report [3] Section Number

¹⁸ See discussion under Section 6.3.5. of this Guideline

6.3.5 Quantification of VMT Reduction

A measure's range of effectiveness in VMT reduction is indicated in the last column of *Table 4*. Measures that show a numerical range are primary strategies that can be implemented as a stand-alone strategy, while measures that indicate "N/A" are grouped or support strategies that must be paired with other strategies within the category.

When grouped strategies are implemented together, the combination will result in either an enhancement to the primary strategy by improving its effectiveness, or a non-negligible reduction in effectiveness that would not occur without the combination [3, p. 56].

6.4 Implementation and Monitoring

The City will not consider in lieu fees for project VMT mitigation.

In the future, a program for implementation and monitoring the effectiveness of approved mitigation measures will be established.

7.0 Submittal and Review Process

7.1 VMT-Based TIA

7.1.1 Scope of Work

If a Project requires a TIA per *Figure 6*, the applicant shall initiate the review process by sending a TIA Scope of Work to the City Traffic Engineer for approval.

The TIA Scope of Work must include the following information:

- Short description of the project
- Site Plan showing proposed uses and corresponding square footage, number of floors, total building square footage, and site access points
- Typical land use category (or categories) per Section 4.3.2 applicable to the project, and corresponding square footage
- Unique land use category (or categories) per Section 4.3.3 (if any), corresponding square footage, and VMT metric proposed

The VMT modeling shall not be initiated until the TIA Scope of Work has been approved by the City Traffic Engineer in writing.

7.1.2 VMT Modeling Peer Review

VMT Modeling review shall be undertaken by an independent third-party Reviewer to be proposed by the applicant and approved by the City.

The VMT Modeling Reviewer must:

- be a California-licensed Professional Engineer or Traffic Engineer
- be different from and independent of the consultant preparing the TIA and/or TCA for the Project, or any sub-consultant hired by the Project's TIA Consultant to undertake VMT modeling for the Project
- have the capability to run the 2012 SCAG RTDM

The applicant shall provide the City with the contact information and qualifications of their proposed VMT Modeling Reviewer for approval.

Upon the City's approval of the TIA Scope of Work and the VMT Modeling Reviewer, the Project Consultant shall coordinate with the VMT Modeling Reviewer to facilitate the review of the VMT modeling results, and address any comments to the satisfaction of the VMT Modeling Reviewer.

Upon completion of the VMT Modeling Peer Review, the VMT Modeling Reviewer will endorse the VMT modeling results to City staff, and the applicant shall submit the complete TIA report (hard copy and PDF) to the City for further review.

7.2 LOS-Based TCA

7.2.1 Scope of Work

If a Projects requires a TCA per *Figure 6*, the applicant shall initiate the review process by sending a TCA Scope of Work to the City Traffic Engineer for approval.

The TCA Scope of Work must include the following information:

- Get the Short description of the project
- Project opening year
- Site Plan showing proposed uses and corresponding square footage, number of floors, total building square footage, and site access points
- Trip Generation Table per ITE Trip Generation Manual
- Pass-by trip calculation, if any
- Internal capture calculation, if any
- Proposed study intersections
- Proposed Trip Distribution
- Proposed Traffic Counts (driveways and intersections, day/s of the week, and time)

TCA Report preparation, including traffic counts, shall not be initiated until the TCA Scope of Work has been approved by the City Traffic Engineer in writing.

7.2.2 Guideline

The guideline for TCA preparation is posted online at www.TorranceCA.Gov/tca-guidelines .

7.2.3 Submittal

The TCA shall be submitted to the City for review in both PDF (with Appendix) and hard copy (without Appendix).

8.0 References

- [1] Governor's Office of Planning and Research (OPR), "Technical Advisory on Evaluating Transportation Impacts in CEQA," December 2018. [Online]. Available: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf .
- [2] Los Angeles County Public Works, "Transportation Impact Analysis Guidelines," 23 July 2020. [Online]. Available: <https://pw.lacounty.gov/traffic/docs/Transportation-Impact-Analysis-Guidelines-July-2020-v1.1.pdf> .
- [3] California Air Pollution Control Officers Association (CAPCOA), "Quantifying Greenhouse Gas Mitigation Measures, A Resource for Local Government to Assess Emmission Reductions from Greenhouse Gas Mitigation Measures," August 2010. [Online]. Available: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf> .
- [4] Southern California Association of Governments (SCAG), "2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy of the SCAG," 3 September 2020. [Online]. Available: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176.
- [5] Southern California Association of Governments (SCAG), "The 2016-2040 Rregional Transportation Plan/ Sustainable Communities Strategy," April 2016. [Online]. Available: <https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf?1606005557>.
- [6] Southern California Association of Governments (SCAG), "SCAG Regional Travel Demand Model and 2012 Model Validation," March 2016. [Online]. Available: https://scag.ca.gov/sites/main/files/file-attachments/scag_rtdm_2012modelvalidation.pdf?1605571641 .
- [7] Association of Environmental Professionals, "California Environmental Quality Act (CEQA) Statute & Guidelines," 2020. [Online]. Available: https://www.califaep.org/docs/2020_ceqa_book.pdf .
- [8] *Public Resources Code Section 21064.3.*
- [9] *Public Resources Code Section 21155.*
- [10] Linscott, Law & Greenspan, Engineers, "City of Torrance Vehicle Miles Traveled (VMT) Guidelines and Thresholds Technical Memorandum," 2021.

APPENDIX

Appendix 1 - List of Low-VMT TAZs

TAZs with Low VMT per Capita (85% or less than LA County Average* of 13.11)
<i>TAZs Highlighted in Figure 8</i>
21266100
21266200
21270100
21272100
21274100
21276100
21277100
21280100
21280200
21281100
21281200
21283100
21284300
21284400
21292100
21292200
21292300
21292400
21292500
21293200

TAZs with Low VMT per Employee (85% or less than LA County Average* of 17.09)
<i>TAZs Highlighted in Figure 9</i>
21202300
21202400
21220100
21220400
21263100
21264200
21266200
21268300
21271100
21274100
21275100
21284200
21292100

* VMT values for 2021

Appendix 2 - CAPCOA Transportation Strategies Organization [3, p. 55]

Transportation Measures (Five Subcategories) Global Maximum Reduction (all VMT): urban = 75%; compact infill = 40%; suburban center or suburban with NEV = 20%; suburban = 15%					Global Cap for Road Pricing needs further study	
Transportation Measures (Four Categories) Cross-Category Max Reduction (all VMT): urban = 70%; compact infill = 35%; suburban center or suburban with NEV = 15%; suburban = 10%				Max Reduction = 15% overall; work VMT = 25%; school VMT = 65%	Max Reduction = 25% (all VMT)	
Land Use / Location	Neighborhood / Site Enhancement	Parking Policy / Pricing	Transit System Improvements	Commute Trip Reduction (assumes mixed use) Max Reduction = 25% (work VMT)	Road Pricing Management Max Reduction = 25%	Vehicles
Density (30%)	Pedestrian Network (2%)	Parking Supply Limits (12.5%)	Network Expansion (8.2%)	CTR Program Required = 21% work VMT Voluntary = 6.2% work VMT	Cordon Pricing (22%)	Electrify Loading Docks
Design (21.3%)	Traffic Calming (1%)	Unbundled Parking Costs (13%)	Service Frequency / Speed (2.5%)	Transit Fare Subsidy (20% work VMT)	Traffic Flow Improvements (45% CO2)	Utilize Alternative Fueled Vehicles
Location Efficiency (65%)	NEV Network (14.4) <NEV Parking>	On-Street Market Pricing (5.5%)	Bus Rapid Transit (3.2%)	Employee Parking Cash-out (7.7% work VMT)	Required Contributions by Project	Utilize Electric or Hybrid Vehicles
Diversity (30%)	Car Share Program (0.7%)	Residential Area Parking Permits	Access Improvements	Workplace Parking Pricing (19.7% work VMT)		
Destination Accessibility (20%)	Bicycle Network <Lanes> <Parking> <Land Dedication for Trails>		Station Bike Parking	Alternative Work Schedules & Telecommute (5.5% work VMT)		
Transit Accessibility (25%)	Urban Non-Motorized Zones		Local Shuttles	CTR Marketing (5.5% work VMT)		
BMR Housing (1.2%)			Park & Ride Lots*	Employer-Sponsored Vanpool/Shuttle (13.4% work VMT)		
Orientation Toward Non-Auto Corridor				Ride Share Program (15% work VMT)		
Proximity to Bike Path				Bike Share Program		
				End of Trip Facilities		
				Preferential Parking Permit		
				School Pool (15.8% school VMT)		
				School Bus (6.3% school VMT)		



APPENDIX D

Potential Technical Studies for Future Development Proposals Within Proposed HCO Areas



Potential Technical Studies for Future Development Proposals Within Proposed HCO Areas

- Geotechnical Study
- Hydrology & Hydraulics Study
- Water Quality Management Plan (WQMP)
- Low Impact Development (LID) & Standard Urban Stormwater Mitigation Plan (SUSMP)
- Phase I Environmental Site Assessment
- Health Risk Assessment
- Sewer Flow Analysis
- Cultural Resources Records Search
- Air Quality Analysis
- Greenhouse Gas Analysis
- Noise and Vibration Analysis
- Vehicle Miles Traveled (VMT)-Based Traffic Impact Analysis (TIA)
- Level-of-Service (LOS)-Based Traffic Circulation Analysis (TCA)

