

City of Huntington Beach

Circulation Element Update

Environmental Impact Report *Volume I*

SCH 2009071117

EIR 2009-001

August 2012



Hogle-Ireland



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Huntington Beach
Circulation Element Update
Environmental Impact Report
Volume I - Draft

SCH 2009071117
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City of Huntington Beach

This document is designed for double-sided printing to conserve natural resources

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Introduction

1.0 Introduction

The City of Huntington Beach (Lead Agency) has completed a draft update of the Circulation Element of the General Plan.

The adoption and implementation of a General Plan update, including any element thereof, constitutes a “project” that is subject to review under the California Environmental Quality Act (CEQA) 1970 (Public Resources Code, Section 21000 et seq.), and the State CEQA Guidelines (California Code of Regulations, Section 15000 et. seq.). Accordingly, the City has prepared this environmental impact report (EIR) to assess the long range and cumulative environmental consequences that could result from adoption and implementation of the proposed citywide circulation plan. This report has been prepared in accordance with the CEQA Statutes and Guidelines, and with the City of Huntington Beach’s local rules and procedures for implementing the California Environmental Quality Act. It was prepared by professional planning consultants under contract to the City of Huntington Beach. The City of Huntington Beach is the Lead Agency for the preparation of this EIR, as defined by CEQA (Public Resources Code, Section 21067, as amended), because it has primary discretionary authority with respect to adoption, amendment and implementation of the General Plan. The content of this document reflects the independent judgment of the City.

CEQA Legislative Intent

This body of state law known as “CEQA” was originally enacted in 1970 and has been amended a number of times since then. The legislative intent of these regulations is established in Section 21000 of the California Public Resources Code, as follows:

The Legislature finds and declares as follows:

- The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.
- It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.
- There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.
- The capacity of the environment is limited, and it is the intent of the Legislature that the government of the State take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.

- Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.
- The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.
- It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.

The Legislature further finds and declares that it is the policy of the State to:

- Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.
- Take all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.
- Prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.
- Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.
- Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.
- Require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.
- Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.

A concise statement of legislative policy, with respect to public agency consideration of projects for some form of approval, is found in Section 21002, quoted below:

The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.

CEQA Case Law Regarding the Purpose of an EIR

In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code, the courts of the State have declared the following policies to be implicit in CEQA:

- a) The EIR requirement is the heart of CEQA. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
- b) The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
- c) The EIR is to inform other governmental agencies and the public generally of the environmental impact of a proposed project. (No Oil, Inc. v. City of Los Angeles, 13 Cal. 3d 68.)
- d) The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (People ex rel. Department of Public Works v. Bosio, 47 Cal. App. 3d 495.)
- e) The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree. (People v. County of Kern, 39 Cal. App. 3d 830.)
- f) CEQA was intended to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable

scope of the statutory language. (Friends of Mammoth v. Board of Supervisors, 8 Cal. 3d 247.)

- g) The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. (Bozung v. LAFCO (1975) 13 Cal.3d 263)
- h) The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect. (Citizens Assoc. For Sensible Development of Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151)
- i) CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. A court does not pass upon the correctness of an EIR's environmental conclusions, but only determines if the EIR is sufficient as an informational document. (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692)
- j) CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement. (Laurel Heights Improvement Assoc. v. Regents of U.C. (1993) 6 Cal.4th 1112 and Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553)

Program EIR

Purpose and Scope

The updated Circulation Element of the Huntington Beach General Plan is a long range planning program, to manage and upgrade the local transportation network in a manner that efficiently supports the orderly growth and development of the Huntington Beach planning area over the next 20 to 30 years. It is designed to provide an efficient surface transportation system that will accommodate travel demand projected over the next 20 to 30 years, and to achieve desired intersection levels of service that minimize congestion during peak travel periods. The Circulation Element is the foundation for the City's efforts to manage and minimize traffic congestion, maintain safety on roadways, and provide travel alternatives to the automobile, as well as better access to regional travel routes. Accomplishing these objectives requires effective land use planning, roadway monitoring and improvement, transportation system and demand management, regional coordination, and strategic commitment of resources.

This element of the City's planning program would not authorize any specific development project or other form of land use approval, any kind of transportation projects, or any other capital facilities expenditures or improvements. As such, a Program EIR is the appropriate kind of document to identify the geographic extent

of sensitive resources and hazards, along with existing and planned services and infrastructure support systems that occur in the planning area. Further, the Program EIR is described in Section 15168 of the CEQA Guidelines as the appropriate analytical framework to assess the cumulative environmental effects of the full plan, in a first tier level of analysis, to identify broad concerns and sets of impacts, and to define/develop regulatory standards and programmatic procedures that reduce impacts and help achieve environmental goals and objectives.

Advantages of a Program EIR include consideration of effects and alternatives that cannot practically be reviewed at the project-level, consideration of cumulative impacts that may not be apparent on a project-by-project basis, avoidance of the duplicative reconsideration of policy contemplation, the ability to enact City-wide mitigation measures, and subsequent reduction in paperwork. Later activities proposed pursuant to the goals and policies of the updated Circulation Element will be reviewed in light of this Program EIR and may focus on those site-specific and localized environmental issues that could not be examined in sufficient detail at this preliminary stage of planning.

Organization of the Program EIR

The EIR is divided into two volumes. Volume I contains the following nine sections:

Section 1.0	Introduction	
Section 2.0	Executive Summary	A brief project description and summarizes project impacts and mitigation measures
Section 3.0	Project Description	Provides detailed description of the proposed General Plan update
Section 4.0	Environmental Impact Analysis	Considers project impacts and identifies mitigation measures designed to reduce significant impacts
Section 5.0	Alternatives	Provides an analysis of alternatives to the proposed project
Section 6.0	Analysis of Long-Term Effects	Provides an analysis of cumulative impacts, growth-inducing impacts, and significant irreversible environmental impacts
Section 7.0	Effects Found Not to be Significant	Identifies areas of no significant impact
Section 8.0	Preparation Team	Lists the preparers of this analysis
Section 9.0	References	Contains reference information, including those documents incorporated by reference, background reports, and people and organizations consulted

Volume II contains all Appendix materials, including documentation of the EIR scoping process, along with the technical studies and background reports prepared to support the updated Circulation Element and the environmental impact analyses presented in Volume I.

- A: Notice of Preparation and Responses Thereto
- B: Draft Updated Circulation Element
- C: Air Quality Impact Analysis
- D: Noise Impact Analysis
- E: Greenhouse Gases & Climate Change Analysis
- F: Traffic Study

Approach to EIR Analysis

As stated above, the approach to the analysis presented in this EIR is programmatic in nature given the broad scope of the Circulation Element update. Each environmental issue is analyzed in the same manner, starting with a discussion of the existing environmental setting and pertinent planning and regulatory frameworks. Thresholds of significance are then defined, as they are used to measure the project's potential impact in the environmental impact section. Thresholds of significance are based on a broad list of questions and impact topics set forth in Appendix G of the State CEQA Guidelines, as applied to the specific environmental conditions in Huntington Beach and the long range traffic forecasts and related improvements identified in the Traffic Study. The analysis section examines the environmental effects over time resulting from implementation of the policies and implementation strategies developed for the updated Circulation Element. The assessment of impacts focuses on how the impact in question could occur and whether some aspect of the proposed Plan would trigger or somehow induce those sets of conditions, due to the unique effects of the proposed policies, rather than a generalized consideration of growth as the impact. Presence of sensitive environmental resources and hazards in specific areas, along with the total implications throughout the planning area are considered in the determination of impact significance. If the analysis indicates that a significant impact could occur, even with the benefits of the proposed planning policies, mitigation measures are specified.

The EIR identifies mitigation measures required to avoid or reduce certain significant impacts. In conjunction with the Final EIR, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared for adoption, that identifies a responsible party, a timeline for implementation, and a monitoring frequency for each mitigation measure. The MMRP provides a mechanism for ensuring that potential impacts resulting from long-term implementation of the Circulation Element update are avoided or reduced.

An Initial Study was prepared for the proposed Circulation Element update and circulated for public review with the Notice of Preparation on July 30, 2009. The Initial Study includes analysis of the potential environmental impacts of the

Circulation Element update in the context of each environmental issue included in Appendix G of the State CEQA Guidelines. The Initial Study found that the proposed Circulation Element would have a less than significant impact or no impact regarding a number of environmental issues, as summarized in Section 7.0 (Effects Found Not to be Significant) and detailed in Appendix A (Notice of Preparation and Responses Thereto). Each environmental issue area where potentially significant impacts were identified is examined in full detail in Section 4.0. Each impact discussion concludes with a statement regarding the level of impact significance remaining with the benefit of the mitigation measures.

Scoping and Public Review

Notice of Preparation

To define the scope of the investigation of the Program EIR, the City of Huntington Beach distributed a Notice of Preparation (NOP) to city, county, and state agencies; other public agencies; and interested private organizations and individuals. The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the proposed project, and to request suggestions concerning ways to avoid significant impacts (Section 15082, CEQA Guidelines). An Initial Study was attached to the NOP, presenting an initial assessment of potential environmental consequences with respect to 17 impact categories, along with a determination regarding specific topics of concern to be addressed in further detail within the Draft EIR.

Copies of written comments received during the 30-day public review period for the NOP are included in Appendix A of this EIR. On August 20, 2009, the City conducted two scoping meetings to present and answer questions concerning the results of the traffic study and key aspects of the updated Circulation Element, and to record any spoken comments concerning the scope and content of the EIR. The first, held at 4:00 pm in the City Council Chambers, was targeted to public agencies. No one appeared for this session. A second meeting was held at 6:00 pm, targeted to local residents and business owners, and any other interested persons. Two people attended this session: Bob Smith, Chairman of the City's Environmental Board, and Dan Kalmick. Neither had any comments concerning the scope of the EIR. Mr. Kalmick expressed support for expanded bicycle travel opportunities citywide and a tram system along Beach Boulevard.

A total of five written comments were submitted in response to the NOP; a list of these is provided in Table 1-1, and copies of each letter are provided in Appendix A.

Table 1-1 Written Responses to Notice of Preparation

Person/Agency/Group	Correspondence Dated	Summary of Comments
South Coast Air Quality Management District	July 31, 2009	Recommends assessment of air quality impacts and development of mitigation measures, if warranted, in accordance with SCAQMD's CEQA Handbook.
Southern California Association of Governments	August 11, 2009	Recommends evaluation of consistency with applicable provisions of SCAG's Regional Transportation Plan and Compass Growth Visioning
State of California, Department of Transportation, District 12	August 20, 2009	Suggests coordinated transportation planning, addressing multiple mobility needs and modes, and identifies analytical criteria preferred for assessment of impacts to state highway facilities
City of Fountain Valley	August 20, 2009	Requests consideration of potential effects in Fountain Valley resulting from proposed changes in Master Plan of Arterial Highway segments, recommended capacity improvements and any revisions to planned bicycle routes
City of Huntington Beach Environmental Board	August 25, 2009	Expresses concerns regarding proposed level of service performance standards and related effects due to recommended changes in functional classifications. Suggests more effort with Transportation Demand Management (TDM) strategies and bike paths, further consideration of alternatives to cars and trucks for local mobility, consideration of cumulative traffic impacts from large projects now in the planning process.

Notice of Completion

Pursuant to Section 15085 of the State CEQA Guidelines, a Notice of Completion (NOC) was filed with the State Office of Planning and Research (OPR) on August 2, 2012 and the DEIR circulated for public and agency review for a period of 45 days. Notice of the availability of the DEIR was published in the Huntington Beach Independent.

A copy of the DEIR was made available at the Huntington Beach Central Library, at City Hall and on the City's website (www.huntingtonbeachca.gov). Copies of the DEIR were sent to responsible agencies, local agencies, and concerned agencies and individuals, as requested. Public hearings will be held in conjunction with the review of the project.

Response to Comments on DEIR

Comments from all agencies and individuals are invited regarding the information contained in the Draft Program EIR. Such comments should explain any perceived deficiencies in the assessment of impacts, provide the information that is purportedly lacking in the Draft Program EIR or indicate where the information may be found. All comments on the Draft Program EIR are to be submitted to:

Mr. Ricky Ramos, Senior Planner
City of Huntington Beach
Department of Planning and Building
2000 Main Street
Huntington Beach, California 92648

Following a 45-day period of circulation and review of the Draft Program EIR, all comments and the City's responses to the comments will be incorporated into a Final Program EIR prior to certification of the document by the City of Huntington Beach.

Availability of EIR Materials

All materials related to the Preparation of this Program EIR are available for public review. As indicated above the Draft Program EIR was made available at the Huntington Beach Central Library, City Hall, and on the City's website. To request an appointment to review any of the EIR materials, please contact:

Mr. Ricky Ramos, Senior Planner
City of Huntington Beach
Department of Planning and Building
2000 Main Street
Huntington Beach, California 92648

Citation

Preparation of this Program EIR and the Circulation Element update rely on information from many sources, including the appendix materials previously listed and numerous other references, as noted in the References section.

Pursuant to Section 15148 of the State CEQA Guidelines, citations from the appendix materials and other sources are provided throughout the EIR with references included in Section 9.0.

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2	Executive Summary
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2.0 Executive Summary

Project Summary

The proposed project analyzed in this EIR is the adoption and long-term implementation of the update of the City of Huntington Beach General Plan Circulation Element. The Circulation Element update addresses all roadway segments, bikeways, scenic corridors, and other circulation infrastructure within the municipal city limits. Collectively, this is referred to as the “planning area”.

The Circulation Element update consists of several chapters that satisfy the requirements of State law. California Government Code Section 65302(b) requires a circulation element in all general plans, as follows:

A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

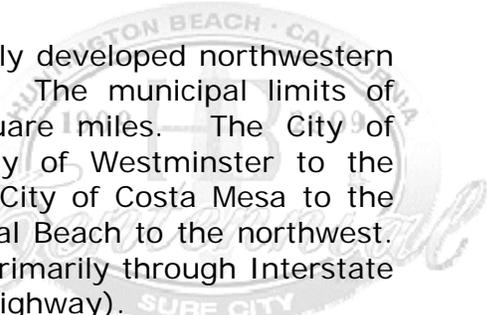
The Circulation Element is a mandatory component of the General Plan to plan the routing of major thoroughfares, transportation routes, terminals, and other local public utilities and facilities. Utilities are addressed within the Utilities Element of the General Plan. All other circulation issues are addressed in this Element, including:

- Regional Mobility
- Roadway Circulation
- Neighborhood Traffic Management
- Public Transportation
- Transportation Demand Management and Air Quality
- Parking
- Pedestrian, Bicycle, Equestrian, and Waterway Facilities
- Scenic Corridors

The Circulation Element addresses the physical circulation system consisting of streets, highways, bicycle routes, equestrian facilities, paths, and sidewalks, as well as available modes of transportation, including cars, buses, bicycles, and walking.

Project Location

The City of Huntington Beach is located in the extensively developed northwestern portion of Orange County abutting the Pacific Ocean. The municipal limits of Huntington Beach encompass approximately 27.7 square miles. The City of Huntington Beach is generally surrounded by the City of Westminster to the northeast, the City of Fountain Valley to the east, the City of Costa Mesa to the south, the Pacific Ocean to the west, and the City of Seal Beach to the northwest. The City is connected to the regional roadway network primarily through Interstate 405 and to a lesser degree State Route 1 (Pacific Coast Highway).



Environmental Setting

The City of Huntington Beach is located in an urbanized portion of Orange County. Huntington Beach is a primarily built-out, coastal community characterized by residential development of which single-family residential dwelling units are the most prominent land use. According to the California Department of Finance (May 2009), Huntington Beach currently has an estimated 78,049 dwelling units housing a population of approximately 202,480. The City is a tourist destination because of its 3.5-mile stretch of shoreline that has earned Huntington Beach the nickname of 'Surf City'. Huntington City Beach attracts more than eight million visitors annually that come for a number of cultural, recreational, and entertainment opportunities. Huntington Beach Pier extends more than 1,800 feet into the ocean and provides shopping, dining, and fishing opportunities. Commercial development serving the pier and general tourist population is located at the base of the pier, extending a couple blocks in each direction on Pacific Coast Highway, and along Main Street in Downtown. Huntington State Beach begins near the intersection of Beach Boulevard at Pacific Coast Highway and extends south to the mouth of the Santa Ana River. Bolsa Chica State Beach begins near the intersection of Seapoint Avenue at Pacific Coast Highway and extends north to Sunset Beach.

Multiple-family housing units are generally concentrated in four areas of the City: in the northwest near Huntington Harbour, to the south near the Pacific Ocean at Downtown, in the north on Warner Avenue between Goldenwest Street and Springdale Street, and along Beach Boulevard. The major commercial areas of the City are concentrated along Beach Boulevard and Edinger Avenue with other shopping centers located at major intersections such as Brookhurst Street at Adams Avenue, Goldenwest Street at Warner Avenue, and Garfield Avenue at Magnolia Street. Industrial uses are primarily concentrated in the northwestern portion of the City generally bounded by Edinger Avenue, Springdale Street, a Federal railway, and Bolsa Chica Street. Another concentration of industrial activities is located along Gothard Street, generally between Edinger Avenue and Ellis Avenue.

Environmental Impacts

Based on an Initial Study (see Appendix A) and a public scoping process, the City determined that the adoption and long-term implementation of the updated Circulation Element has the potential to result in significant environmental effects with regard to the following environmental issues areas:

- Air Quality
- Biological Resources
- Cultural Resources
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Transportation and Traffic
- Greenhouse Gases and Climate Change

This EIR examines each of these issues areas in separate sections in addition to other required topics specified in the State CEQA Guidelines. Table 2-1 at the end of this section summarizes the environmental impacts associated with the project and lists the mitigation measures required to reduce or avoid impacts.

An Initial Study was prepared for the proposed Circulated Element update and circulated for public review with the Notice of Preparation on July 30, 2009. The Initial Study includes analysis of the potential environmental impacts of the Circulation Element update in the context of each environmental issue included in Appendix G of the State CEQA Guidelines. The Initial Study found that the proposed Circulation Element would have a less than significant impact or no impact regarding a number of environmental issues, as summarized in Section 7.0 (Effects Found Not to be Significant) and detailed in Appendix A (Notice of Preparation and Responses Thereto). Each environmental issue area where potentially significant impacts were identified is examined in full detail in Section 4.0. Each impact discussion concludes with a statement regarding the level of impact significance remaining with the benefit of the mitigation measures.

Areas of Potential Controversy

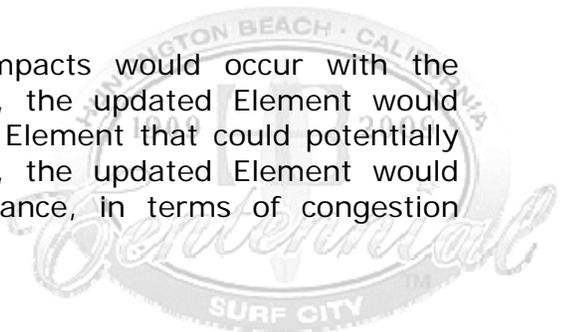
No areas of controversy were identified during the initial scoping process for the EIR and none have been identified during preparation of this document. At this time, there are no issues to be resolved.

Alternatives to the Proposed Project

CEQA requires that an EIR examine alternatives that are capable of eliminating or substantially avoiding any significant effects that would occur with the project. Significant and unavoidable impacts related to the displacement of housing and businesses were identified in the assessment of the proposed amendments to the Circulation Element. Assessment of alternative circulation networks is considered unwarranted as those alternatives would be infeasible or could result in more substantial impacts, particularly with respect to right-of-way needs and effects on adjacent land uses; therefore, two alternatives were examined in Section 5.0:

- Alternative 1: No Project/Existing Circulation Element
- Alternative 2: Existing Performance Standard

Regarding Alternative 1, similar environmental impacts would occur with the existing or updated Circulation Element; however, the updated Element would eliminate planned arterial segments in the existing Element that could potentially affect sensitive wetlands resources. Furthermore, the updated Element would achieve better levels of roadway system performance, in terms of congestion management, than the existing Element.



Alternative 2 would keep the existing intersection performance standards of LOS D for peak hour performance and LOS C for the links daily performance. In general, Alternative 2 would result in more substantial impacts than the proposed project because the decreased performance standard at secondary intersections (from LOS C to LOS D) would result in increased impacts related to air quality, public services, transportation and traffic, and climate change.

**Table 2-1
Environmental Impact Summary**

Impact Classes		Summary	Mitigation	Level of Significance
Significant and Unavoidable	4.6.A 4.6.B	Future intersection improvements identified in the Circulation Element update traffic study could potentially involve the removal of a residential or business structure and displacement of the occupants.	None	Significant and Unavoidable
	Less than Significant with Mitigation Incorporated	4.3.A	With as-needed construction monitoring, potentially significant impacts to archaeological resources will be avoided.	4.3.A-1
4.3.B		With as-needed construction monitoring, potentially significant impacts to paleontological resources will be avoided.	4.3.B-1	Less than Significant
Less than Significant Impact	4.1.A	Implementation of the Circulation Element update would not violate or substantially contribute to any existing or projected violation of the NAAQS or CAAQS.	None	Less than Significant
	4.1.B	The updated Circulation Element would not result in significant emissions of toxic air contaminants or creation of Carbon Monoxide "hotspots."	None	Less than Significant
	4.1.C	Implementation of the updated Circulation Element would not conflict with or obstruct implementation of the 2003/2007 Air Quality Management Plan.	None	Less than Significant
	4.1.D	The updated Circulation Element would result in a less than significant increase in PM10, PM2.5 VOC, or NOX and would not result in a cumulatively considerable long-term increase in nonattainment criteria pollutants in the South Coast Air Basin.	None	Less than Significant

Impact Classes	Summary	Mitigation	Level of Significance
4.4.A	The proposed Circulation Element would result in minor and less than significant inconsistencies with other General Plan elements. These will be resolved in subsequent general plan amendments.	None	Less than Significant
4.5.A 4.5.C	Projected long-term traffic volumes would increase noise levels near land uses already exposed to significant traffic noise by a less than significant amount. This would occur with or without the proposed revisions to the Circulation Element, as a result of anticipated population growth.	None	Less than Significant
4.5.B	Construction of future street improvements would result in less than significant groundborne vibration impacts.	None	Less than Significant
4.7.A	Emergency response times for fire suppression and paramedic services would not be adversely affected by the proposed amendments to the Circulation Plan.	None	Less than Significant
4.8.A	Proposed Critical, Principal, and Secondary Intersection performance standards will effectively manage projected traffic volumes to achieve desired levels of service.	None	Less than Significant
4.8.B	The proposed Circulation Plan is designed to achieve CMP performance standards at all CMP intersections in the planning area. Impacts to the CMP network would be less than significant.	None	Less than Significant
4.8.C	Elimination of previously planned/unbuilt segments of the arterial network will result in less than significant impacts related to emergency access within the planning area.	None	Less than Significant
4.9.A 4.9.B	The updated Circulation Element would have a less than significant impact involving greenhouse gas emissions and global climate change.	None	Less than Significant

Impact Classes		Summary	Mitigation	Level of Significance
No Impact	4.2.A.1	Bolsa Chica Wetlands resources near the intersection of Warner Avenue and Pacific Coast Highway would not be adversely affected as a result of the proposed Circulation Element.	None	No Impact
	4.2.A.2	Future intersection capacity improvements at Pacific Coast Highway/Brookhurst Avenue would not affect the Brookhurst or Talbert Marshes.	None	No Impact
	4.2.A.3	Existing riparian vegetation along Coldwater Lane would not be affected by the proposed re-classification of Coldwater Lane as a Collector Street.	None	No Impact



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	Preparation Team	8
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Proponent

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Contact

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Project Title

General Plan Circulation Element Update

Project Location

Huntington Beach is located in the extensively developed northwestern portion of Orange County, California (see Exhibit 3-1, Regional Context and Planning Area Maps). It is generally surrounded by the City of Westminster to the northeast, the City of Fountain Valley to the east, the City of Costa Mesa to the southeast, the Pacific Ocean to the south, and the City of Seal Beach to the northwest.

Existing Circulation Element

California General Plan Law

California Government Code Section 65302(b) requires a circulation element in all general plans, as follows:

- (1) *A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.*
- (2)(A) *Commencing January 1, 2011, upon any substantive revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, and urban context of the general plan.*
- (2)(B) *For purposes of this paragraph, 'users of streets, roads, and highways' means bicycles, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.*

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Regional Context Map

Source: Google



Vicinity Map

Source: Google



Exhibit 3-1 Regional Context and Planning Area Maps

Huntington Beach Circulation Element EIR

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A general plan is a long-range planning document that provides a framework for decision-making by the City's policy makers, City staff and the private development community, concerning the physical organization and development of a community, usually over a 20- to 30-year timeframe. In 1937, the State of California began to require all cities and counties to adopt a master plan and to update it regularly. By 1965, the name had been changed to the "general plan." A major change occurred in 1971, when the State passed the "consistency law" and put the general plan at the top of the legal hierarchy of land use law. Since 1971, all specific plans, the zoning ordinance, and every other land use regulation have had to be consistent with the general plan. Additionally, the various chapters of a general plan have to be consistent with one another. Statutory requirements for the scope and content of local General Plans are set forth in Article 5, Sections 65300 et seq of the California Government Code. The general plan is the policy framework to guide local land use decisions and major transportation infrastructure investments. Many of the specific ways to achieve the goals and policies in the general plan are spelled out in other regulatory documents.

Existing Circulation Element

The current General Plan Circulation Element was adopted in 1996; it was designed to cover the timeframe from 1996 to 2010. It contains these components:

- Statutory Requirements. Discusses requirements for a circulation element pursuant to California Government Code and briefly identifies the purpose of the element. The principal objective of the existing Circulation Element is to evaluate transportation needs and present a comprehensive plan to address those needs, primarily involving the effective movement of goods and people.
- Technical Synopsis. Identifies the elements of the street and highway system, public transit, bicycle facilities, equestrian facilities, and aviation/waterway facilities. Future traffic volumes are forecasted through the year 2010 and serve as the basis for identifying capacity deficiencies and adjusting the circulation system to account for these deficiencies.
- Issues. Key transportation issues are identified including congestion on several arterials and intersections, parking shortages, the need for alternative transportation, commuter traffic incursion on residential areas, pedestrian and bicyclist safety, cumulative impacts to surrounding jurisdictions, and interference with emergency response.

- Goals, Objectives, and Policies. The final section of the existing General Plan addresses the goals and policies of the Circulation Element. The goals of the existing Circulation Element are as follows:
 - CE 1 Provide a balanced transportation system that supports the policies of the General Plan and facilitates the safe and efficient movement of people and goods throughout the City while providing a balance between economic development and the preservation of residential neighborhoods, and minimizing environmental impacts.
 - CE 2 Provide a circulation system which supports existing, approved, and planned land uses throughout the City while maintaining a desired level of service on all streets and at all intersections.
 - CE 3 Develop a balanced and integrated multi-modal transportation system.
 - CE 4 Encourage and develop a transportation demand management (TDM) system to assist in mitigating traffic impacts and in maintaining a desired level of service on the circulation system.
 - CE 5 Provide sufficient, well designed, and convenient on- and off-street parking facilities throughout the City.
 - CE 6 Provide a citywide system of efficient and attractive pedestrian, equestrian, and waterway facilities for commuter, school, and recreation use.
 - CE 7 Maintain and enhance the visual quality and scenic views along designated corridors.

Proposed Circulation Element Update

Purpose and Objectives

The purpose of the Huntington Beach Circulation Element update is to evaluate the long-term transportation needs of the City and present a comprehensive plan to accommodate those needs.

Eight strategic goals are identified in the updated Element, as follows:

- CE-1: Provide a balanced transportation system that moves people and goods throughout the City efficiently, promotes economic development, preserves residential neighborhoods, meets safety standards, and minimizes environmental impacts.
- CE-2: Provide a circulation system that supports existing, approved, and planned land uses throughout the City while maintaining a desired level of service and capacity on all streets and at all intersections.

- CE-3: Protect residential neighborhoods from adverse conditions associated with cut-through and non-residential traffic.
- CE-4: Create a balanced and integrated multi-modal transportation system that increases mass-transit opportunities for Huntington Beach residents.
- CE-5: Maximize use of transportation demand management strategies to reduce total vehicle miles traveled and improve regional air quality.
- CE-6: Ensure that the parking demands of non-residential uses do not adversely impact the City's residential neighborhoods, that the City's parking policies support reduced reliance on personal auto use and that parking supply is adequate to meet City economic development objectives.
- CE-7: Provide a system of bicycle, pedestrian, and equestrian paths, and waterways for commuter, school and recreational use.
- CE-8: Maintain and enhance visual quality and scenic views along designated scenic corridors.

These goals are intended to achieve the following general objectives:

- Provide an efficient surface transportation system that will accommodate the increased volumes of traffic forecasted to occur over the next 20 to 25 years
- Achieve the desired intersection levels of service that minimize congestion during peak travel periods
- Provide alternatives to the automobile
- Provide better access to regional travel routes

Particularly, the goals and associated policies of the proposed Circulation Element are designed to meet Objective 2.1:

Maintain the following citywide level of service (LOS) standards for traffic-signal controlled intersections during peak hours:

- Locations with specific characteristics identified as critical intersections: LOS E (ICU to not exceed 1.00)
- Principal Intersections: LOS D (0.81-0.90 ICU)
- Secondary intersections: LOS C (0.71-0.80 ICU)

LOS is to be determined during weekday morning and evening peak hours. Expanded timeframes may be applied to individual uses that generate high volumes of traffic during off-peak hours or weekends.

Accomplishing these objectives requires effective land use planning, roadway monitoring and improvement, transportation system and demand management, regional coordination, and commitment of resources.

Organization

The Circulation Element Update is organized under the following topics.

- Regional Mobility
- Roadway Circulation
- Neighborhood Traffic Management
- Public Transportation
- Transportation Demand Management and Air Quality
- Parking
- Pedestrian, Bicycle, and Equestrian paths, and Waterway Facilities
- Scenic Corridors

Circulation Plan

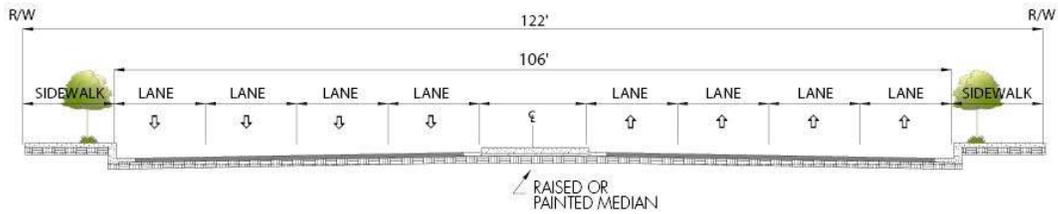
The proposed Circulation Element includes four arterial roadway classifications, two regional classifications, and a local street designation summarized in Table 3-1 (Roadway Functional Classifications and Characteristics) and Exhibit 3-2 (Standard Roadway Cross Sections). In addition to these classifications, some roadway segments are further classified pursuant to the Orange County Master Plan of Arterial Highways (MPAH). The MPAH uses a classification system different than the proposed Circulation Element and includes Principal Arterials, 4-lane Smart Street Arterials, and Right-of-Way Reserve. The MPAH is a countywide plan to ensure countywide mobility on the arterial and freeway systems. Huntington Beach's Circulation Element must be consistent with the MPAH in order to participate in roadway funding programs, such as Measure M. In 1990, Orange County voters approved Measure M, authorizing a half-cent retail sales tax increase for a period of 20 years effective April 1, 1991. On November 7, 2006, voters approved an extension of this funding measure (referred to as "M2") until 2041. A portion of the revenue generated by Measure M2 is returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. To qualify for this, Huntington Beach must submit a statement of compliance with the growth management components of the program. Requirements include the adoption of a traffic circulation plan consistent with the County Master Plan of Arterial Highways (MPAH), adoption of a Growth Management Element within the General Plan, adoption and adequate funding of a local transportation fee program, and adoption of a seven-year capital improvement program that includes all transportation projects funded either partially or fully by Measure M funds.

**Table 3-1
Roadway Functional Classifications and Characteristics**

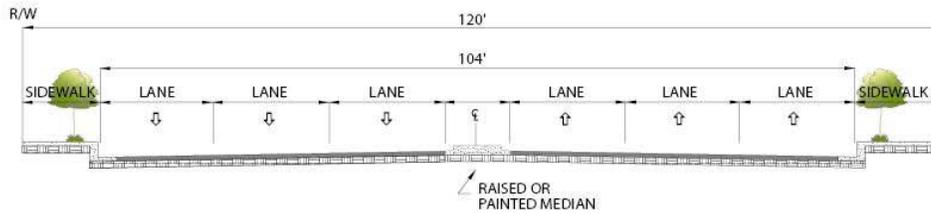
Roadway Type*	Functional Classification	Right-of-Way (ROW)		No. of Lanes	Maximum Volume
		Total	Pavement		
Smart Street Arterial [^]	6/8-Lane Boulevard	Varies (120'-144')		6-8, divided	79,000
Principal Arterial [^]	N/A	120'	104'	8, divided	65,000
Major Arterial	6-Lane Arterial	120'	104'	6, divided	50,000
Primary Arterial	4-Lane/Augmented Arterial	100'	84'	4, divided	35,000
Secondary Arterial	4-Lane/Augmented Arterial	80'	64'	4, undivided	25,000
Collector Arterial	2-Lane Roadway	Varies		2, undivided	12,500
Local	N/A	Varies		2, undivided	< 5,000

* Roadways can be preceded by the 'augmented' qualifier that provides flexibility for customizing roadway sections with consideration for local operating constraints, aesthetics, and/or capacity.
[^] MPAH Classifications

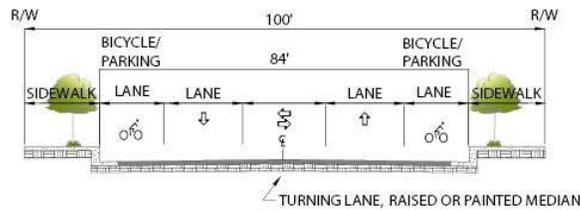
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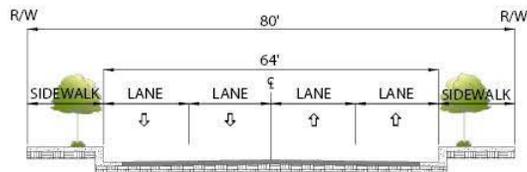
SMART STREET ARTERIAL



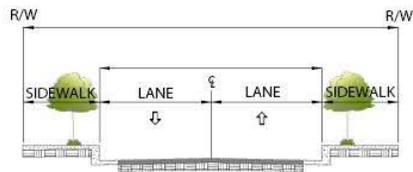
MAJOR ARTERIAL



PRIMARY ARTERIAL (DIVIDED)



SECONDARY ARTERIAL (UNDIVIDED)



COLLECTOR STREET (UNDIVIDED)

Source: Austin-Foust Associates



Exhibit 3-2 Standard Roadway Cross Sections

Huntington Beach Circulation Element EIR

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Several changes to roadway classifications specified in the adopted Element and the MPAH are proposed; these are summarized in Table 3-2 (Proposed Roadway Classification Changes) and described thereafter. For the most part, additional right-of-way will not be required to implement the planned roadway classifications. There are some street segments that are not currently built to the ultimate classification dimensions and may require dedication of additional right-of-way to complete. None of the recommended roadway re-classifications would require additional right-of-way; in fact, many would reduce the ultimate right-of-way requirements, compared to current classifications. Environmental impacts associated with the roadway footprints in these areas, therefore, would be less than with current classifications.

**Table 3-2
Proposed Roadway Classification Changes**

Roadway Segments				Classifications		Existing MPAH Facility
No.	Roadway	From	To	Current	Proposed	
R1	17th St	Pacific Coast Highway	Main St	Primary Arterial	Augmented Collector	Yes
R2	Algonquin St	Heil Ave	Warner Ave	Secondary Arterial	Augmented Collector	Yes
R3	Argosy Ave	Bolsa Chica Ave	Graham St	Primary Arterial	Collector	Yes
R4	Bolsa Chica Ave	Warner Ave	South City Limits	Major Arterial	Augmented Collector	No
R5	Coldwater Lane	Yorktown Ave	Adams Ave	Local	Collector	No
R6	Delaware St	Ellis Ave	Atlanta Ave	Secondary Arterial	Augmented Collector	Yes
R7	Edinger Ave	City limits	Bolsa Chica Ave	Primary Arterial	Augmented Collector	Yes
R8	Edinger Ave	Springdale St	Newland St	Major Arterial	Augmented Primary	Yes
R9	Ellis Ave	Edwards St	Gothard St	Primary Arterial	Augmented Collector	Yes
R10	Ellis Ave	Gothard St	Delaware St	Primary Arterial	Augmented Collector	Yes
R11	Garfield Ave	Edwards St	Goldenwest St	Major Arterial	Primary	Yes
R12	Garfield Ave	Ward St	Santa Ana River	Primary Arterial	Reserved	Yes
R13	Goldenwest St	Bolsa Ave	Garfield Ave	Major Arterial	Augmented Primary	Yes
R14	Gothard St	Garfield Ave	Main St	Primary Arterial	Secondary	Yes

3.0 Project Description

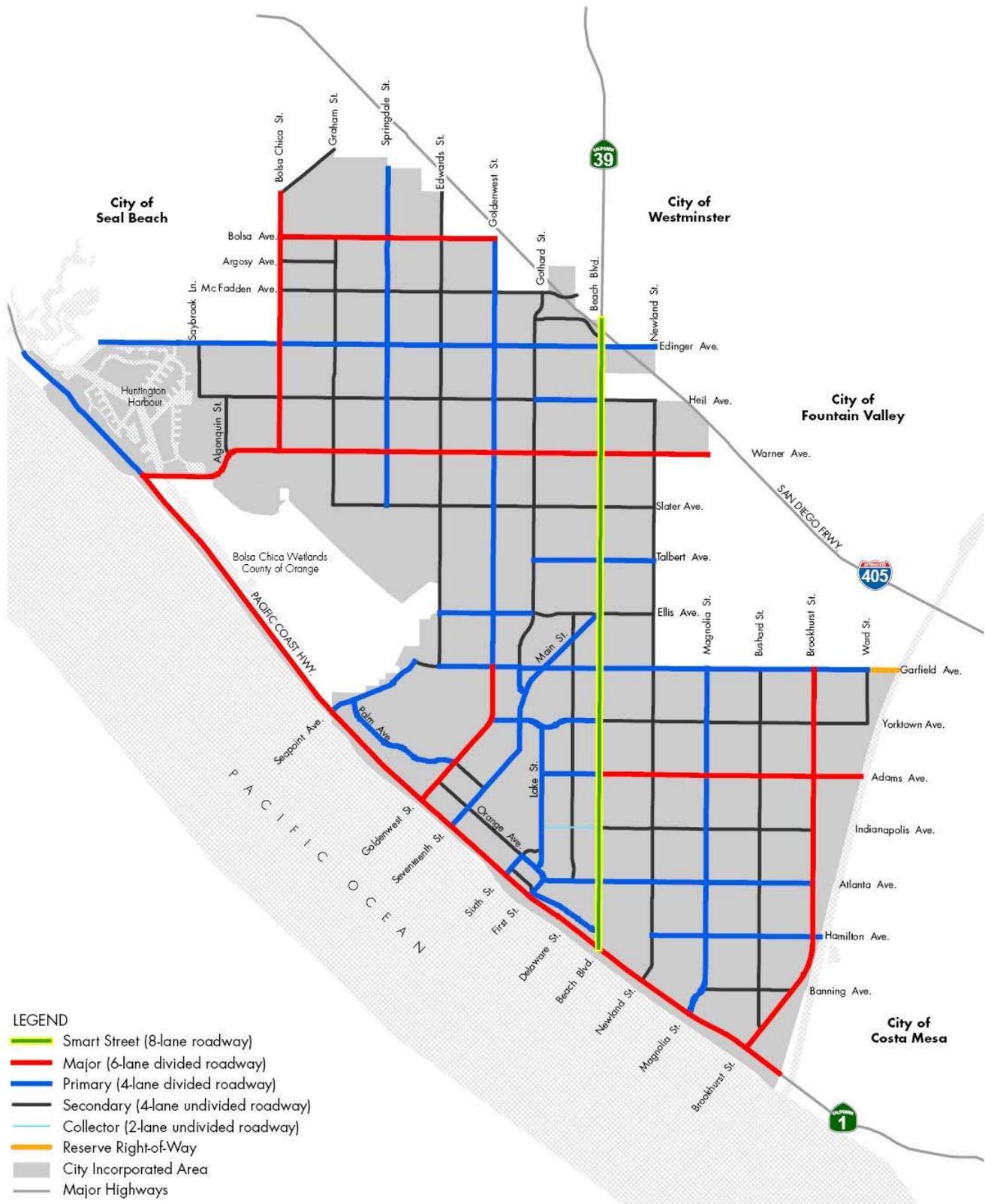
Roadway Segments				Classifications		Existing MPAH Facility
No.	Roadway	From	To	Current	Proposed	
R15	Graham St	Warner Ave	Slater Ave	Primary Arterial	Augmented Collector	Yes
R16	Lake St	Yorktown Ave	Orange Ave	Primary Arterial	Augmented Collector	Yes
R17	Orange Ave	6th St	1st St	Primary Arterial	Augmented Collector	Yes
R18	Orange Ave	Goldenwest St	6th St	Collector-Secondary	Augmented Collector	Yes
R19	Pacific View Ave	1st St	Huntington St	Primary Arterial	Augmented Collector	Yes
R20	Palm Ave	Goldenwest St	17th St	Secondary Arterial	Augmented Collector	Yes
R21	Saybrook Ave	Edinger Ave	Heil Ave	Secondary Arterial	Collector	Yes
R22	Springdale St	Warner Ave	Talbert Ave	Primary Arterial	Secondary	Yes
R23	Summit Drive	Seapoint Ave	Goldenwest St	Local	Collector	No
R24	Talbert Ave	Springdale St	Edwards St	Primary Arterial	Collector	Yes
R25	Varsity Drive	Talbert Ave	Edwards St	Local	Collector	No
R26	Walnut Ave	6th St	1st St	Primary Arterial	Augmented Collector	Yes
R27	Warner Ave	Pacific Coast Highway	Algonquin St	Major Arterial	Primary	Yes

The proposed Circulation Plan is illustrated in Exhibit 3-3 (Proposed Circulation Plan). The proposed changes to the existing Circulation Element are highlighted in Exhibit 3-4 (Proposed Changes to Adopted Circulation Plan). Changes include eliminating planned/unbuilt roadway segments where future traffic projections no longer justify a need for those segments; these are listed specifically in Table 3-3. Exhibit 3-5 (Proposed Long-Term Capacity Improvements) illustrates locations where the traffic study recommends additional intersection capacity to achieve system performance standards.

**Table 3-3
Planned/Unbuilt Roadway Segments to be Eliminated**

Roadway	From	To
Hamilton Avenue	Beach Boulevard	Newland Street
Delaware Street	Atlanta Avenue	Pacific View Avenue
Gothard/Hoover Street	McFadden Avenue	Bolsa Avenue
Ellis Avenue	Delaware Street	Main Street
Edinger Avenue at current terminus	Western City boundary	PCH
Graham Street southward extension	Slater Avenue	Bolsa Chica Wetlands
Talbert Avenue western extension	Springdale Street	Bolsa Chica Wetlands
Roadway connection between	Graham extension	Talbert extension

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LEGEND

- Smart Street (8-lane roadway)
- Major (6-lane divided roadway)
- Primary (4-lane divided roadway)
- Secondary (4-lane undivided roadway)
- Collector (2-lane undivided roadway)
- Reserve Right-of-Way
- City Incorporated Area
- Major Highways

Exhibit 3-3

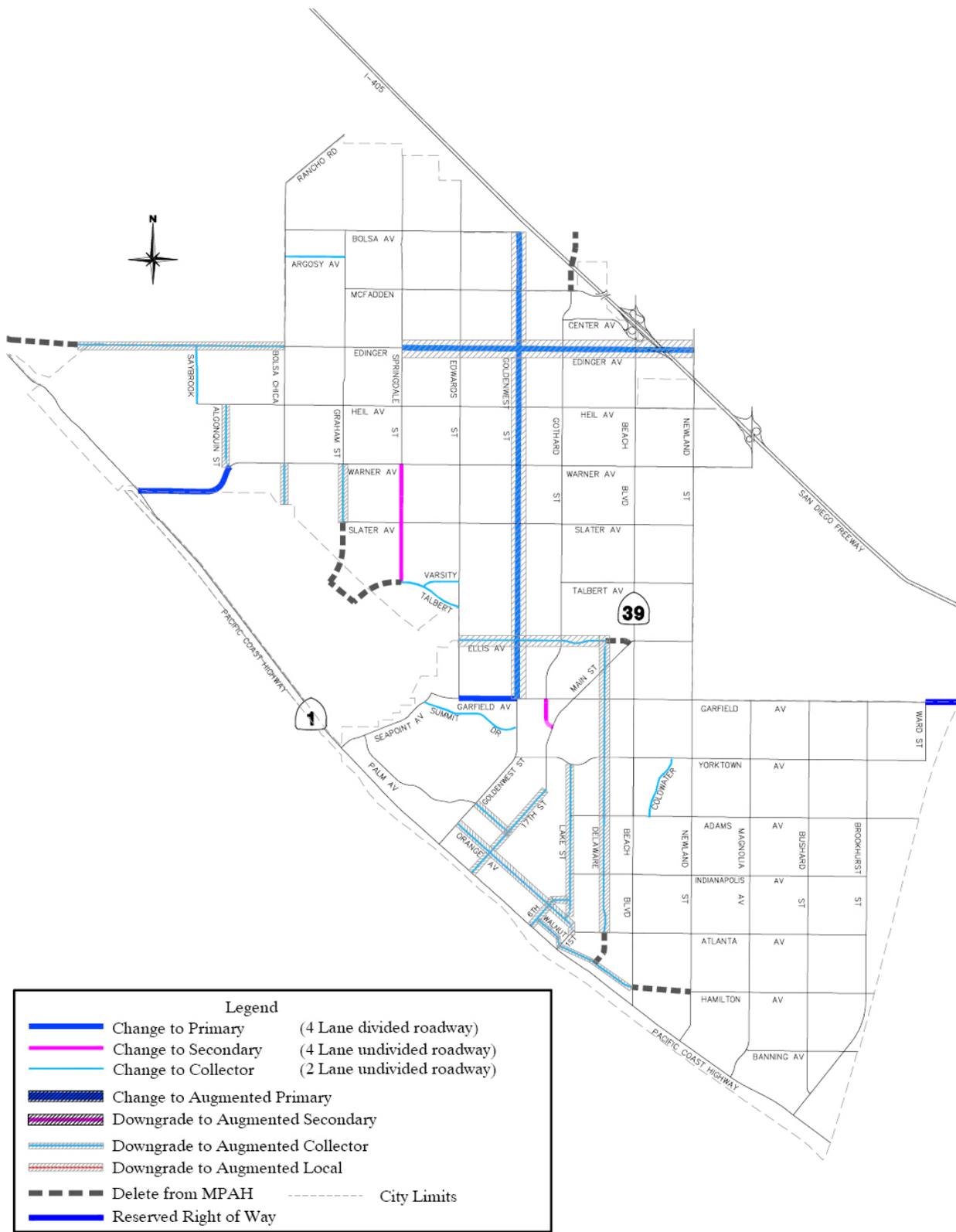
Proposed Circulation Plan

Huntington Beach Circulation Element EIR



Source: Austin-Foust Associates

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Source: Austin-Foust Associates, 2012

Exhibit 3-4

Proposed Changes to Adopted Circulation Plan

Huntington Beach Circulation Element EIR



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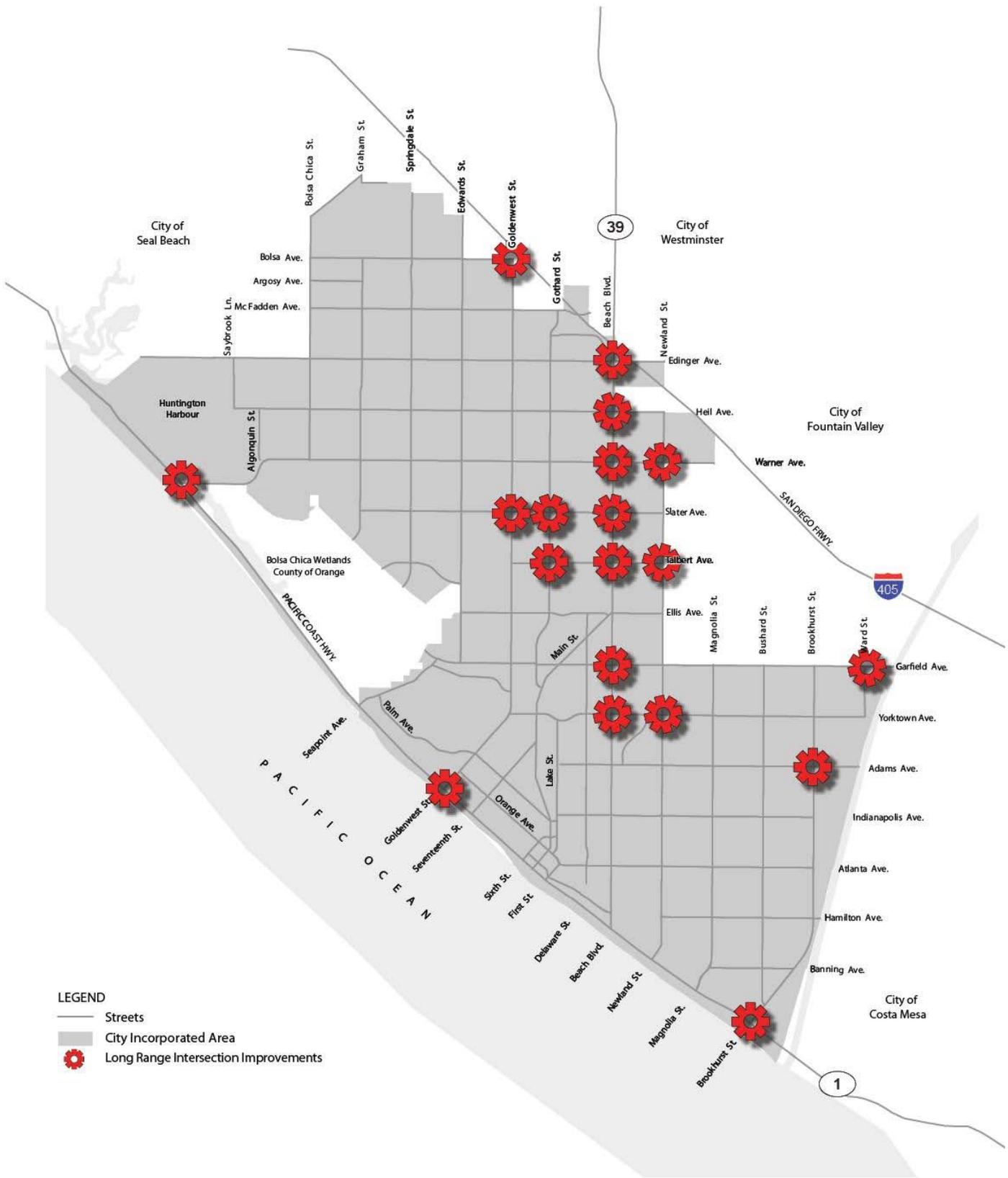


Exhibit 3-5 Proposed Long Term Capacity Improvements

Source: Austin-Foust Associates

Huntington Beach Circulation Element EIR



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<u>Segment No.</u>	<u>Purpose of Reclassification</u>
R1	Long-term traffic volumes on this roadway segment are projected at a maximum of 11,000 average daily trips (ADT); therefore downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more appropriate classification that is commensurate with projected volumes.
R2	Long-term traffic volumes on this roadway segment are projected at a maximum of 4,000 ADT; therefore downgrading from a Secondary (25,000 max volume) to an Augmented Collector is a more efficient classification.
R3	Long-term traffic volumes on this roadway segment are projected at a maximum of 4,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to a Collector (12,500 max volume) is a more efficient classification.
R4	Long-term traffic volumes on Bolsa Chica Avenue near Warner Avenue and the Bolsa Chica Wetlands are projected at approximately 30,000 ADT. Based on the City's review of this roadway segment, downgrading from Major Arterial (50,000 max volume) to Augmented Collector is a more efficient classification.
R5	The recommended reclassification for Coldwater Lane is based on the actual function of the street and no significant changes to existing service volumes are anticipated.
R6	Long-term traffic volumes on this roadway segment are projected at a maximum of 8,000 ADT; therefore, downgrading from a Secondary Arterial (25,000 max volume) to an Augmented Collector is a more efficient classification.
R7	Long-term traffic volumes on this roadway segment are projected at a maximum of 8,000 ADT; therefore, downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more efficient classification.
R8	Long-term traffic volumes on this roadway segment are projected at a maximum of 51,000 ADT. The updated Circulation Element would upgrade the City's classification for this segment from Primary Arterial to Augmented Primary, enabling alternative design strategies to be considered for the segment beyond those prescribed for Primary Arterials.
R9	Long-term traffic volumes on this roadway segment are projected at a maximum of 9,000 ADT; therefore, downgrading from a Primary Arterial

- (35,000 max volume) to an Augmented Collector is more efficient classification.
- R10 Long-term traffic volumes on this roadway segment are projected at a maximum of 11,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more efficient classification.
- R11 Long-term traffic volumes on this roadway segment are projected at a maximum of 17,000 ADT; therefore, downgrading from a Major Arterial (50,000 max volume) to a Primary Arterial (35,000 max volume) is a more efficient classification.
- R12 This segment of Garfield Avenue is to be designated as 'Reserved Right-of-Way (ROW)'. This is a special MPAH category that is applied to specific situations where the ROW is to be reserved for a specified period of time pending future evaluation. While the designation has already been approved by OCTA, it represents a change to the City's existing Circulation Element.
- R13 Long-term traffic volumes on this roadway segment are projected at a maximum of 46,000 ADT. The proposed plan would modify or reduce the City's classification for this segment from Major Arterial to Augmented Primary, to enable alternative design strategies to meet projected future traffic volumes and operational requirements.
- R14 Long-term traffic volumes on this roadway segment are projected at a maximum of 9,000 ADT; therefore, downgrading from a Primary Arterial (35,000 max volume) to a Secondary (25,000 max volume) is a more efficient classification.
- R15 Long-term traffic volumes on this roadway segment are projected at a maximum of 9,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more efficient classification.
- R16 Long-term traffic volumes on this roadway segment are projected at a maximum of 10,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more efficient classification.
- R17 Long-term traffic volumes on this roadway segment are projected at a maximum of 9,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector is a more efficient classification.
- R18 Long-term traffic volumes on this roadway segment are projected at a maximum of 5,000 ADT; therefore downgrading from a Secondary

Arterial (25,000 max volume) to an Augmented Collector is a more efficient classification.

- R19 Long-term traffic volumes for Pacific View Avenue are projected at a maximum of 6,000 ADT; this roadway segment will be reclassified from Primary Arterial (35,000 max volume) to Augmented Collector.
- R20 Long-term traffic volumes on this roadway segment are projected at a maximum of 10,000 ADT; therefore, downgrading from a Secondary Arterial (25,000 max volume) to an Augmented Collector is a more efficient classification.
- R21 Long-term traffic volumes on this roadway segment are projected at a maximum of 7,000 ADT; therefore, downgrading from a Secondary Arterial (25,000 max volume) to a Collector Arterial (12,500 max volume) will be a more efficient classification.
- R22 Long-term traffic volumes on this roadway segment are projected at a maximum of 15,000 ADT; therefore downgrading from a Primary Arterial (35,000 max volume) to a Secondary Arterial (25,000 max volume) will be a more efficient classification.
- R23 Long-term traffic volumes have not been projected for Summit Drive; however, based on projected volumes on Seapoint Avenue (23,000 ADT) and Goldenwest Street (37,000 ADT), this roadway segment is to be upgraded from Local (< 5,000 max volume) to Collector Arterial (12,500 max volume) that better reflects its current function.
- R24 Traffic volumes on this segment of Talbert Avenue are projected to be less than 10,000 ADT; therefore, downgrading from a Primary Arterial (35,000 max volume) to a Collector Arterial (12,500 max volume) will be a more efficient classification.
- R25 Long-term traffic volumes on this roadway segment are projected at greater than 5,000 ADT; upgrading this segment from Local (< 5,000 max volume) to Collector Arterial (12,500 max volume) will thus be a more efficient classification that better reflect its current function.
- R26 Long-term traffic volumes on this roadway segment are projected at a maximum of 3,000 ADT; therefore, downgrading from a Primary Arterial (35,000 max volume) to an Augmented Collector will be a more efficient classification.
- R27 Long-term traffic volumes on this roadway segment are projected at a maximum of 28,000 ADT; therefore, downgrading from a Major Arterial (50,000 max volume) to a Primary Arterial (35,000 max volume) will be a more efficient classification.

Principal and Secondary Intersections are key locations that often dictate the overall performance of the roadway system and thereby are considered to have strategic importance within the overall Circulation Plan. The updated Circulation Element establishes LOS D as the performance standard for Principal Intersections and LOS C for Secondary intersections. The dual standard recognizes that the Principal intersections serve major thoroughfares, often with substantial through traffic components. Secondary intersections are more typically associated with lower volume roadways. In addition to the proposed roadway classification changes, future intersection capacity improvements will be needed at the locations identified in Table 3-4 (Long Range Intersection Capacity Needs), to meet the City's level of service performance standards for Principal and Secondary intersections.

**Table 3-4
Long Range Intersection Capacity Needs**

Classification	Intersection
P	Goldenwest Street @ Bolsa Avenue
P	Beach Boulevard @ Heil Avenue
P	Newland Street @ Warner Avenue
P	Beach Boulevard @ Talbert Avenue
P	Brookhurst Street @ Adams Avenue
P	Beach Boulevard @ Warner Avenue
P	Beach Boulevard @ Yorktown Avenue
P	Brookhurst Street @ Pacific Coast Highway
P	Beach Boulevard @ Edinger Avenue
P	Pacific Coast Highway @ Warner Avenue
P	Goldenwest Street @ Slater Avenue
P	Beach Boulevard @ Garfield Avenue
P	Goldenwest Street @ Pacific Coast Highway
P	Beach Boulevard @ Slater Avenue
S	Gothard Street @ Talbert Avenue
S	Ward Street @ Garfield Avenue
S	Gothard Street @ Slater Avenue
S	Newland Street @ Talbert Avenue
S	Newland Street @ Yorktown Avenue
P = Principal Intersection S = Secondary Intersection Source: Austin-Foust Associates 2011	

Alternative Transportation

Bus Transit: Public transportation in the City of Huntington Beach mainly consists of bus service operated by the Orange County Transportation Authority (OCTA). OCTA currently operates 17 routes through the City (OCTA, June 2009). The number of lines and routes are adjusted in response to ridership patterns. OCTA and the City both operate demand response services. OCTA operates the ACCESS program that provides senior citizen and disabled persons on-demand shared-ride service. The City, with the aid of OCTA, operates the Senior Services Mobility Program. The updated Circulation Element does not propose any changes to the existing bus transit system.

Potential Rail Corridor Travel Options: Future development of all or portions of the Southern Pacific Railroad corridor for transportation purposes, including the existing active rail section, may be pursued by the City in the future. Options to be considered include development of a bicycle or multi-purpose trail or to function as an exclusive transit corridor. These options may be limited in some areas where portions of the corridor are no longer available for public use. Assessment of environmental consequences for any particular option will be examined at the time of an official proposal for some alternate use of the rail corridor.

Pedestrian: The Element includes a new concept, Pedestrian Enhancement Zones (PEZs). PEZ improvements can include sidewalks, crosswalks, trees, pedestrian-scale lighting, and traffic calming measures. The City will establish a PEZ designation process that includes coordinating with other transportation agencies to assess the need for improved facilities. An expanded focus on pedestrian mobility and the creation of PEZ are changes from the existing 1996 Circulation Element.

Bicycle: The proposed Circulation Element identifies a planned bikeway system to accommodate growing demand and provide another alternative to the car for local trips. The plan establishes three classes of bicycle routes:

- Class I Bike Paths for off-road routes located along designated multi-use trails or vacated rail lines separated from streets,
- Class II Bike Lanes for on-road routes delineated by painted stripes and other identifying features, and
- Class III Bike Routes for on-road routes sharing use with pedestrians or motor vehicle traffic that are signed but not striped.

The proposed Circulation Element expands on the existing bikeway plan by identifying bikeways that have been constructed since the adoption of the 1996 General Plan and designating additional routes that were not previously identified in the 1996 Circulation Element.

Equestrian: Near Central Park and the Bolsa Chica Wetlands areas, Huntington Beach has a few neighborhoods that permit horsekeeping. To support equestrian activities, the City has developed horse trails around and through those neighborhoods, with a planned route west to Pacific Coast Highway. Visitors can use the trails on rented horses available at the Huntington Central Park Equestrian Center. The Circulation Element update does not propose any changes to the existing or planned equestrian trail system.

Scenic Corridors

Huntington Beach's scenic corridors offer motorists, cyclists, and pedestrians attractive vistas and pleasing street scenes. The City has established policies regarding treatment of scenic corridor right-of-ways, selection criteria for appropriate surrounding land uses, and rigorous development review procedures to protect the aesthetic appeal of these corridors. The City defines three types of scenic corridors: Major Urban Scenic Corridors that offer views of either natural or built environments, Minor Urban Scenic Corridors that carry less traffic than Major corridors, and Landscape Corridors that require specific treatment of signage, landscaping, or other details to reinforce the design continuity of the area. Scenic corridors are regulated by design standards contained in the existing Urban Design Element. The proposed Circulation Element includes several changes concerning scenic corridors:

- Reclassification of secondary entry nodes to primary entry nodes at the intersections of Magnolia Street at Garfield Avenue and Magnolia Street at Pacific Coast Highway
- Garfield Avenue to be designated as a Landscape Corridor
- Bolsa Chica Street to be designated as a Minor Urban Scenic Corridor
- Edinger Avenue, west of Bolsa Chica Street, to be re-designated from Minor Urban Scenic Corridor to Landscape Corridor
- Gothard Street, between Edinger Avenue and McFadden Avenue, to be designated as a Landscape Corridor
- Bolsa Chica Street, south of Warner Avenue, to be designated as a Landscape Corridor
- Seapoint Avenue to be designated as a Landscape Corridor
- Magnolia Street to be designated as a Minor Urban Scenic Corridor

Implementation Programs

The primary implementing programs of the existing General Plan are proposed to remain in place in the Circulation Element update. These programs include monitoring of land use changes that affect the circulation system, the adequacy of emergency response, and intercity and regional bikeway connectivity. Programs related to development review and implementation of scenic highway planning, transportation demand management, parking, interagency cooperation, regional planning, and signage will also remain in place. Additional implementing programs, referred to as "Technical Administrative Reports," or "TARs," are proposed to

support the proposed PEZ policies, to solve neighborhood level traffic problems, enhance maintenance of scenic corridors, monitor traffic conditions and ensure timely intersection and roadway improvements.

Intended Uses of the Environmental Impact Report

This Program EIR is intended to provide the City of Huntington Beach, other responsible agencies, and interested parties with a factual accounting and reasoned analysis of the long range environmental consequences of the project, thereby enabling them to make informed decisions with respect to the requested approvals. The approvals required for this project are as follows:

Agency	Action
City of Huntington Beach	<ul style="list-style-type: none">• Adopt General Plan Amendment approving the Circulation Element
Orange County Transportation Authority	<ul style="list-style-type: none">• Adopt amendments to the Master Plan of Arterial Highways
California Coastal Commission	<ul style="list-style-type: none">• Approve Local Coastal Program Amendment

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4	Environmental Impact Analysis
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4.0 Environmental Impact Analysis

4.1 Air Quality

This section analyzes potential air quality impacts that could result from implementation of the proposed Circulation Element. The Initial Study found that impacts related to objectionable odors will be less than significant; therefore, odor issues are not discussed in this section. The following discussion is based on the Air Quality Impact Analysis prepared by BonTerra Consulting (see Appendix C). The South Coast Air Quality Management District (SCAQMD) submitted comments during the circulation of the Notice of Preparation. SCAQMD comments provided guidance on the overall air quality analysis, incorporation of mitigation measures, and the availability of data sources. No comments regarding air quality were received during the two public EIR Scoping Meetings.

Environmental Setting

Climate and Meteorology

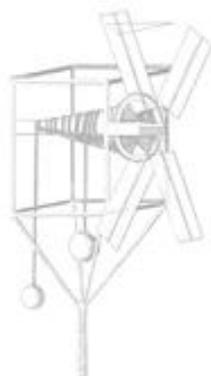
The City of Huntington Beach is located in the South Coast Air Basin (SoCAB) that consists of all or part of four counties: San Bernardino, Riverside, Los Angeles, and Orange. The distinctive climate of the SoCAB is determined by its terrain and geographic location. The SoCAB is a coastal plain with connecting broad valleys and low hills; it is bound by the Pacific Ocean to the southwest and has high mountains around the rest of its perimeter. The general region lies in the semi permanent high-pressure zone of the Pacific, resulting in a mild climate that is tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. Winds in the Project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by the daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling toward the sea. Local canyons can also alter wind direction, with wind tending to flow parallel to the canyons. The vertical dispersion of air pollutants in the SoCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi permanent high-pressure zone in which the SoCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, which is called a subsidence inversion. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basinwide occurrence of inversions between 0 and 3,500 feet above sea level occur an average of 191 days per year. The closest climate data station is at Newport Beach Harbor, southeast of Huntington Beach. The annual average maximum temperature measured at the Newport Beach Harbor climatic station from 1921 through 2008 was 67.8 degrees Fahrenheit (°F). The highest monthly average maximum temperature of 73.5°F occurs in

August and the lowest monthly average minimum temperature of 46.8°F occurs in January. The average annual precipitation during the same period was 11.08 inches.

Ambient Air Quality

Monitored Criteria Pollutants

Criteria air pollutant concentrations are measured at several monitoring stations in Orange County. The closest station to the City of Huntington Beach is the Costa Mesa Monitoring Station, located at 2850 Mesa Verde Drive East in Costa Mesa. The Costa Mesa site is also identified as Source Receptor Area (SRA) 18, North Orange County Coastal. Equipment at the station measures O₃, CO, NO₂, and SO₂ levels. Since this monitoring station does not monitor PM¹⁰ and PM^{2.5}, data was supplemented from the Mission Viejo Station 19 (Saddleback Valley) for these criteria pollutants. Data from 2007 to 2009 from these stations are summarized in Table 4.1-1 (2007-2009 Costa Mesa and Mission Viejo Monitoring Station Results). The data show violations of the federal and State 8 hour O₃ standard in 2008 and the State O₃ standard in 2007 at the Costa Mesa Monitoring Station. At the Mission Viejo Monitoring Station, the State PM¹⁰ standard was exceeded in 2007, and the federal PM^{2.5} standards were exceeded in 2007 and 2009.



**Table 4.1-1
2007-2009 Costa Mesa and Mission Viejo Monitoring Station Results**

Pollutant	Average Time	NAAQS	CAAQS	Maximum ^a			Federal Standard Exceeded (days) ^b			State Standard Exceeded (days) ^b		
				07	08	09	07	08	09	07	08	09
O ₃	1 hour	None	0.09 ppm	0.082	0.094	0.087	--	--	--	0	0	0
	8 hour	0.08 ppm	0.07 ppm	0.072	0.079	0.075	0	3	0	2	5	3
CO	1 hour	35 ppm	20 ppm	5	--	3	0	--	0	0	--	0
	8 hour	9 ppm	9.0 ppm	3.13	1.97	2.2	0	0	0	0	0	0
SO ₂	24 hours	0.14 ppm	0.04 ppm	0.004	0.003	0.01	0	0	0	0	0	0
	Annual	0.03 ppm	None	0.001	0.001	0.004	0	0	0	--	--	0
NO ₂	1 hour	None	0.18 ppm	0.074	0.081	0.07	--	--	--	0	0	0
	Annual	0.053 ppm	0.030 ppm	0.013	0.013	0.013	0	0	0	0	0	0
PM ^{10c}	24 hours	150 µg/m ³	50 µg/m ³	74.0	42.0	41	0	0	0	3	0	0
	Annual	Revoked	20 µg/m ³	23	21.2	23	--	--	--	1	0	0
PM ^{2.5}	24 hours	35 µg/m ³	None	46.8	31.9	39.2	2	0	1	--	--	--
	Annual	15 µg/m ³	12 µg/m ³	11.3	*	9.5	*	*	--	*	*	--

Source: SCAQMD 2007-2009
 ppm parts per million
 -- Data not available or applicable
 µg/m³ micrograms per cubic meter
 * There was insufficient data to determine the value.
 a Concentration units for O₃, CO, and NO₂ are in ppm. Concentration units for PM₁₀ and PM_{2.5} are in µg/m³.
 b For annual standards, a value of 1 indicates that the standard has been exceeded.
 c PM₁₀ data are recorded separately for federal and State purposes because the USEPA and California methods are slightly different. Federal values are shown. PM₁₀ is measured every 6 days; the number of days exceeding standards is projected to a 365-day base from the measurements.

Attainment Designations

Based on monitored air pollutant concentrations, the United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) designate an area's status in attaining the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for the criteria pollutants. When a region is designated as a non-attainment area, the State is required to prepare a State Implementation Plan (SIP) and the air district is required to prepare a regional attainment plan. When an area has been reclassified from a nonattainment to an attainment area for a federal standard, the status is identified as "maintenance" and there must be a plan and measures that will keep the region in attainment for the following ten years. Table 4.1-2 (South Coast Air Basin Attainment Statuses) summarizes the attainment status in the SoCAB for the criteria pollutants.

**Table 4.1-2
South Coast Air Basin Attainment Status**

Pollutant	State	Federal
O ₃ (1 hour)	Nonattainment	No standard
O ₃ (8 hour)		Severe 17 Nonattainment ^a
PM ¹⁰	Nonattainment	Serious Nonattainment
PM ^{2.5}	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO ₂	Attainment	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Attainment
All others	Attainment/Unclassified	No standards
Source: CARB 2009, SCAQMD 2007		
a In the 2007 AQMP, the SCAQMD requested reclassification to Extreme Nonattainment; as of January 2011, the USEPA has not responded to the request.		

Toxic Air Contaminants

Carcinogenic risks (i.e., cancer risks) are estimated as the incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability (e.g., 10 in 1 million). A risk level of 1 in a million implies a likelihood that up to 1 person, out of 1 million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of one million people. The Hazard Index (HI) expresses the potential for chemicals to result in non-cancer-related health impacts. HIs are expressed using decimal notation (e.g., 0.001). A calculated HI exposure that is less than 1.0 will likely not result in adverse non-cancer-related health effects over a lifetime of exposure. However, an HI greater than 1.0 does not necessarily mean that adverse effects will occur. Pursuant to SCAQMD Rule 1401(d)(1), the risks associated with potential exposure to emissions from a source equipped with the best available control technology for toxics (T-BACT) and from all emissions sources included within a "project" are acceptable if the incremental cancer risk (a) is less than 10 in 1 million and (b) is less than 1 in 1 million for sources not equipped with T-BACT.

The Multiple Air Toxics Exposure Study III (MATES III) is a monitoring and evaluation study conducted in the SoCAB. The study is a follow up to previous air toxics studies in the SoCAB and is part of the SCAQMD Governing Board's 2003–2004 Environmental Justice Workplan. The MATES III Study consists of several elements, including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the SoCAB. The study focuses on the carcinogenic risk from exposure to air toxics. It does not estimate mortality or other health effects from particulate exposures. Based on the

average concentrations at the fixed monitoring sites during 2004, 2005, and 2006, the MATES III study estimates that the carcinogenic risk from air toxics in the SoCAB is about 1,200 per 1 million. This risk refers to the expected number of additional cancers in a population of 1 million individuals that are exposed over a 70-year lifetime. Using the MATES III methodology, about 94 percent of the risk is attributed to emissions associated with mobile sources, and about 6 percent of the risk is attributed to toxics emitted from stationary sources, which include industries and businesses such as dry cleaners and chrome plating operations. The results indicate that diesel exhaust is the major contributor to air toxics risk, accounting, on average, for about 84 percent of the total. The MATES III study used monitored data to model risk throughout the SoCAB. The modeled carcinogenic risks for the City of Huntington Beach range from 500 to 1,200 in 1 million, which ranges from below and approaching the SoCAB average. The higher values are in the northwestern part of the City.

Planning and Regulatory Framework

Clean Air Act

The EPA is responsible for setting and enforcing the NAAQS for criteria pollutants. The standards are shown in Table 4.1-3 (California and National Ambient Air Quality Standards). The EPA regulates emission sources that are under the exclusive authority of the federal government such as aircraft, ships, and certain locomotives. The EPA's air quality mandates are drawn primarily from the Clean Air Act (CAA) that was enacted in 1970 and most recently amended by Congress in 1990. As part of its enforcement responsibilities, the EPA requires each State with federal nonattainment areas to prepare and submit a SIP that demonstrates the means to attain and maintain the federal standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution by using a combination of performance standards and market-based programs within the SIP identified timeframe.

California Clean Air Act

CARB, a part of the California Environmental Protection Agency, is responsible for coordinating and administering both federal and State air pollution control programs in California. In this capacity, CARB conducts research, sets the CAAQS shown in Table 4.1-3, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP.

**Table 4.1-3
California and National Ambient Air Quality Standards**

Pollutant	Averaging Time	State Standards ^{a,b}	Federal Standards ^c	
			Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 Hour	0.09 ppm (180 µg/m ³)	-	-
	8 Hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	Same as Primary
PM ₁₀ ^o	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary
	AAM	20 µg/m ³	-	Same as Primary
PM _{2.5}	24 Hour	-	35 µg/m ³	Same as Primary
	AAM	12 µg/m ³	15.0 µg/m ³	Same as Primary
CO	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	-
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	-
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	-	-
NO ₂	AAM	0.030 ppm (56 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary
	1 Hour	0.18 ppm (338 µg/m ³)	-	-
SO ₂	AAM	-	0.030 ppm (80 µg/m ³)	-
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	-
	3 Hour	-	-	0.5 ppm (1,300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)	-	-
Lead ^f	30 day Avg.	1.5 µg/m ³	-	-
	Calendar Quarter	-	1.5 µg/m ³	Same as Primary
	Rolling 3-month avg.	-	0.15 µg/m ³	
Visibility Reducing Particles	8 hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles	No Federal Standards	
Sulfates	24 Hour	25 µg/m ³		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)		
Vinyl Chloride ^f	24 Hour	0.01 ppm (26 µg/m ³)		

Source: BonTerra Consulting 2009

- No Standard

ppm parts per million

µg/m³ micrograms per cubic meter

mg/m³ milligrams per cubic meter

AAM annual arithmetic mean

Km kilometer.

a California standards for O₃, CO (except Lake Tahoe), SO₂ (1 and 24 hour), NO₂, PM₁₀, PM_{2.5}, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

b Concentration is expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C, 77 degrees Fahrenheit [°F]) and a reference pressure of 760 torr (unit of measure for the pressure exerted by 1 mm of mercury, equal to 1/760 of standard atmospheric pressure). Most measurements of air quality are to be corrected to a reference temperature of 25°C (77°F) and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

c National standards (other than O₃, PM₁₀, PM_{2.5}, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth-highest, 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years are equal to or less than the standard. Contact the USEPA for further clarification and current federal policies.

d National Primary Standards: The levels of air quality necessary with an adequate margin of safety to protect public health.

- e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- f CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

For regions that do not attain the CAAQS, CARB requires the air districts to prepare plans for attaining the standards. These plans are then integrated into the State SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB is preparing to enact new regulations limiting the emissions of greenhouse gases (GHGs) from new vehicles in California. The effect of these regulations will be to increase the fuel efficiency of vehicles (i.e. more miles per gallon) and to reduce the emissions of the criteria pollutants as well as GHGs.

Air Quality Management Plan

Air quality in Orange County and throughout the SoCAB is regulated by the SCAQMD. As a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), County transportation commissions, and local governments to cooperate actively with all federal and State government agencies. It develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a sequence of Air Quality Management Plans (AQMPs). Two versions (2003 and 2007) of the AQMP are in different stages of approval. The 2003 AQMP is an update to the 1997 AQMP. The 2003 AQMP employs up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off road mobile sources, and area sources. The 2003 AQMP proposes policies and measures to achieve federal and State standards for healthy air quality in the SoCAB. The 2003 AQMP updates the attainment demonstration with the federal standards for O₃ and PM¹⁰; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a future CO maintenance plan; and updates the maintenance plan for the federal NO₂ standard that the SoCAB has met since 1992. The 2003 AQMP was adopted by the SCAQMD in August 2003 and approved, with modifications, by CARB in October 2003. CARB then submitted the 2003 State and Federal Strategy of the California SIP (that incorporates the 2003 AQMP) to the EPA on January 9, 2004. However, this SIP has not been approved and the 1997 AQMP with 1999 amendments remains the federally approved AQMP.

The SCAQMD Governing Board adopted the 2007 AQMP on June 1, 2007. The purpose of the SoCAB's 2007 AQMP is to set forth a comprehensive program that will lead the region into compliance with federal 8-hour O₃ and PM^{2.5} air quality standards. Federal and State 8 hour O₃ and PM^{2.5} standards were implemented subsequent to 2003. CARB adopted the State Strategy for the 2007 SIP, including the 2007 AQMP as part of the 2007 SIP, on September 27, 2007. On November

28, 2007, CARB submitted a SIP revision to the EPA for O₃, PM^{2.5}, CO, and NO₂ in the SoCAB; this revision is identified as the "2007 South Coast SIP". The 2007 AQMP/2007 South Coast SIP demonstrates attainment of the federal PM^{2.5} standard in the SoCAB by 2014 and attainment of the federal 8 hour O₃ standard by 2023. The SIP also includes a request to reclassify the O₃ attainment designation from "severe" to "extreme". On February 1, 2008, CARB submitted additional technical information relative to the 2007 South Coast SIP to the USEPA.

In March 2009, CARB reported the following status:

With its actions since adopting the State Strategy in September 2007, California now has in place programs and regulations that will achieve 87 percent of the reductions needed for PM^{2.5} attainment in the South Coast. California has also achieved 90 percent of the reductions needed from near-term measures for ozone attainment in the South Coast. Additional reductions are still needed from long-term measures.

On July 14 2011, the EPA issued a notice of proposed partial approval and partial disapproval of the 2007 South Coast SIP for the 1997 PM^{2.5} Standards and corresponding 2007 State strategy. The EPA proposed to approve the emissions inventories, modeling, control measures and technologies, progress and attainment demonstrations, and transportation emissions budgets of the SIP with an attainment extension to April 5, 2012; however, the EPA identified deficiencies in the SIP's contingency measures and would not accept the assignment of 10 tons per day NO_x emissions reductions to the EPA. SCAQMD prepared revised contingency measures that were approved by the SCAQMD Board on October 7, 2011 and forwarded to the ARB for approval and submission to the EPA.

Thresholds of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- b) Expose sensitive receptors to substantial pollutant concentrations.
Conflict with or obstruct implementation of the Air Quality Management Plan.
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the South Coast Air Basin is non-attainment under the National or California Ambient Air Quality Standards.

Environmental Impacts

IMPACT 4.1.A

Implementation of the Circulation Element update will not violate or substantially contribute to any existing or projected air quality violation. Impacts will be less than significant.

SCAQMD Thresholds of Significance

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SCAQMD has established significance thresholds to assess the regional and localized impacts of project related air pollutant emissions. The significance thresholds are updated as needed to appropriately represent the most current technical information and attainment status in the SoCAB. Table 4.1-4 (SCAQMD Air Quality Significance Thresholds) presents the most current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants.

A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality.

Methodology

Pollutant emissions from vehicle travel in the City were calculated by using the CARB Emission Factor model (EMFAC 2007) and vehicle miles traveled data provided by the project traffic consultant. The EMFAC model is used to calculate emission rates from all motor vehicles, such as passenger cars to heavy-duty trucks that are operating on highways, freeways and local roads in California. EMFAC2007 is the most recent version of this model and accepted by SCAQMD as the primary model for estimating on-road vehicle emissions. The model reflects the CARB's current understanding of how vehicles travel and how much they pollute. EMFAC calculates the emission rates of 1965 and newer vehicles powered by gasoline, diesel, or electricity. Emission factors are calculated for VOC, CO, NO_x, PM, SO₂ and CO₂ for each vehicle class within each calendar year, for 24 1-hour periods, for each month of the year, for each district, basin, and county in California. EMFAC can report the gram per mile emission rates of a single technology group or the ton per day inventory for the entire 28,000,000 vehicle California fleet. Output data can be obtained as a function of ambient temperature, relative humidity, and speed. Vehicle testing provides basic emission data. Fleet composition is based on vehicle registration data. Vehicle miles traveled (VMT) data used to calculate regional emissions is estimated from odometer readings reported in smog testing. Major updates of EMFAC have occurred at three to five year intervals.

**Table 4.1-4
SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds

4.0 Environmental Impact Analysis

<i>Pollutant</i>	<i>Construction</i>	<i>Operation</i>
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ¹⁰	150 lbs/day	150 lbs/day
PM ^{2.5}	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants		
TACs ^b	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to Rule 402 ^c	
Ambient Air Quality For Criteria Pollutants^d		
NO ₂	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
PM ₁₀	24-hour average ≥ 10.4 µg/m ³ (construction) 24-hour average ≥ 2.5 µg/m ³ (operation) Annual average ≥ 1.0 µg/m ³	
PM _{2.5}	24-hour average ≥ 10.4 µg/m ³ (construction) 24-hour average ≥ 2.5 µg/m ³ (operation)	
Sulfate	24-hour average ≥ 1.0 µg/m ³	
CO	1-hour average ≥ 20.0 ppm (State) 8-hour average ≥ 9.0 ppm (State/federal)	

Source: SCAQMD 2011

lbs/day

pounds per day

ppm

parts per million

µg/m³

micrograms per cubic meter

b Toxic air contaminants (carcinogenic and non-carcinogenic).

c Rule 402 states that a project shall not "discharge from any source whatsoever 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. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

d Ambient air quality threshold based on SCAQMD Rule 403.

Impact Analysis

Intersection and roadway improvements will be required over the long-term in order to implement the Circulation Element update. This will include construction activities such as demolition of existing streets and sidewalks, removal and replacement of landscaping, asphalt paving, and hauling and dumping of wastes and debris. Construction of individual roadway and intersection improvements will be implemented over time and are not anticipated to be constructed concurrently. This will reduce the potential for significant, cumulative, short-term construction-related air quality impacts in the future. Future potential improvements will be analyzed on a project-by-project basis pursuant to the requirements of CEQA and City standards. Potential impacts are anticipated to be less than significant with implementation of existing standards and regulations and project-specific control measures designed to reduce pollutant emissions from construction projects.

The proposed Circulation Element is designed to accommodate long range traffic volumes to minimize congestion problems and would not directly generate any stationary or mobile sources of air pollutant emissions. Therefore, the analysis to determine if proposed future changes to the circulation system would exceed SCAQMD CEQA significance thresholds and related ambient air quality standards is based upon the forecast of total daily VMT in a prescribed area. Mobile source emissions were calculated for the existing conditions, the current Circulation Element, and the proposed Project. For purposes of calculation, it was assumed that the average traffic speed for all vehicles in 2009 and in 2030 is 35 miles per hour. Although traffic volumes will increase and a system to manage traffic more efficiently will be implemented, the speeds on most roadways are, and will continue to be governed by posted speed limits. The VMT data and the estimated emissions are shown in Table 4.1-5 (Estimated Daily Emissions).

As shown in Table 4.1-5, the daily VMT in the City of Huntington Beach is forecast to increase by more than 20 percent between 2009 and 2030. In that same period, VOC and NO_x emissions, precursors of O₃ and smog, would be reduced by almost 70 percent due to the continuing improvement in vehicle emissions technology, increased fuel efficiency, and the continuing retirement of older vehicles and their replacement with newer, cleaner vehicles that generate substantially lower levels of emissions. For the same reasons, emissions of CO would be reduced by more than 60 percent and PM¹⁰ emissions would be slightly reduced. PM^{2.5} emissions would increase slightly. The substantial reductions in gaseous pollutants would not occur with PM¹⁰ and PM^{2.5} because the emission reduction technologies are not as effective for particulates and because PM¹⁰ and PM^{2.5} are generated from brake and tire wear in addition to engine exhaust. The reductions shown in Table 4.1-5 and described above are included in the EMFAC 2007 emission factors that are part of the URBEMIS¹ model (included in Appendix D). With the implementation of newer regulations to improve vehicle efficiency, emissions in 2030 are anticipated to be less than predicted by current air quality models.

¹ Note that the California Emissions Estimator Model (CalEEMod) and URBEMIS are both supported by SCAQMD. The air quality report for this project was prepared before the release of CalEEMod in 2011.

**Table 4.1-5
Estimated Daily Emissions**

Scenario	VMT in Huntington Beach	Pollutant Emissions –lbs/day				
		VOCs	NOx	CO	PM10	PM2.5
Existing Conditions – 2009	2,735,124	621	4,127	17,098	127	114
Proposed Circulation Element – 2030	3,302,762	196	1,244	6,358	124	116
Variance	567,638	-424	-2,883	-10,739	-3	2
SCAQMD Thresholds		55	55	550	150	55
Exceeds SCAQMD Thresholds?		No	No	No	No	No
Current General Plan – 2030	3,353,350	199	1,263	6,456	126	118
Proposed Circulation Element – 2030	3,302,762	196	1,244	6,358	124	116
Variance	-50,588	-3	-19	-97	-2	-2
SCAQMD Thresholds		55	55	550	150	55
Exceeds SCAQMD Thresholds?		No	No	No	No	No

Source: BonTerra Consulting 2009
VMT: vehicle miles traveled; lbs/day: pounds per day; VOC: volatile organic compounds; NOx: oxides of nitrogen; CO: carbon monoxide; PM10: respirable particulate matter; PM2.5: fine particulate matter.

For informational purposes, the data of Table 4.1-5 also show that the forecasted VMT in the City would be approximately two percent less than with the existing Circulation Element, and pollutant emissions would be less by the same percentage. The proposed Circulation Element Update would eliminate some roadway segments that are currently planned but not built; this could result in a minor increase in VMT outside the City of Huntington Beach. Based on the substantial reduction in vehicle emissions that will occur between 2009 and 2030 as shown in Table 4.1-5 it is concluded that the change in regional emissions associated with this VMT difference would be less than the SCAQMD thresholds. The proposed Circulation Element Update would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Comments related to the air quality analysis

SCAQMD SCAQMD submitted comments related to the scope of the air quality analysis for the Circulation Element update on July 31, 2009. These comments recommend the use of the 1993 CEQA Air Quality Handbook as a guide for preparing the air quality analysis, the analysis of construction and operational emissions impacts, use of the PM^{2.5} calculation methodologies, use of Localized Significance Thresholds (LSTs), and projection of vehicle trip generation. BonTerra Consulting, in preparing the Air Quality Impact Analysis that serves as the foundation for air quality analysis in this EIR, has incorporated all of the above recommendations in the preparation of their analysis, except for the use of LSTs. As the Circulation Element update is a program-level document that addresses broad, City-wide transportation and circulation issues, analysis of project-level, localized emissions is not warranted.

**IMPACT
4.1.B**

The proposed Circulation Element would not result in exposure of sensitive people to significant pollutant concentrations.

Defining Sensitive Receptors

CARB research has documented increased potential health risks for sensitive receptors as the distance to sources of hazardous emissions is reduced. Based on these findings, it has developed guidelines to assist local government agencies in siting new land uses that could be occupied by “sensitive individuals” at a safe distance from such sources. These guidelines are contained in the publication entitled “Air Quality and Land Use Handbook”. “Sensitive individuals” are defined in the Air Quality and Land Use Handbook as follows:

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).

The analysis of potential impacts to sensitive receptors will focus on two issues, the creation of Carbon Monoxide ‘hotspots’ at congested intersections and emissions of Toxic Air Contaminants (TACs) from construction and roadway sources.

Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. An initial screening procedure was developed by the University of California, Davis Institute of Transportation Studies, and is known as the *Transportation Project-Level Carbon Monoxide Protocol* (the CO Protocol) to determine whether a project poses the potential for a CO hotspot. According to the CO Protocol, projects may make air quality worse if they (1) increase the percentage of vehicles in cold start modes by two percent or more; (2) increase traffic volumes by five percent or more over existing volumes; or (3) make traffic flow worse, which is defined for signalized intersections as increasing average delay at intersections operating at Level of Service (LOS) E or F, or causing an intersection that would operate at LOS D or better without a project to operate at LOS E or F with a project. If, according to the CO Protocol, a project poses a potential for a CO hotspot, a quantitative screening is required. Since the SCAQMD has not developed a specific screening protocol, the methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD) are applied. These are considered to be applicable to conditions within the SoCAB.

An initial CO hotspot screening was conducted to determine the most severely congested major intersections because this is where conditions could most likely result in substantial pollutant concentrations that could adversely affect nearby sensitive receptors. The traffic impact analysis designates each intersection as Principal or Secondary; Principal intersections serve major thoroughfares, often with substantial through traffic components. The Secondary intersections are more typically associated with roadways serving residential areas. The CO hotspot screening focuses on the 72 Principal intersections. The existing conditions intersection analysis shows that four Principal intersections would operate at LOS E in either the AM or PM peak hour; no intersections would operate at LOS F. For the proposed Circulation Element Update and 2030 traffic conditions and the current Circulation Element, six Principal intersections would operate at LOS F, with the most severe being the intersection of Goldenwest Street and Pacific Coast Highway, with a forecasted intersection capacity utilization (ICU) factor of 1.14 (ICU's greater than 1.0 are LOS F), while the LOS F intersection with the largest traffic volumes would be Beach Boulevard at Edinger Avenue.

Based on these findings, a quantitative screening was performed in accordance with SMAQMD criteria, as follows. CO concentrations are less than significant if:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway, or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average.

The proposed Project traffic study shows that traffic volumes at the Goldenwest Street/Pacific Coast Highway intersection with LOS F conditions would be 5,810 vehicles per hour with the proposed Circulation Element roadway conditions. At the Beach/Edinger intersection with proposed Circulation Element conditions and LOS F operations, the traffic volume would be 10,680 vehicles per hour. These volumes are less than the screening criterion of 31,600 vehicles per hour. These intersections are not located in areas where mixing of air would be limited, nor is the vehicle mix anticipated to be substantially different than the County average. Therefore, there would be no potential for a CO hotspot or exposure of persons to CO in excess of SCAQMD criteria for ambient air quality for CO. The impact would be less than significant and no mitigation is required.

Toxic Air Contaminants

Construction activities for future roadway widening and intersection improvements under the proposed Circulation Element could result in short term, project-generated emissions of diesel particulate matter (PM) from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; building construction; and other miscellaneous activities. CARB identified diesel PM as a TAC in 1998. The dose to which receptors

are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with a proposed project. Project generated or construction-related emissions of TACs would not expose sensitive receptors to substantial emissions of TACs because (1) the use of off-road, heavy-duty diesel equipment would be temporary (short in duration when compared to 70 years); (2) diesel PM has highly dispersive properties; and (3) further reductions in exhaust emissions from improved equipment would occur. Impacts related to temporary diesel particulate emissions during construction of future street improvements would be less than significant.

**IMPACT
4.1.C**

Implementation of the Circulation Element would be consistent with the Air Quality Management Plan.

The two principal criteria for conformance to an AQMP are (1) whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards and (2) whether the project would exceed the assumptions in the AQMP. With respect to the first criterion, the analysis in Impact 4.1.A above demonstrates that the Project would not result in an increase in the frequency or severity of existing air quality violations, cause, or contribute to new violations, or delay timely attainment of air quality standards.

With respect to the second criterion, AQMP assumptions for mobile source emissions are based on socioeconomic data and transportation models provided by SCAG. The SCAG models use land use designation, population, employment, and household data among other inputs. The 2007 AQMP is based upon socioeconomic forecasts and local land use policies available at the time of preparation. The amount of growth projected in the proposed Circulation Element Update is comparable to the official OC-Projections 2006 growth forecasts and the Huntington Beach Land Use Element policies that were in effect at the time the 2007 AQMP was prepared. Future traffic forecasts developed for the updated Circulation Element, therefore, are considered to be consistent with projections developed for the current AQMP.

Although the roadway network proposed by the Circulation Element Update eliminates a few future segments shown on the County Master Plan of Arterial Highways that were modeled for the 2007 AQMP, the changes in the proposed element, principally for the improved management of traffic and the setting of higher performance standards, would not result in increased emissions and would be consistent with the goals of the AQMP.

The Final 2007 SCAQMD AQMP includes seven mobile source control measures proposed for SCAQMD implementation (SCAQMD 2007). None of the seven mobile source measures are appropriate for implementation at the local level. The AQMP also incorporates transportation strategies and control measures from the SCAG Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP). These measures are grouped into three general categories: high occupancy vehicle; transit and systems management; and information-based transportation strategies. The strategies and control measures were defined as a single Transportation Control Measure (TCM) from which TCM projects were developed for implementation by various lead agencies including the California Department of Transportation (Caltrans), the Orange County Transportation Authority (OCTA), and individual cities. There are no Huntington Beach TCM projects. Considering the proposed Circulation Element is consistent with the two criteria for conformance with the AQMP, impacts will be less than significant.

**IMPACT
4.1.D**

The proposed Circulation Element would not worsen projected levels of the region's non-attainment pollutants, i.e. PM₁₀, PM_{2.5} VOC, or NO_x.

The region is a nonattainment area for PM¹⁰, PM^{2.5}, and the O₃ precursors VOC and NO_x. Implementation of the updated Circulation Element would contribute each of these non-attainment criteria pollutants to the area during short-term project construction (of future roadway projects) and long-term circulation network operations. As described in Impact 4.1.A above, projected (2030) VOC, NO_x, and PM¹⁰ emissions in the City of Huntington Beach with either the current Circulation Element or the proposed Circulation Element Update would be less than the existing emissions due to continuing improvement in vehicle emissions technology, increased fuel efficiency, and the continuing retirement of older vehicles and their replacement with newer, cleaner vehicles that generate substantially lower levels of emissions. Therefore, the proposed Circulation Element will not result in a cumulatively considerable increase in these pollutants.

The 2007 AQMP identifies a 15 percent reduction in PM^{2.5} by 2014 and has established control measures and strategies to meet federal attainment deadlines. Because PM^{2.5} emissions within the basin are primarily formed secondarily from emissions of SO_x, NO_x, and VOCs, control measures to reduce these pollutants also help reduce levels of emitted PM^{2.5}. Emissions of SO_x are of primary concern in the basin because this pollutant's emissions are projected to increase over the long-term due to ship emissions at ports. Control measures designed to reduce directly-emitted PM^{2.5} include on-going diesel toxic reduction programs. NO_x reductions are primarily based on mobile source control strategies, such as add-on emission control devices. PM^{2.5} emissions would increase slightly over the long term, despite benefits of diesel toxic emission control measures, due to the projected increase in VMT of more than 20 percent. The increase in PM^{2.5} emissions would be less than five percent of the SCAQMD CEQA threshold and would therefore be less than cumulatively considerable. Furthermore, the proposed Circulation Element would not conflict with the control strategies of the AQMP because it does not directly or indirectly affect the technological advancement of mobile emissions reductions.

Finally, implementation of the proposed Circulation Element update would result in similar levels of total vehicle miles travelled on the local roadway network as with the adopted Element, and thus similar levels of vehicular emissions. Thus, there would be no cumulatively considerable net increase in nonattainment criteria pollutants.

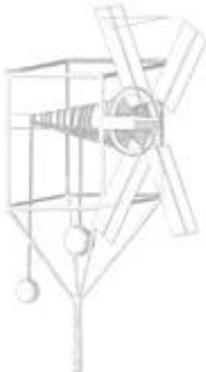
Mitigation Measures

None required

Level of Significance

Impacts will be less than significant without mitigation incorporated

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4.2 Biological Resources

In accordance with the findings in the Initial Study, this section discusses potential impacts to coastal zone wetlands and riparian resources located adjacent to street segments that might need to be physically expanded to handle long-term increases in traffic volumes, while achieving the City's performance standards to minimize traffic congestion. This section does not discuss listed species, wildlife corridors, migratory routes, Habitat Conservation Plans, Natural Community Conservation Plans, or local regulations protecting biological resources because impacts related to these issues were found to be less than significant or nonexistent in the Initial Study (see Appendix A for an expanded discussion). No comments concerning potential impacts to riparian or wetlands resources were submitted in response to the Notice of Preparation of a Draft EIR, and none were submitted at the two public scoping meetings held during the NOP response period.

Environmental Setting

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is periodically or permanently covered by shallow water. Wetland habitats include: saltwater marshes, freshwater marshes, open or closed brackish water marshes, mudflats, and fens. For formal delineation purposes, wetlands must have one or more of the following attributes:

- 1) At least periodically, the land supports predominantly hydrophytes (plants that require water-saturated soils to survive); or
- 2) The near surface zone is predominantly undrained hydric (water-saturated) soil; or
- 3) The near surface zone is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Wetlands provide a variety of ecological, economic and cultural values. These include:

- flood control, by taking the peak off floods, thereby slowing flows and storing water
- ground water recharge
- habitat for a number of rare, threatened or endangered plants and wildlife species
- transformation, dilution and removal of waterborne chemical pollutants
- protection of stream banks and shorelines from erosion
- aquatic habitat for food production
- recreation, tourism and open space and aesthetic values, such as boating, swimming, fishing, hunting, hiking, photography, bird and other wildlife observation, and scientific study

Wetlands can be classified as seasonal or perennial, depending on the duration of inundation or saturation. Vernal pools, alkali seeps and seasonal freshwater marsh

are classified as seasonal wetlands, while tidal salt marsh, bogs and perennial freshwater marsh are classified as perennial wetlands. Another way to classify wetlands is whether their dominant vegetation is wood or herbaceous. Riparian forest and riparian scrub are examples of woody habitat, and freshwater marsh, tidal salt marsh and vernal pools are examples of herbaceous habitat. Riparian habitat is also defined in the Coastal Element as "The land and plants bordering a watercourse or lake."

Wetland resources in Huntington Beach occur in the coastal zone, where they are classified as "Environmentally Sensitive Habitat," but are not known to occur in any significant concentration elsewhere in the mostly urbanized planning area. The Huntington Beach Wetlands Conservancy has classified approximately 200 acres of functional or restorable wetlands in the City's coastal zone, as listed in Table 4.2-1. These are remnants of what was once an extensive coastal marsh system along much of the southern California coastline. Most of the local wetland system has been disconnected from tidal flow for some time; as a result, several characteristic plants dependent on this regular tidal flushing may have disappeared. Salt marsh habitat supports a large wildlife population, including several species of lizards and snakes, above areas of tidal flux, and numerous types of birds, mainly migrant and wintering waterfowl, waders, shorebirds, gulls and terns. The federal and state-listed "endangered" California least tern has been observed on the pond south of the AES power plant and in the Bolsa Chica area.

**Table 4.2-1
Huntington Beach Coastal Zone Wetlands**

Wetland	Sub-Area	Size (acres)
Waterfront Wetlands	4	3.5
Newland Marsh	5	65.0
Magnolia Marsh	5	40.0
Brookhurst Marsh	5	67.0
Talbert Marsh	5	25.0
TOTAL		200.5
Source: Huntington Beach Wetlands Conservancy 2009, City of Huntington Beach 2008		

The largest intact salt marsh habitat in the coastal zone is known as the Bolsa Chica Wetlands, located between Warner Avenue and Seapoint Avenue, within unincorporated territory governed by the County of Orange. A majority of the salt marsh area within the City is near the Huntington Beach Channel. This consists of the Talbert and Brookhurst Marshes, where restoration is underway. Other salt marsh remnants considered suitable for restoration occur west of the AES electrical generation plant and east of Beach Boulevard.

Freshwater marsh habitat is typically found in soil depressions and channels that fill and hold fresh water for at least a part of the year, and in coastal plains near permanent slow-moving or ponded waters. Freshwater marsh occurs immediately north and east of the Bolsa Chica Wetlands. Riparian elements consisting of stands

of medium to large trees are found near Talbert Lake, the terminus of the Freeman Creek channel, and along the western side of Coldwater Lane, in Bartlett Park.

Planning and Regulatory Framework

Sections 401, 402 and 404, Clean Water Act

Section 401 of the federal Clean Water Act (CWA) requires an applicant to obtain authorization for any activity that may result in a discharge of a pollutant into waters of the United States. As a result, proposed fill in waters and wetlands requires coordination with the appropriate State Regional Water Quality Control Board (RWQCB) that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit, which is discussed later in this section.

Section 402 of the CWA established the NPDES program requiring permits for activities that discharge pollutants into waters of the United States. This includes discharges from municipal, industrial, and construction sources. Generally, these permits are issued and monitored under the oversight of the State Water Resources Control Board (SWRCB) and administered by each regional water quality control board. A brief discussion of Huntington Beach's municipal permit and the general construction permit that will be applicable to future street improvement projects are presented below.

Municipal – Municipal Separate Storm Sewer Systems (MS4) are issued permits based on the size of the municipality. Those municipalities with populations over 100,000 are considered medium/large. All others are considered small. MS4 permit requirements include reduction of pollutant discharges to the 'maximum extent practicable' and protection of water quality. Requirements also include identification of major outfalls and pollutant loads and control of discharges from new development and redevelopment. To address these objectives, municipalities are required to prepare stormwater management plans. The City of Huntington Beach is subject to the NPDES permitting process under its own MS4 Permit codified as Chapter 14.25 (Storm Water and Urban Runoff Management) of the City's Municipal Code. The City is also a co-permittee under Santa Ana RWQCB Order No. R8-2009-0030 that issues the regional NPDES permit to the County of Orange. Street runoff is controlled by the City's municipal storm drainage system and is thus managed in accordance with the water quality control measures specified in the MS-4 Permit.

Construction – Construction activities that disturb one acre or more of ground surface (whether a single project or part of a larger development) are required to obtain coverage under the State's General Permit for Dischargers of Storm Water Associated with Construction Activity. The permit requires preparation of a Storm Water Management Plan (SWPPP) and implementation of Best Management Practices (BMPs) with a monitoring program.

Under *Section 404* of the CWA, the U.S. Army Corps of Engineers (ACOE) has jurisdiction over “Wetlands” and “Waters of the United States.” Activities that could discharge fill or dredge materials or otherwise adversely modify wetlands or other waters of the United State and associated habitat, must be authorized by the ACOE through various types of a Section 404 permit. Such permits typically involve mitigation to offset adverse impacts on wetlands and other waters of the United States in a manner that achieves no net loss of wetland acres or values.

California Fish and Game Code Sections 1600-1607, Streambed Alteration

The California Department of Fish and Game (CDFG), through provisions of California Fish and Game Code Sections 1600-1607, is empowered to issue agreements (Streambed Alteration Agreements) for projects that would “divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake” (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed, banks, and intermittent flow. The limits of CDFG jurisdiction are also based on riparian habitat and may include wet areas that do not meet US Army Corps of Engineers wetland criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Huntington Beach General Plan

Environmental Resources Conservation Element

The Environmental Resources Conservation (ERC) Element of the Huntington Beach General Plan includes policies designed to support the goal of protecting and preserving plants and wildlife species, including wetlands, as follows:

- ERC2.1.2 Identify and protect significant habitats in Gibbs Park, Bolsa Chica, Huntington Beach Wetlands, and throughout the City, to the extent feasible.
- ERC2.1.3 Encourage the county to include environmentally sensitive lands near the mouth of the Santa Ana River, north of Newland Street, Bolsa Chica Wetlands and the Huntington Beach Wetlands (the United States Army Corps of Engineers [US COE] mitigation project) for inclusions into a coastal wetlands preserve.
- ERC2.1.4 Investigate the possibility of including lands along the Huntington and Talbert Channels into the wetlands preserve.
- ERC2.1.5 Identify and determine whether wetlands, coastal dunes, bluffs , or riparian areas, will be given Environmentally Sensitive Habitat Area (ESHA) status under the Coastal Plan.

- ERC2.1.6 Preserve habitat of significant natural open space areas, and provide linkage with other restored areas.
- ERC2.1.7 Develop council approved plans that provide natural open space linkages between Central Park, the freshwater riparian habitat to the southwest, and the freshwater marsh areas within Bolsa Chica.
- ERC2.1.8 Require restoration of coastal dunes within areas designated for preservation (i.e. within the Bolsa Chica study area and the mouth of the Santa Ana Rivers/Huntington Beach Wetlands).
- ERC2.1.9 Preserve habitat of endangered species, including those listed in Table BR-1 of the Technical Background Report and those which may be considered by the City in the future.
- ERC2.1.10 Conduct construction activities to minimize adverse impacts on existing wildlife resources.
- ERC2.1.12 Promote preservation and restoration of those sensitive biological areas identified in Policy 2.1.1
- ERC2.1.16 Control the use of anti-fouling chemical treatments on boats moored in the harbor.
- ERC2.1.17 Monitor and educate Huntington Harbour residents, boaters, and boat owners on proper boating pollution prevention methods such as anti-fouling chemical use, boat maintenance, vessel discharges (bilge waste, sewage pump-outs, gray water), and fish waste management.
- ERC2.1.18 Support efforts such as Huntington Harbour residents' plan to setup a 'Harbor Watch Program' to encourage boaters to be educated and address water quality issues.
- ERC2.1.21 Require efforts which reduce urban storm water, including the:
- a. use of approved and/or best available runoff control management techniques in new development including the National Population Discharge Elimination System (NPDES) standards.
 - b. adoption of guidelines to reduce runoff from construction sites. These implementation guidelines will be developed with the guidance and approval of the Santa Ana Regional Water Quality Control Board and the State Water Resources Control Board.
 - c. establishment of runoff controls for soils removed in restoration and/or remediation of oil sites; and
 - d. development of plans to modify flood control channels that empty into the Bolsa Chica, Huntington Beach Wetlands and beach areas. These modifications should enhance the upstream

ability to remove harmful constituents from runoff before entering the wetlands, while not altering their flood control ability.

Coastal Element/Local Coastal Program

The California Coastal Act (Public Resources Code Section 30000) directs each local governmental agency located wholly or partly within the Coastal Zone (as defined by the Act) to prepare a Local Coastal Program (LCP) for its portion of the Coastal Zone. Local Coastal Programs are used to carry out the policies and requirements of the Coastal Act by local governments. LCPs must be reviewed and certified by the California Coastal Commission before implemented by a local government. A certified LCP allows the City to issue Coastal Permits pursuant to the Coastal Act on behalf of the California Coastal Commission. Huntington Beach's LCP has been certified since March 1984. Huntington Beach implements the LCP through Chapters 221 (Coastal Zone Overlay District) and 245 (Coastal Development Permit) of the Zoning and Subdivision Ordinance. Any development project within the Coastal Zone is subject to these permitting requirements.

The Huntington Beach Coastal Zone encompasses wetlands that are considered environmentally sensitive areas due to the habitat and other environmental and aesthetic benefits they provide (refer to Table 4.2-1.) The Coastal Element identifies specific issues related to Environmentally Sensitive Habitat Areas (ESHAs) to be addressed by its objectives and policies. These issues include intrusion of development, oil and toxic spills, need for unobtrusive pedestrian access, and increased public awareness. These issues are addressed in turn through Policies C7.1.1 through C7.1.5, and Policies C7.2.3 and C7.2.6. These policies are listed below.

- C7.1.1 Evaluate any existing environmental degradation or potential degradation from current or planned storm drain and flood control facilities in wetlands or other sensitive environments. Storm drains and flood control projects shall be designed to minimize adverse impacts to wetlands or other environmentally sensitive areas. Additionally, flood control projects shall be designed, to the maximum extent feasible, to avoid reducing the width of the floodplain and to restore the natural bottom and width of the floodplain.
- C7.1.2 Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. In the event that development is permitted in an ESHA pursuant to other provisions of this LCP, a 'no-net-loss' policy (at a minimum) shall be utilized.
- C7.1.3 Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and

shall be compatible with the continuance of those habitat and recreation areas.

C7.1.4 Require that new development contiguous to wetlands or other environmentally sensitive habitat areas include buffer zones. Buffer zones shall be a minimum of one hundred feet setback from the landward edge of the wetland, with the exception of the following:

A lesser buffer may be permitted if existing development or site configuration precludes a 100-foot buffer, or conversely, a greater buffer may be required if substantial development or significantly increased human impacts are anticipated. In either case, the following factors shall be considered when determining whether a lesser or wider buffer zone is warranted. Reduced buffer zone areas shall be reviewed by the Department of Fish and Game prior to implementation.

- A) Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between wetland and adjacent upland.
- B) Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short and long term adaptability of various species to human disturbance.
- C) Susceptibility of parcel to erosion: The buffer should be sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development based on soil and vegetative characteristics and impervious surface coverage.
- D) Use existing cultural features to locate buffer zones: The buffer zone should be contiguous with the environmentally sensitive habitat area and make use of existing features such as roads, dikes, irrigation canals, and flood control channels where feasible.

C7.1.5 Notify County, State, and Federal agencies having regulatory authority in wetlands and other environmentally sensitive habitats when development projects in and adjacent to such areas are submitted to the City. The implementation of any Habitat Conservation Plan shall require an amendment to the Local Coastal Program. Incidental take of sensitive habitat and/or species that occurs in the context of development must be consistent with the LCP.

- C7.2.3 Require that agencies involved in the enhancement of wetlands implement the following measures:
- A) Site and design culverts to ensure against the risk of flood damage to adjacent properties, and
 - B) Develop a contingency plan to protect environmentally sensitive habitats in the event of spills of toxic and other harmful substances into flood control channels.
- C7.2.6 Prohibit fill in any wetland areas for the purpose of road construction, except for roads allowed pursuant to Section 30233 of the Coastal Act for coastal dependent and energy uses. Any roads governed by this policy shall be limited to necessary access roads appurtenant to the facility and shall be permitted only where these is no feasible, less environmentally damaging alternative and where feasible mitigation measures have been provided.

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Have a substantial adverse effect on any riparian habitat or federally protected wetlands.

Environmental Impacts

**IMPACT
4.2.A-1**

Future capacity-enhancing improvements at the intersection of Warner Avenue and Pacific Coast Highway could potentially encroach into a disturbed edge of the Bolsa Chica Wetlands. Significant impacts will be avoided through compliance with existing regulatory standards governing protection and conservation of wetland resources.

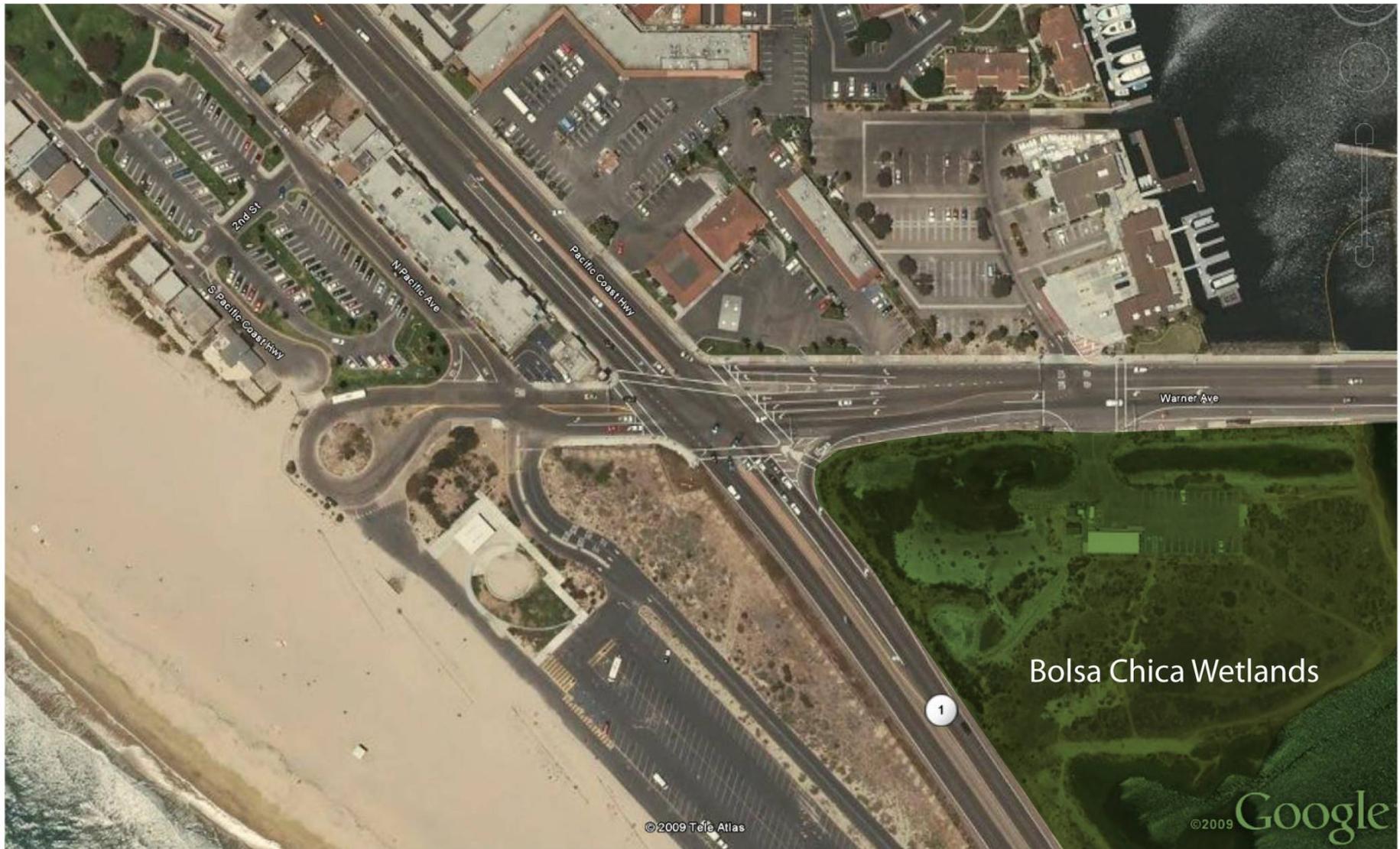
Long range traffic forecasts prepared for the updated Circulation Element indicate that additional roadway capacity will eventually be needed to avoid significant congestion and achieve the level of service standard for the intersection of Warner Avenue/Pacific Coast Highway. The traffic study (Appendix F) identified a need for a third northbound through lane, at some point in the future. As shown in Exhibit 4.2-1 (Aerial View of Wetlands near Pacific Coast Highway at Warner Avenue), there are some disturbed lowlands along the southern side of Warner Avenue that are occasionally saturated. This is part of the northern edge of the Bolsa Chica Wetlands that is protected as an ecological reserve. The shoulder area that abuts Pacific Coast Highway is disturbed land with ruderal vegetation that slopes down into the lowland area.

Future construction of a widened section of Pacific Coast Highway to provide a third northbound through lane has not been designed; therefore, it is not possible at this time to characterize or rule out any specific impact that might occur within the adjacent edge of the Bolsa Chica Wetlands. It appears feasible to construct road improvements above and outside of the observed saturation zone of the Bolsa Chica Wetlands; however, this must be confirmed at the time of design of the actual street improvements when geometric options can be considered with the specific objective of avoiding any wetlands impacts. Improvements along Pacific Coast Highway are under the jurisdiction of the California Department of Transportation and will be subject to future environmental review pursuant to CEQA and possible mitigation pursuant to the permitting requirements of United States Army Corps of Engineers and the California Department of Fish and Game. Such mitigation could include conservation banking or off-site wetlands and/or streambed restoration. Impacts will be less than significant with implementation of existing regulations.



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Source: Google Earth 2009 and Huntington Beach Wetlands Conservancy 2009



Aerial View of Wetlands Near Pacific Coast Highway at Warner Avenue

Huntington Beach Circulation Element EIR

Exhibit 4.2-1

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**IMPACT
4.2.A-2*****Future intersection capacity improvements at Pacific Coast Highway/Brookhurst Street would not affect the Brookhurst or Talbert Marshes.***

The traffic study prepared for the updated Circulation Element indicates an eventual need for additional capacity, for this state highway and a major arterial intersection. Recommended improvements are to add a second eastbound left-turn lane and to allow southbound right turn overlap. Improvements along Pacific Coast Highway would occur within State's right-of-way, and there appears to be ample space on the ocean side of the highway to widen the road to accommodate a second left turn lane. There are no wetlands or riparian resources along this side of Pacific Coast Highway, which is bordered by ornamental landscaping and a vehicle parking lot. An additional eastbound left-turn lane at this intersection would not, therefore, have any impact on wetlands or riparian resources.

The Brookhurst Street and Talbert Marshes are on both sides of Brookhurst Street, between Pacific Coast Highway and the Talbert flood control channel (see Exhibit 4.2-2). This land is undergoing wetlands restoration, under the direction of the Huntington Beach Conservancy, in cooperation with the California State Coastal Conservancy, Orange County Flood Control District, California Department of Transportation and City of Huntington Beach. Allowing a right-turn overlap to permit right turns from Brookhurst Street onto Pacific Coast Highway can be accomplished through a signal modification, which would have no physical effects outside of the existing travel lanes. This long range capacity enhancement would, therefore, have no effect on the wetlands resources in the nearby marshland.

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Source: Google Earth 2009 and Huntington Beach Wetlands Conservancy 2009



Aerial View of Wetlands Near Pacific Coast Highway at Brookhurst Street

Huntington Beach Circulation Element EIR

Exhibit 4.2-2

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**IMPACT
4.2.A-3**

Existing riparian vegetation along Coldwater Lane would not be affected by the proposed re-classification of Coldwater Lane as a Collector Street.

Coldwater Lane, between Yorktown Avenue and Adams Avenue, was constructed as a two-lane undivided street and functions as a local collector, but is not classified as such. Long range traffic volumes are not projected to differ significantly from current volumes, but this segment will be reclassified in the updated Circulation Element to correspond to its actual function as a “collector” street.

Bartlett Park is an undeveloped open space/passive recreation area along the western side of Coldwater Lane, in this same area. There are some remnant stands of riparian vegetation near the edge of Coldwater Lane (see Exhibit 4.2-3). Since this segment of Coldwater Lane is already a two-lane thoroughfare with some shoulder area between the street and the nearest riparian elements, the proposed “collector” classification is not expected to result in any street improvements that would require expansion of the roadway section into the adjacent riparian zone. No impact to riparian resources is expected from this proposed change in the City’s Circulation Element.

Mitigation Measures

None

Level of Significance

Impacts will be less than significant without mitigation incorporated

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Source: BonTerra 2010



Exhibit 4.2-3 Wetland Features Along Coldwater Lane, in Barlett Park

Huntington Beach Circulation Element EIR

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4.3 Cultural Resources

As discussed in the Initial Study (Appendix A), this section is included in the EIR to provide further evaluation of the need for and scope of project-level mitigation measures to protect potentially important cultural and paleontological resources as the City implements the Circulation Plan over the long term. Impacts to human remains and historic resources were determined not to be significant in the Initial Study (Appendix A) and therefore will not be discussed in this EIR. No comments were received regarding such resources during the circulation of the Notice of Preparation or during the EIR Scoping Meetings.

Environmental Setting

Archaeological Resources

According to the certified General Plan EIR, Huntington Beach once supported a combination of vegetation, wildlife, and water that provided resources for Native Americans. It is likely that the coastal sage scrub, estuarine, and freshwater habitats would have supplied a hunter-gatherer society with all of the resources needed to prosper. The Gabrielino tribe is the most likely Native American group to have inhabited the area approximately 6,000 years ago. These indigenous people subsisted on fishing, collecting shellfish and mollusks, harvesting marine algae, gathering seeds and fruits, and hunting birds and mammals.

An archaeological resource is a buried or partially buried historic or pre-historic object, building, structure, or site that provides information about the events, conditions, and persons of the past. Archaeological resources are valued because they provide a physical link to our past that provides both a psychological and historical frame of reference for today's society. Evidence of Huntington Beach's cultural past is evidenced from numerous middens (trash dumps) and other archaeological sites discovered throughout the City and through historic accounts of encounters between settlers and indigenous peoples. Although some archaeological resources have been recovered, with approximately 98 percent of the City built-out, most archaeological resources have been lost to development. Areas that could contain recoverable archaeological resources include the various vacant lots throughout the City such as the undeveloped portions of the Bolsa Chica mesa, the Huntington Beach mesa, and the edges of bluffs along the Pacific coast. According to the Orange County General Plan Resources Element, the coastal perimeter of the City and the areas near the mouth of the Santa Ana River have a general sensitivity for containing pre-historic archaeological resources.

A citywide survey of archaeological sites was completed in 1974. Eighteen specific sites were identified within the right of way of City arterial streets. These arterials include Beach Boulevard, Bolsa Chica Avenue, Edwards Street, Ellis Avenue, Garfield Avenue, Goldenwest Street, Gothard Street, Graham Street, Newland Street, Slater Avenue, Warner Avenue, and Yorktown Avenue. Many sites, or portions of them, identified in the citywide survey have been excavated and properly catalogued.

Paleontological Resources

Paleontological resources are the fossilized biotic remains of ancient environments. Fossilized bones, leaves, organisms, and other materials are valued for the information they yield about the history of Earth and past ecological settings. There is strong predictive validity associated with geologic formations, i.e., some formations have yielded numerous fossil resources, while others have not. The City is underlain by three geologic units, as listed below.

- **Older Alluvium (Qoa):** These Pleistocene-era (11,000 to 1,700,000 years before present) Quaternary deposits are exposed on the mesas in the northwest and central portions of the City and on the perimeter bluffs near the Pacific Ocean. These deposits consist of sand with interbeds of silty clay or clay overlain by interlayered sand-gravel and silt-clay beds.
- **Younger Alluvium (Qya):** These Holocene-era (0 to 11,000 years before present) Quaternary deposits are generally located in the northern and southeastern portions of the City, surrounding and separating the Huntington Beach and Bolsa Chica mesas. These soils are characterized as river floodplain deposits washed in from the northeast as sand, gravel, and silt.
- **Tidal Flat Alluvium (Qya₂):** These Holocene-era deposits are characterized as tidal flat/lagoonal type soils of finer-grained silts and clays. They are located on the western perimeter of the City, near Bolsa Chica and the Pacific Ocean.

The assessment of paleontological sensitivity conducted for the Orange County General Plan Resources Element determined that these formations are not likely to yield important paleontological resources. Based on that research, the Huntington Beach planning area is not considered to have paleontological sensitivity. It is noted, however, that recent deep excavations into native materials at the Pacific City site in the coastal zone yielded a number of fossil materials.

Planning and Regulatory Framework

California Environmental Quality Act (CEQA)

Enacted in 1971, the California Environmental Quality Act (CEQA) directs lead agencies to first determine whether a cultural resource is a "historically significant" cultural resource. In the protection and management of the cultural environment, CEQA guidelines provide definitions and standards for cultural resources management. The term "historical resource" is defined as follows:

- A) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 et seq.).

B) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

C) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852).

D) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Sections 5020.1(j) or 5024.1 (CEQA 15064.5).

CEQA also applies to effects on "unique" archeological resources. This is defined in Section 21083.2 of Public Resources Code, as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archeological resource is neither a unique archeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. However, a project with an effect that may cause a substantial adverse change in the significance of a historical resource or unique archeological resource is a project that may have a significant effect on the environment. Effects on cultural properties that qualify as historical resources or

unique archeological resources can be considered adverse if they involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

Infrastructure and street improvement projects proposed by the City's Public Works Department are and will continue to be subject to an environmental impact assessment, as required by CEQA. Minor improvements that have insignificant effects may be determined to be exempt, as set forth in Articles 18 and 19 of the CEQA Guidelines.

Huntington Beach General Plan and EIR

The adopted Huntington Beach General Plan and certified General Plan Environmental Impact Report (EIR) discuss and analyze archaeological resources. The General Plan EIR does not analyze paleontological resources. The General Plan only addresses paleontological resources as it relates to the coastal zone. The policies listed below have been adopted in the General Plan and are designed to protect and preserve archaeological and paleontological resources. These policies were adopted to support the objective of preserving architecturally, historically, or archeologically significant sites, structures, and districts, and paleontological resources within the City. These policies show the commitment of the City to identify and preserve paleontological resources and archaeologically significant sites and resources and will be applicable to any future roadway or intersection improvement project proposed pursuant to the goals and policies of the Circulation Element update.

- HCR 1.1.1 Identify all the historically and archaeologically significant resources in Huntington Beach.
- HCR 1.1.2 Consider the designation of any historically significant public trees, archaeological sites, or structural sites or areas deemed to be of historical, archaeological, or cultural significance as a Huntington Beach City Historical Point, Site, or District.
- C 5.1.1 Coordinate with the State of California Historic Preservation Office to ensure that archaeological, paleontological and historically significant resources within the coastal Zone are identified.
- C 5.1.2 Where new development would adversely impact archaeological or paleontological resources within the Coastal Zone, reasonable mitigation measures to minimize impacts shall be required.
- C 5.1.3 In the event that any Native American human remains are uncovered, the County Coroner, the Native American Heritage Commission, and the Most Likely Descendants, as designated by the California Native American Heritage Commission, shall be notified. The recommendations of the Most Likely Descendants shall be obtained

prior to the disposition of any prehistoric Native American human remains.

C 5.1.4 A completed archeological research design shall be submitted along with any application for a coastal development permit for development within any area containing archeological or paleontological resources. The research design shall determine the significance of any artifacts uncovered and make recommendations for preservation. Significance will be based on the requirements of the California Register of Historical Resources criteria, and prepared based on the following criteria:

- a. Contain a discussion of important research topics that can be addressed; and
- b. Be reviewed by a least three (3) County-certified archeologists (peer review committee).
- c. The State Office of Historic Preservation and the Native American Heritage Commission shall review the research design.
- d. The research design shall be developed in conjunction with affected Native American groups.
- e. The permittee shall comply with the requirements of the peer review committee to assure compliance with the mitigation measures required by the archeological research design.

C 5.1.5 A County-certified paleontologist/archeologist, shall monitor all grading operations where there is a potential to affect cultural or paleontological resources based on the required research design. A Native American monitor shall also monitor grading operations. If grading operations uncover paleontological/archeological resources, the paleontologist/archeologist or Native American monitor shall suspend all development activity to avoid destruction of resources until a determination can be made as to the significance of the paleontological/archeological resources. If found to be significant, the site(s) shall be tested and preserved until a recovery plan is completed to assure the protection of the paleontological/archeological resources.

The General Plan EIR concluded that impacts to archaeological resources would be less than significant after implementation of the policies in the Historic and Cultural Resources Element.

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines; or

- b) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Environmental Impacts

**IMPACT
4.3.A**

With as-needed construction monitoring, implementation of the updated Circulation Element would avoid significant impacts to archaeological resources.

The Circulation Element update will not result in a direct adverse impact to any surface or subsurface archaeological resource because it does not propose or authorize any construction project. Due to the built-out nature of the City, there are few undisturbed areas in the vicinity of intersections and roadway segments that are forecast to require capacity enhancements at some point in the future. Street improvements that do not require extensive grading or trenching of native soils are unlikely to encounter any buried archaeological materials. This is because such activities will generally only affect fill soils that have no potential to contain archaeological materials. Such improvements would include restriping of lanes, demolition of sidewalks, laying of asphalt lanes, modification to landscaping to pour new sidewalks, and similar, non-intensive construction activities.

Some future roadway and intersection improvements could potentially impact archaeological resources where excavation and other earthmoving activities that disturb native soils are required. Such circumstances could most likely occur with projects that also require power line undergrounding and relocation/repair/replacement of underground water, sewer or storm drainage facilities. One location where this might occur is at the intersection of Goldenwest Avenue at Bolsa Avenue, which is developed with aboveground utility poles (see Figure 4.3-1, Intersection of Goldenwest at Bolsa) and a variety of underground facilities. Pursuant to Chapter 17.64 (Undergrounding of Utilities), those above-ground power lines may need to be undergrounded as part of future intersection capacity improvements.



The General Plan Historic and Cultural Resources Element and the General Plan EIR do not establish specific performance standards for monitoring of construction projects, identification of materials, or curation of artifacts. Monitoring of sites is important because construction crews are generally not qualified to identify archaeological resources, should they be uncovered. Mitigation Measure 4.3.A-1 requires monitoring of any future roadway or intersection expansion that includes grading activities that will reach native soils. This will apply whether a particular project is subject to an environmental impact assessment under CEQA or not. Mitigation Measure 4.3.A-1 also requires appropriate recovery, identification, and curation procedures should resources be found. This measure will ensure that potentially significant impacts to archeological resources will be avoided.



**Figure 4.3-1
Intersection of Goldenwest at Bolsa**

**IMPACT
4.3.B**

With as-needed construction monitoring, implementation of the updated Circulation Element would avoid significant impacts to paleontological resources.

As previously noted, the geologic formations underlying the planning area generally have not yielded important fossil resources and are not considered sensitive with respect to paleontological resources. Even if a particular street improvement project should result in a disturbance of native soils, the likelihood of discovering a buried fossil remain is considered to be very low. Paleontological monitoring of every construction project, therefore, is not warranted. If something is unexpectedly unearthed that might have important paleontological value, this could only be recognized by a trained observer. A programmatic mitigation measure will be established to require contractors to bring in a professional paleontologist to examine unidentified materials that are uncovered during excavation into native soil materials, to determine whether it is a fossil, and if so, to monitor additional work in that area to identify and recover any additional fossil materials that might be exposed. This measure will apply whether a particular project is subject to an environmental impact assessment under CEQA or not. With incorporation of Mitigation Measure 4.3.B-1, significant impacts to paleontological resources will be avoided.

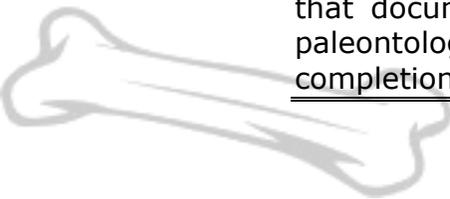
Mitigation Measures

**MITIGATION
4.3.A-1**

Contractor specifications for street improvement projects involving excavation into native soils materials shall include a provision to retain a professional archaeologist to monitor that period of excavation, so that archaeological resources exposed during grading, if any, can be identified, evaluated and scientifically important information preserved. Archaeological monitors shall be equipped to recover resources as they are unearthed and to avoid construction delays. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Qualified archaeological personnel shall prepare recovered specimens to a point of identification and permanent preservation. Qualified archaeological personnel shall identify the nature and importance of the resource, and curate significant specimens into the collections of an appropriate, established, and accredited museum repository with permanent retrievable archaeological storage. The monitoring archaeologist shall submit a report to the Department of Planning and Building that documents findings and the disposition of any important archaeological materials that were recovered, prior to completion of the project.

**MITIGATION
4.3.B-1**

Contractor specifications for street improvement projects involving excavation into native soils materials shall include a provision to retain a qualified paleontologist if resources are uncovered to monitor that period of excavation, so that resources exposed during grading can be identified, evaluated and scientifically important information preserved. Monitors shall be equipped to recover resources as they are unearthed and to avoid construction delays. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Qualified paleontological personnel shall prepare recovered specimens to a point of identification and permanent preservation. Qualified personnel shall identify the nature and importance of the resource, and curate significant specimens into the collections of an appropriate, established, and accredited museum repository with permanent retrievable paleontological storage. The paleontological monitor shall submit a report to the Department of Planning and Building that documents findings and the disposition of any important paleontological materials that were recovered, prior to completion of the project.



Level of Significance

With the mitigation measures listed above, significant impacts to archaeological or paleontological resources will be avoided.



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4.4 Land Use and Planning

Pursuant to the findings of the Initial Study, this section examines the updated Circulation Element to determine whether it could result in conflicts with other General Plan Elements. No impacts related to the physical division of an established community or conflicts with any Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) were identified in the Initial Study (Appendix A) and therefore these issues are not discussed in this section. No comments related to land use and planning issues were submitted in response to the Notice of Preparation of the Draft EIR, or during the two public EIR scoping meetings.

Environmental Setting

The City of Huntington Beach is located in an urbanized portion of Orange County and covers approximately 27.7 square miles (17,730 acres). Huntington Beach is a primarily built-out, coastal community characterized by residential development of which single-family residential dwelling units are the most prominent land use. According to the California Department of Finance (May 2009), Huntington Beach currently has an estimated 78,049 dwelling units housing a population of approximately 202,480. The City is a tourist destination because of its 3.5-mile stretch of shoreline that has earned Huntington Beach the nickname of 'Surf City'. Huntington City Beach attracts more than eight million visitors annually that come for a number of cultural, recreational, and entertainment opportunities. Huntington Beach Pier extends more than 1,800 feet into the ocean and provides recreation, shopping, dining, and fishing experiences. Additional commercial development serving the pier and general tourist population is located at the base of the pier, extending a couple blocks in each direction on Pacific Coast Highway, and along Main Street in Downtown. Huntington State Beach begins near the intersection of Beach Boulevard at Pacific Coast Highway and extends south to the mouth of the Santa Ana River. Bolsa Chica State Beach begins near the intersection of Seapoint Avenue at Pacific Coast Highway and extends north to the City of Seal Beach.

Multiple-family housing units are generally concentrated in four areas of the City: in the northwest at Huntington Harbour, to the south near the Pacific Ocean at Downtown, in the north on Warner Avenue between Goldenwest Street and Springdale Street, and along Beach Boulevard. The major commercial areas of the City are concentrated along Beach Boulevard and Edinger Avenue with other shopping centers located at major intersections such as Brookhurst Street at Adams Avenue, Goldenwest Street at Warner Avenue, and Garfield Avenue at Magnolia Street. Industrial uses are primarily concentrated in the northwestern portion of the City generally bound by Edinger Avenue, Springdale Street, a railway, and Bolsa Chica Street. Another concentration of industrial activities is located along Gothard Street, generally between Edinger Avenue and Ellis Avenue. Other industrial development is located along the Pacific Coast near the Bolsa Chica Wetlands and near the vicinity of the Brookhurst Marsh.

Regulatory Framework

Huntington Beach General Plan

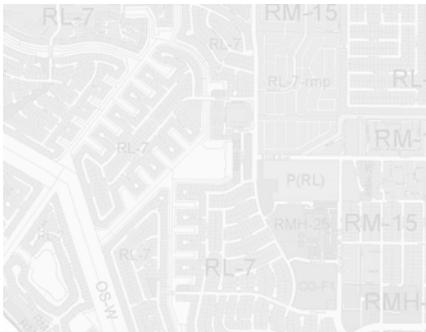
The General Plan is a long-range planning document that provides a framework for decision-making by a City’s policy makers, City staff and the private development community, concerning the physical organization and development of a community, usually for the next 20 to 30 years. In 1937, the State of California began to require all cities and counties to adopt a master plan and to update it regularly. By 1965, the name had been changed to the “General Plan.” A major change occurred in 1971, when the State passed the “consistency law” (AB 1301, McCarthy) and put the General Plan at the top of the legal hierarchy of land use law. Since then, all specific plans, the zoning ordinance, subdivisions and other local land use regulation have had to be consistent with the General Plan. Additionally, the various chapters of a General Plan have to be consistent with one another.

Statutory requirements for the scope and content of local General Plans are set forth in Article 5, Sections 65300 et. seq. of the California Government Code. The Huntington Beach General Plan, as amended through 2008, addresses these requirements in four main chapters, each subdivided into specific elements that are the focus of the community planning program, as summarized below.

Community Development Chapter

Land Use Element:

The Land Use Element sets forth a statement of the standards of population density and building intensity recommended for the various land use districts designated throughout the territory covered by the General Plan. These are key factors in the estimates of vehicular traffic volumes and distribution that are incorporated into the traffic forecasts that are being addressed by the long range circulation plan of the updated Circulation Element. The distribution of land uses included in the Land Use Element is illustrated on Exhibit 4.4-1.



General Plan City of Huntington Beach



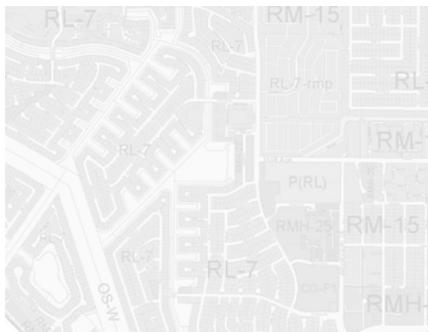
Source: City of Huntington Beach

Exhibit 4.4-1 Existing General Plan Land Use Policy Map

Huntington Beach Circulation Element EIR



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Urban Design Element:

The Urban Design Element establishes several urban districts within Huntington Beach and then provides policy direction and guidelines for creating distinctive visual characters through coordinated landscape, streetscape, and community design. The Circulation Element integrates with this element by designating scenic corridors, entry nodes, and supporting pedestrian-oriented development that solidify transportation routes as integral parts of creating a sense of place and distinctiveness in Huntington Beach.

Historic and Cultural Resources Element:

This element describes the history of Huntington Beach and identifies historic resources and cultural resources such as museums throughout the City. A policy framework for preserving important landmark buildings and other historical resources is a key aspect of this element. There is no direct relationship between this element and the Circulation Element.

Economic Development Element:

The Economic Development Element expresses a strategy to broaden and stabilize the City's economic base. The Circulation Element integrates with this Element in important ways. The efficient movement of goods and people is essential to a stable economic environment. The Circulation Element also establishes policies supporting pedestrian-oriented mobility that will enhance visitor-serving commercial nodes such as the Main Street/Pacific Coast Highway area.

Growth Management:

The Growth Management Element is one of the requirements to receive local funding through the Measure M transportation tax program. It contains policies for planning and provision of traffic improvements, public services, and public facilities necessary for orderly growth and development throughout Huntington Beach. The Growth Management Element establishes minimum level of service standards for the City's roadway network and other policies in accordance with the County's Model Growth Management Element, and the City's Circulation Element. The Circulation Element directly supports all of the traffic management components of the Growth Management Element.

Housing Element:

The Huntington Beach Housing Element identifies strategies that focus on preserving and improving housing and neighborhoods, providing adequate housing, assisting in the provision of affordable housing, removing governmental and constraints to housing investment, and promoting fair and equal housing opportunities. The Circulation Element indirectly supports this Element through achievement of a variety of mobility objectives that facilitate access from residential areas to job centers, commercial centers, community facilities and recreation opportunities.

Infrastructure and Community Services Chapter

Public Facilities and Public Service Element:

This Element addresses a variety of public services including law enforcement, fire protection, marine safety, education, libraries, and governmental services. The key issues to be addressed over the long-term include the provision of police officers to meet the demand ratio of 1.5 officers per 1,000 persons, the ability for the fire department to meet response arrival goals to all areas of the City, overcrowded schools, and marine safety. The Circulation Element includes important policies that support this Element by ensuring that transportation design features and congestion do not impede the service goals of police, fire, and emergency response.

Recreation and Community Services Element:

The Recreation and Community Service Element is designed to identify, maintain, and enhance local parks and recreational services and facilities within Huntington Beach. Recreational opportunities consist of parks, golf courses, and coastal amenities. Issues to be addressed over the long-term by this Element include increased population pressure on existing parks, the need for expanded facilities to meet demand, parks and recreation funding, and community services programming. The Circulation Element incorporates the trails and bikeways components of the Recreation and Community Services Element.

Utilities Element:

The Utilities Element focuses on the City's water supply, wastewater treatment, storm drainage, solid waste disposal, natural gas, electricity, and telecommunications systems. Key long-term issues identified as part of the comprehensive 1996 General Plan update program include water demand and infrastructure, upgrading storm drain systems to accommodate 100-year flood events, repair or replacement of 'high state of disrepair' sewer mains, and implementation of the 50% solid waste diversion requirements of AB 939. Circulation issues are intertwined with utilities issues because the circulation network serves as the right-of-way for the majority of utilities systems in the City. The Circulation Element is particularly integrated with storm drain issues because the roadway network serves as a critical component of the City-wide drainage system.

Natural Resources Chapter

Environmental Resources/Conservation Element:

The purpose of the Environmental Resources/Conservation Element is to address the State mandated conservation and open space elements of the General Plan. This Element identifies the biological, mineral, and water resources within the City and then identifies a variety of long-term issues to be addressed in order to adequately manage and protect those resources. These issues include tree preservation, wetland protection and restoration, impacts to special status species,

on- and off-shore habitats, and access to oil and its recovery. The Circulation Element is integrated with the Environmental Resources/Conservation Element because it includes the trails and scenic highways that are considered 'open space' pursuant to the Element's umbrella definition.

Air Quality Element:

This Element describes the unique climatic conditions of the South Coast Air Basin and regional and local air quality conditions, along with key factors contributing to air pollution. Main regional factors include mobility and population growth, stationary sources, and construction and oil extraction related particulates. Key local issues identified in the Air Quality Element include poor traffic circulation, increases in vehicle trips and miles traveled, and a dispersed land use pattern. The goals and policies of the Circulation Element that facilitate alternative transit options and reduce traffic congestion are essential to improving local and regional air quality.

Coastal Element:

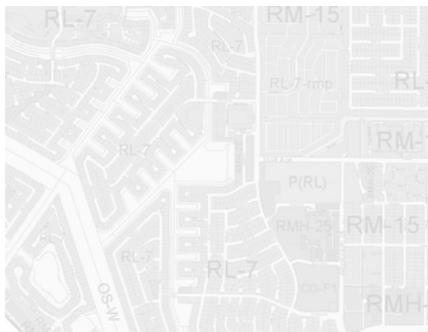
The California Coastal Act (Public Resources Code Section 30000) directs each local governmental located wholly or partly within the Coastal Zone (as defined by the Act) to prepare a Local Coastal Program (LCP) for its portion of the Coastal Zone. LCPs must be reviewed and certified by the California Coastal Commission; a certified LCP allows the City to issue Coastal Permits pursuant to the Coastal Act on behalf of the California Coastal Commission. Huntington Beach's LCP has been certified since March 1984. The Huntington Beach Coastal Zone encompasses approximately five square miles (17 percent of the entire City) and extends the entire nine-mile length of the City's boundary with the Pacific Ocean (see Exhibit 4.4-2, Coastal Zone, Divisions, and Wetlands). The boundary extends inland from the mean high tide line from between 3,000 feet (1,000 yards) to over one-mile at some points. The Huntington Beach Coastal Zone encompasses a variety of land uses including open shorelines, parks and recreational facilities, habitat areas, a marina, and commercial and residential uses.

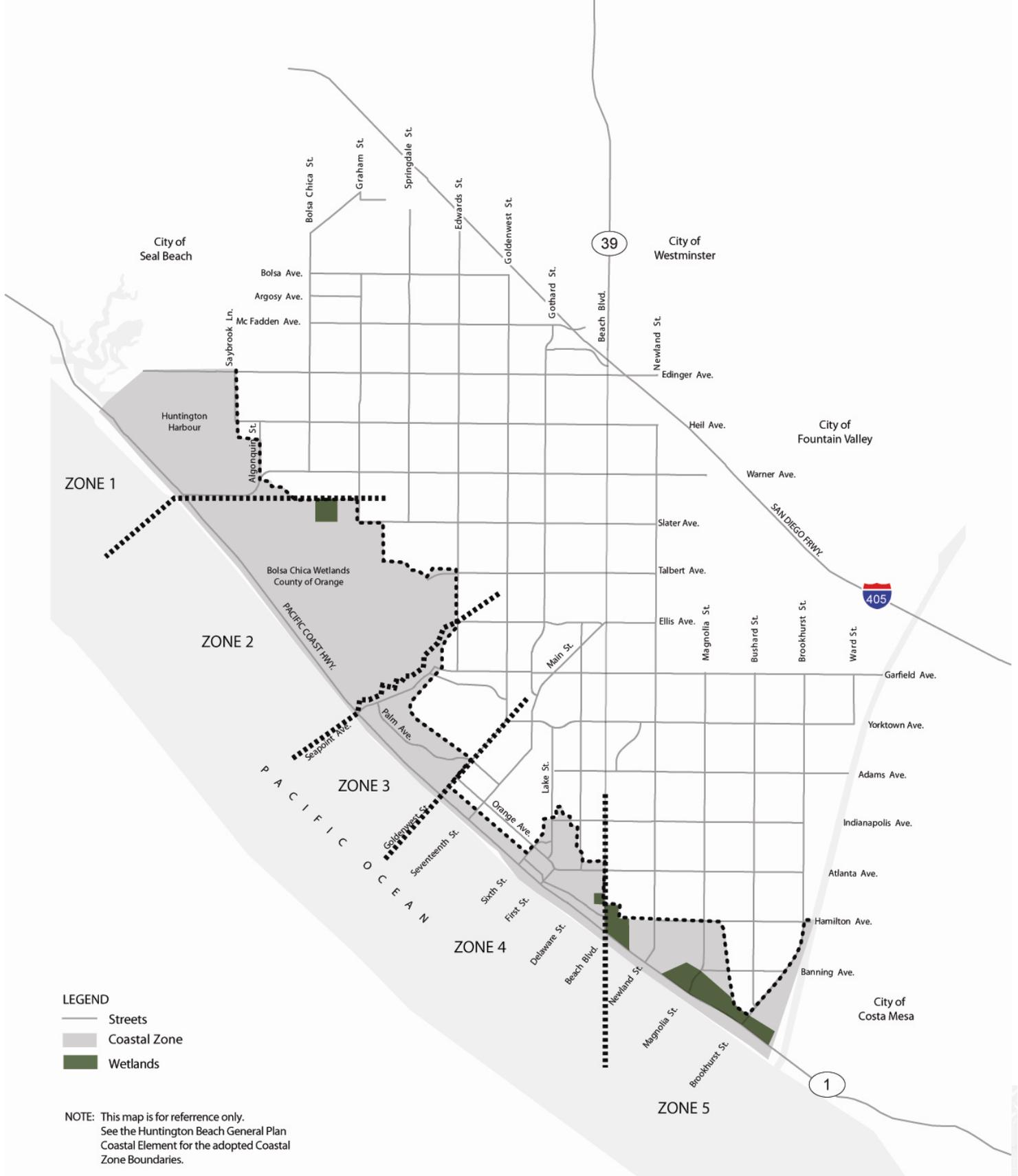
LCPs are divided into two components: 1) a Coastal Element and 2) an implementation program. The coastal element must include a land use plan and clear, specific policies to be used by decisions-makers when reviewing coastal related issues and proposed development within a jurisdiction's Coastal Zone boundary. The City's current Coastal Element was originally adopted as part of the General Plan in 2001 and was most recently amended in 2008. Implementation programs include zoning ordinances, zoning district maps, specific plans, and other implementing actions that must conform with and carry out the goals and policies of the Coastal Element. The City's primary means of implementing the Coastal Element is through Chapters 221 (CZ Coastal Zone Overlay District) and 245 (Coastal Development Permit) of the Zoning and Subdivision Ordinance.

Maintaining public access to shoreline and coastal resources is a primary goal of the Coastal Element. This is encouraged and provided through regionally linked automobile routes, adequate parking, bikeways and trails, public and private

4.0 Environmental Impact Analysis

transit, and direct pedestrian links. Coastal Element policies are aimed at development of adequate infrastructure to accommodate existing and increasing vehicular traffic, provision of non-auto oriented travel options and facilities, transit facilities, preservation of existing shoreline accessways, and providing new or enhanced access where feasible and appropriate.





- LEGEND**
- Streets
 - ▭ Coastal Zone
 - ▭ Wetlands

NOTE: This map is for reference only.
See the Huntington Beach General Plan Coastal Element for the adopted Coastal Zone Boundaries.

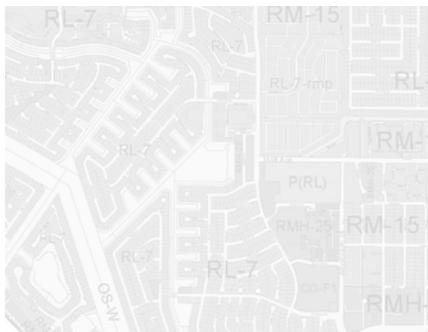
Source: Huntington Beach Coastal Element 2008



**Exhibit 4.4-2
Coastal Zone, Divisions, and Wetlands**

Huntington Beach Circulation Element
Huntington Beach, CA

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Hazard Chapter

Environmental Hazards:

The primary focus of this Element is geologic hazards such as liquefaction, earthquake, and tsunami hazards. Methane gas seepage and flooding are also addressed. The primary long-term issues to be addressed by the Environmental Hazards Element is the potential for fault rupture to impact existing development, City-wide liquefaction potential, and failure of the Prado Dam and subsequent flooding. The Circulation Element supports the Environmental Hazards Element by defining the roadway network that will serve as the primary evacuation route when a disaster occurs.

Noise Element:

The Noise Element addresses the State mandated requirements to address roadway, railway, aviation, and other noise sources in the General Plan. Key issues identified during the comprehensive 1996 General Plan update program included the impact of heavily traveled roadways on existing sensitive land uses and increases in ambient noise levels due to future development. The Circulation Element supports the Noise Element by specifying truck routes that have minimal impact to sensitive receptors. Noise Element policies address the effects of roadway noise through requirements to assess noise impacts in conjunction with new development proposals, to ensure that sensitive uses are well insulated from roadway noise through site design and building construction measures.

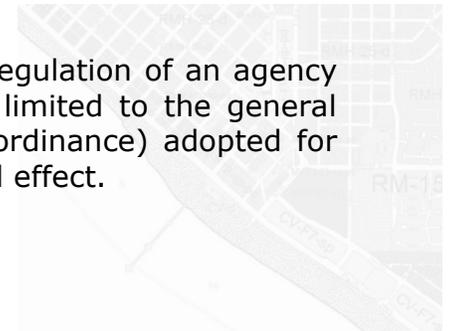
Hazardous Materials Element:

The Hazardous Materials Element addresses hazardous materials operation and transportation within the City. Key issues identified include risk of upset due to hazardous materials and wastes discharges, management of small and large quantity generators, and the efficiency of hazardous materials management and response systems. The Circulation Element supports the Hazardous Materials Element by restricting the roadway network that hazardous materials may be transported upon, particularly the truck routes.

Threshold of Significance

The Circulation Element implementation would result in a significant impact if it would:

- a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.



Environmental Impacts

**IMPACT
4.4.A**

The proposed Circulation Element would not result in any significant conflicts with other General Plan elements. Minor revisions to the Urban Design, Growth Management, Coastal, and Noise Elements would be required to ensure consistency with the Circulation Element update.

Community Development Chapter

Land Use Element

The proposed Circulation Element is designed to provide an efficient surface transportation system that will accommodate projected long range traffic volume forecasts that were developed in a manner that incorporates the long range growth potential of the land use policies and designations of the Land Use Element. As such, the Circulation Element update is consistent with and supports the framework of the Land Use Element.

Urban Design Element

The Scenic Highway Plan in the updated Circulation Element complements the Urban Image Corridors (see Figure UD-3) of the Urban Design Element in the same manner as the existing Circulation Element, with the following minor revisions. Edinger Avenue, west of Bolsa Chica, is to be reclassified from a Minor Scenic Corridor to a Landscape Corridor and Magnolia Street is to be reclassified from a Landscape Corridor to a Minor Scenic Corridor. Bolsa Chica will be changed from a Landscape Corridor to a Minor Scenic Corridor excluding south of Warner Avenue. Gothard Street between Edinger Avenue and McFadden Avenue will be changed from a Minor Scenic Corridor to a Landscape Corridor. Seapoint Avenue and Garfield Avenue will be added to the list of image corridors as Landscape Corridors. These classifications call for compatible landscaping along the streets, prohibition of off-site signs and billboards and incorporation of design requirements specified in the Urban Design Element. A Minor Scenic Corridor also requires undergrounding of utilities, open space easements for "natural" areas adjacent to the corridor and a formal review of private development proposals by the City's Design Review Board. The differences in these classifications are minor and would not result in any significant impacts. Pacific View Avenue is to be deleted from the circulation plan; therefore this roadway will no longer be classified as a Landscape Corridor. The intersections of Garfield Avenue/Magnolia Street and Pacific Coast Highway/Magnolia Street are to be reclassified from a Secondary Entry Node to a Primary Entry Node. This is in recognition of the increased importance and visibility of these gateways to Huntington Beach. This change in designation will require enhanced improvements at the two affected intersections that include larger signage, landscaping and/or public art, and undergrounding of utilities. These expanded requirements do not constitute a significant conflict with the Urban Design Element; however a revision to the Urban Design Element will be completed through the City's standard General Plan amendment process to reclassify these nodes to match the design standards proposed in the updated Circulation Element.

No other inconsistencies between the proposed Circulation Element and the existing Urban Design Element have been identified.

Historic and Cultural Resources Element

As discussed in Section 4.3 of this EIR, implementation of the proposed changes to the adopted Circulation Element is not expected to result in damage to any cultural or paleontological resources, since future construction activities would occur along existing roadways where important resources are unlikely to occur. Mitigation measures 4.3A-1 and 4.3B-1 will ensure that potential cultural or paleontological resources are properly evaluated and documented, if uncovered during construction activities.

Economic Development Element

The proposed Circulation Element supports pedestrian-oriented circulation patterns and establishes truck routes in the same manner as the existing Circulation Element. These policies support the Economic Development Element by providing efficient means of moving goods and customers to local commerce. No inconsistencies between the proposed Circulation Element and the existing Economic Development Element have been identified.

Growth Management Element

The proposed Circulation Element is designed to be consistent with the Orange County Master Plan of Arterial Highways (MPAH), promote alternative transportation options, and maintain enhanced performance standards to reduce congestion on the roadway network. Specifically, the updated Circulation Element will change the method for assessing the operation performance of intersections from a level of service standard 'D' to a three-standard system, based on the intersection capacity utilization and current conditions of an intersection. It would also delete Policy CE 2.1.2 to maintain a service level 'C' on all roadway segments (except for Pacific Coast Highway south of Brookhurst Street). Growth Management Element Policy GM 3.1.2 also specifies a standard of LOS C for roadway segments; therefore, the GM policy would be inconsistent with the new Circulation Element policy. Growth Management Policy 3.1.3 refers to the LOS 'D' criteria and is thus inconsistent with Policy CE 2.2.1 of the proposed Circulation Element that defines the Critical, Primary, and Secondary Intersection LOS standards. These inconsistencies are not significant because the updated Circulation Element performance standards are based on an updated set of long range traffic forecasts and provides for generally higher performance standards for intersections. Nonetheless, Mitigation Measure 4.4.A-2 will ensure that these inconsistencies are resolved with appropriate revisions to the Growth Management Element roadway performance standards.

Housing Element

The proposed Circulation Element would not conflict with any of the City's housing goals, objectives, strategies or programs, because it deals only with management

of methods of travel through Huntington Beach, by automobile, trucks, pedestrians, bicyclists and transit.

Infrastructure and Community Services Chapter

Public Facilities and Public Service Element

The policies of the proposed Circulation Element support emergency access and monitoring and improvement of emergency response times. As discussed in Section 4.7 Public Services-Fire Protection, proposed amendments to the MPAH would not impair emergency response times. No inconsistencies between the proposed Circulation Element and the existing Public Facilities and Public Service Element have been identified.

Recreation and Community Service Element

The policies of the proposed Circulation Element define the bikeways, trails, waterways, and pedestrian corridors that form a portion of the City’s recreation system and support their continued long-term expansion. Access to public parks would not be negatively affected by any aspect of the updated Circulation Element, and no existing or planned trail segments would be eliminated. No inconsistencies between the proposed Circulation Element and the existing Recreation and Community Service Element have been identified.

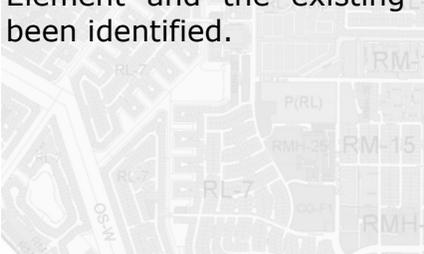
Utilities Element

The updated Circulation Element would maintain the use of roadways as the primary utility right-of-ways, and a primary part of the City’s municipal storm drainage system. No inconsistencies between the proposed Circulation Element and the existing Utilities Element have been identified.

Natural Resources Chapter

Environmental Resources/Conservation Element

The proposed Circulation Element continues to define scenic routes and trails as part of the City’s inventory of open space and recreational amenities. As discussed in Section 4.2 (Biological Resources), the updated Circulation Plan, including estimated long range intersection capacity improvements, would not impact any wetland or other important biological resource. Several previously planned/unbuilt roadway segments are to be removed from the Plan, some of which could have impacted sensitive wetlands. No inconsistencies between the proposed Circulation Element and the existing Environmental Resources/Conservation Element have been identified.



Air Quality Element

The proposed Circulation Element is designed primarily to reduce traffic congestion, which will lessen traffic emissions by minimizing the amount of vehicle delay that results in higher emissions because of less efficient fuel combustion. The updated Circulation Element also contains policies that support alternative transportation options; this will help reduce total emissions associated with passenger vehicle travel. Since the future traffic forecasts developed for the updated Circulation Element are based on the City's Land Use Element policies and official growth forecasts that have been incorporated into the regional Air Quality Management Plan, the updated Circulation Element would be consistent with the AQMP. No inconsistencies between the proposed Circulation Element and the existing Air Quality Element have been identified.

Coastal Element

The existing Coastal Element, updated in 2008, like the City's existing Circulation Element, includes two circulation plans, one referred to as the "Potential for 2010 Circulation Plan of Arterial Highways" and the other referred to as the "Circulation Plan of Arterial Streets and Highways." Both plans would accommodate then-projected long range traffic volumes; however, the second plan includes some improvements that the first one does not. The Coastal Element currently expresses a preference for the first plan. The 'potential' highway plan was designed to be consistent with the Orange County MPAH. The Circulation Plan represents the actual arterial streets and highway plan for the City (as amended through 2002). The proposed Circulation Element merges these roadway networks into a single map. The Coastal Element will thus need to be amended to incorporate the updated Circulation Plan, within the coastal zone. This revision will be assured through Mitigation Measure 4.4-5. Specific circulation issues and policies for the Coastal Element, such as those related to future bridge crossings of the Santa Ana River, are not affected by the updated Circulation Element, which governs the broader circulation system structure and establishes performance standards to achieve desired levels of service.

A number of changes to the City's Bikeway Plan are included in the updated Circulation Element to: (1) correspond better to the updated vehicular Circulation Plan, (2) eliminate formerly planned segments through the Bolsa Chica Wetlands area, and (3) add routes to different areas. Within the Coastal Zone, the proposed Bikeway Plan would eliminate planned/unbuilt Class II Bikeway portions of Bolsa Chica Street, Slater Avenue, and Atlanta Avenue. The Bolsa Chica Street and Slater Avenue bikeway segments correspond to elimination of the same future roadway segments to be removed from the arterial circulation plan.

These changes are considered minor and would not significantly affect bicycle circulation in the Coastal Zone. A revision to the bikeways plan in the Coastal Element is needed to match the revised plan in the updated Circulation Element. This will be assured through Mitigation Measures 4.4-3. Several changes in the updated Circulation Element's Scenic Highway Plan would occur within the coastal

zone. These are minor changes addressing specific design features and would not conflict with any of the Coastal Element's visual character objectives. To ensure consistency between the two elements, Mitigation Measure 4.4-4 will require a follow-up revision to the Coastal Element to match corresponding changes in the Scenic Highway Plan.

Hazard Chapter

Environmental Hazards Element

The updated Circulation Element is designed to reduce congestion that supports expedited emergency response and evacuation in times of disaster. The proposed Circulation Element does not include any roadway modifications that would hinder evacuation procedures.

Noise Element

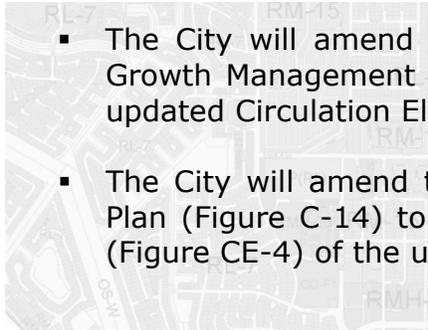
Changes in the designated Truck Routes are not proposed. The updated Circulation Element is based on a recent, comprehensive traffic study (see Appendix G) that incorporates updated growth forecasts and higher traffic volumes than were projected at the time the current Noise Element was adopted. Minor revisions to that element will be needed to update current and long-term noise contour maps to match the traffic volumes of the updated traffic study. These revisions would not conflict with or hinder attainment of any Noise Element objectives or policies. Mitigation Measures 4.4.A-6 will ensure that these Noise Element revisions are completed.

Hazardous Materials Element

Changes in the City's Truck Routes Plan are not proposed; there are no new policies concerning transportation of hazardous materials and wastes. The updated Circulation Element would not conflict with the Hazardous Materials Element.

Conclusion

Based on the above discussion, conflicts between the proposed Circulation Element and the existing elements of the General Plan would be minor. These will be resolved through 'clean-up' efforts in subsequent General Plan amendments. These would include the following minor revisions:

- 
- The City will amend the roadway performance standards set forth in the Growth Management Element to correspond to the standards defined in the updated Circulation Element.
 - The City will amend the Coastal Element to revise the Trails and Bikeways Plan (Figure C-14) to match the corresponding aspects of the Bikeway Plan (Figure CE-4) of the updated Circulation Element update.

- The City will amend the Coastal Element to revise the Scenic Highways, Scenic Corridors, and Landscape Corridors Plan (Figure C-18) to match the corresponding aspects of the Scenic Highway Plan (Figure CE-7) of the updated Circulation Element.
- The City will amend the Coastal Element to replace Figures C-12 and C-13 with the Arterial Highway Plan (Figure CE-2) of the updated Circulation Element update.
- The City will amend the Noise Element to incorporate the updated noise contour information developed in the noise study prepared for the updated Circulation Element.

Mitigation Measures

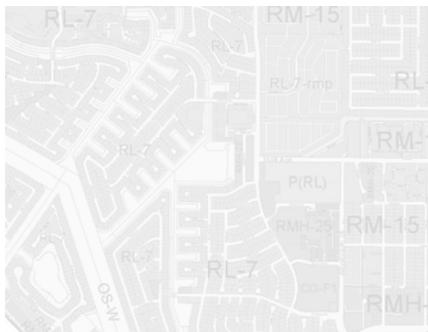
None

Level of Significance

Impacts will be less than significant without mitigation incorporated



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4.5 Noise

Pursuant to the findings of the Initial Study (see Appendix A), this section analyzes potential noise impacts that could result from implementation of the proposed Circulation Element update. The following discussion is primarily based on the Noise Impact Analysis prepared by BonTerra Consulting (Appendix D). The Initial Study found that impacts related to temporary or periodic noise increases would be less than significant and that impacts related to operation of public and private airports will not occur; therefore, these issues are not discussed in this section. No comments related to noise were submitted in response to the circulation of the Notice of Preparation or at the two EIR Scoping Meetings.

Environmental Setting

Defining Noise

“Sound” is a vibratory disturbance created by a moving or vibrating source and is capable of being detected. “Noise” is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment.

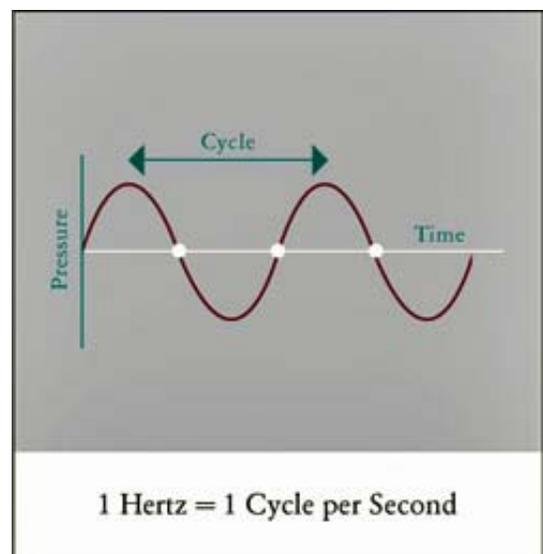
Decibels and Frequency

In its most basic form, a continuous sound can be described by its frequency or wavelength (pitch) and its amplitude (loudness). Frequency is expressed in cycles per second, or hertz (see Figure 4.5-1). Frequencies are heard as the pitch or tone of sound. High-pitched sounds produce high frequencies; low-pitched sounds produce low frequencies. Sound pressure levels are described in units called the decibel (dB).

Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB.

Perception of Noise

A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this



**Figure 4.5-1
Hertz Diagram**

background noise is the sound from individual local sources. The local sources can vary from an occasional aircraft or train passing by, to intermittent periods of sound (such as amplified music), to virtually continuous noise from traffic on a major highway.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale was devised that approximates the frequency response of the average healthy ear when listening to most ordinary everyday sounds. Noise levels using A-weighted measurements are abbreviated dBA.

Due to subjective thresholds of noise tolerance, the annoyance of a given noise source is perceived very differently from person to person. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at 3 feet is approximately 60 dBA while loud jet engine noises equate to 110 dBA, which can cause serious discomfort.

**Figure 4.5-2
Activity Based Noise Levels**

Common Outdoor Activities	Common Indoor Activities	A - Weighted Sound Level dBA	Subjective Loudness	Effects of Noise
Threshold of Pain		140	Intolerable or Deafening	Hearing Loss
Near Jet Engine		130		
		120		
Jet Fly-Over at 1000 ft	Rock Band	110		
Loud Auto Horn		100	Very Noisy	Speech Interference
Gas Lawn Mower at 3 ft		90		
Diesel Truck at 50 ft, at 50 mph	Food Blender at 3 ft	80	Loud	
Noisy Urban Area, Daytime	Vacuum Cleaner at 10 ft	70		
Heavy Traffic at 300 ft	Normal Speech at 3 ft	60	Moderate	Sleep Disturbance
Quiet Urban Daytime	Large Business Office	50		
Quiet Urban Nighttime	Theater, Large Conference Room (Background)	40		
Quiet Suburban Nighttime	Library	30	Faint	No Effect
Quiet Rural Nighttime	Bedroom at Night, Concert Hall (Background)	20		
	Broadcast/Recording Studio	10	Very Faint	
Lowest Threshold of Human Hearing	Lowest Threshold of Human Hearing	0		

Two noise sources do not “sound twice as loud” as one source. As stated above, a doubling of noise sources results in a noise level increase of 3 dBA. It is widely accepted that (1) the average healthy ear can barely perceive changes of a 3 dBA increase or decrease; (2) a change of 5 dBA is readily perceptible; and (3) an increase (decrease) of 10 dBA sounds twice (half) as loud. In community situations, noise exposure and changes in noise levels occur over a number of years, unlike the immediate comparison made in a field study situation. The generally accepted level where changes in community noise levels become “barely perceptible” typically occurs at values of greater than 3 dBA. Figure 4.5-2 (Activity based Noise Levels) shows the relationship of various noise levels to commonly experienced noise events.

Noise Propagation

From the source to the receiver, noise changes both in level and frequency. The most obvious change is the decrease in noise level as the distance from the source increases. Other factors influencing noise propagation include geometric spreading, ground absorption by hard or soft surfaces, atmospheric effects, and barriers or shielding from a noise source.

Noise Descriptors

Several rating scales (or noise “metrics”) exist to analyze effects of noise on a community. These scales include the equivalent noise level (L_{EQ}), the community noise equivalent level (CNEL), and the day-night average sound level (L_{DN}). Average noise levels over a period of minutes or hours are usually expressed as dBA L_{EQ} that is the equivalent noise level for that period of time. The period of time averaging may be specified; L_{EQ} (3) would be a 3-hour average. When no period is specified, a 1-hour average is assumed. Noise of short duration (i.e., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting many seconds or a few minutes may have minimal effect on the measured sound level averaged over a 1-hour period. L_{MAX} and L_{MIN} are, respectively, the highest and lowest A-weighted sound levels that occur during a noise event.

To evaluate community noise impacts, L_{DN} was developed to account for human sensitivity to nighttime noise. L_{DN} represents the 24-hour average sound level with a penalty for noise occurring at night. The L_{DN} computation divides the 24-hour day into two periods: daytime (7:00 AM to 10:00 PM) and nighttime (10:00 PM to 7:00 AM). The nighttime sound levels are assigned a 10 dBA penalty prior to averaging with daytime hourly sound levels. CNEL is similar to L_{DN} except that it separates a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5 dBA penalty, and the nighttime sound levels are assigned a 10 dBA penalty prior to averaging with daytime hourly sound levels.

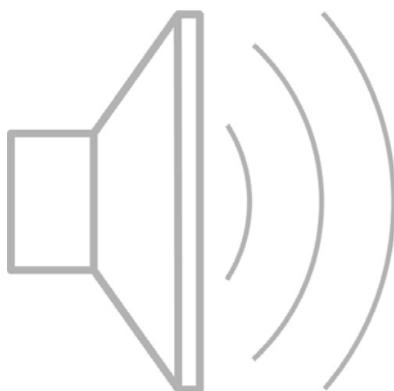
Defining Vibration

Vibration is the periodic movement of mass over time. It is described in terms of frequency and amplitude. Unlike sound, there is no standard way of measuring and reporting amplitude. Vibration is described in units of velocity (inches per second [in/sec]), and is discussed in dB units in order to compress the range of numbers required to describe vibration.

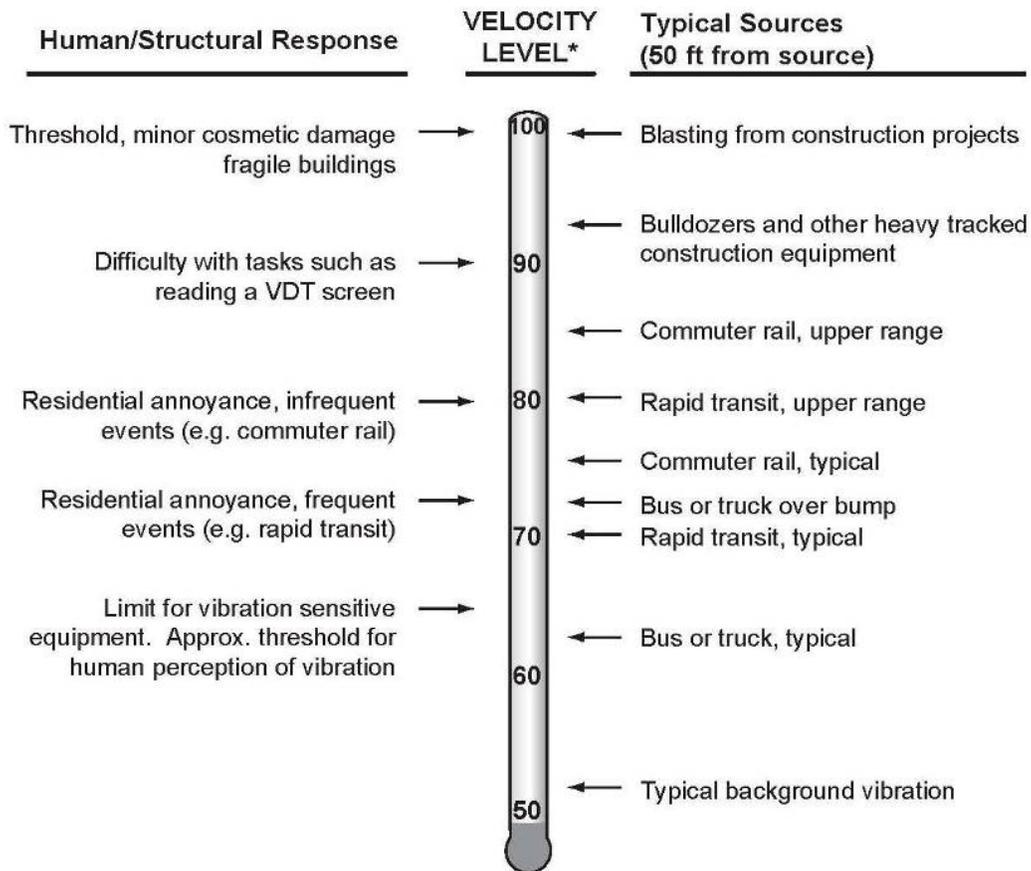
The frequency of a vibrating object describes how rapidly it is oscillating. The number of oscillation cycles per second is the vibration frequency, which is described in terms of hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Perception of Vibration

The primary concern from vibration is its ability to intrude and annoy local residents and other vibration-sensitive land uses. While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings caused by construction activities may be perceived as motion of building surfaces (e.g., window rattling, items on shelves shaking, and pictures hanging on walls moving). Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Figure 4.5-3 (Common Vibration Sources and Typical Human and Structural Responses) illustrates common vibration sources and typical human and structural responses. Groundborne noise is typically generated by trains and similar transit vehicles and not from construction activities. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz) or when the structure and the construction activity are connected by foundations or utilities, such as sewer and water pipes. Groundborne vibration is generally not annoying to people who are outdoors.



**Figure 4.5-3
Common Vibration Sources and Typical Human and Structural Responses**



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Vibration Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High frequency vibrations reduce much more rapidly than low frequencies so that low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances. When vibration encounters a building, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under certain circumstances, the ground-to-foundation coupling may also amplify the vibration level due to structural resonances of the floors and walls.

Describing Vibration

Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration and describe the severity of the vibration without the frequency variable. The peak particle velocity (ppv) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in in/sec. Since it is related to the stresses that are experienced

by buildings, ppv is often used in monitoring blasting vibration and the vibration of heavy construction equipment. Vibration is also described in decibel units, written as VdB, to distinguish from noise level decibels.

Ambient Noise Survey

BonTerra Consulting conducted ambient noise surveys on October 12 and 13, 2009 to document the existing noise environment at various locations in Huntington Beach. A total of nine short-term noise level measurements were collected. Ambient noise survey locations are shown in Exhibit 7 of the Noise Impact

Common Noise Scale Abbreviations	
CNEL	community noise level equivalent
dBA	decibels (A-weighted)
L _{EQ}	equivalent noise level
L _{MAX}	maximum noise level
L _{MIN}	minimum noise level
L _{DN}	day-night average noise level

Study (Appendix D). The values taken at each ambient noise measurement location are presented in Table 4.5-1 (Ambient Noise Survey Summary). In all instances, the existing ambient noise survey identified traffic as the primary source of noise. Existing unmitigated noise levels at all measurement locations except Location 4 exceed the 60 dBA Ldn noise-land use compatibility goal adopted as Policy 1.2.1 in the existing General Plan Noise Element for sensitive uses including housing, health care facilities, schools, libraries, and religious facilities.

**Table 4.5-1
Ambient Noise Survey Summary**

No	Primary Noise Source	Duration	Noise Levels (dBA)			
			L _{EQ}	L _{MAX}	L _{MIN}	L _{DN}
1	Goldenwest St	15 min	74.0	86.3	53.9	76.0
2	Bolsa Ave	15 min	71.2	64.6	52.9	73.2
3	Goldenwest St	15 min	72.6	84.4	59.0	73.8
4	Edinger Ave & Eldrich Ave	15 min	56.2	73.1	48.1	57.7
5	Heil Ave	15 min	62.3	70.6	46.6	63.8
6	Atlanta Ave	15 min	69.8	81.0	45.8	69.5
7	Warner Ave	15 min	71.3	82.3	47.0	72.0
8	Goldenwest St	24 hours	--	--	--	65.7
9	Adams Ave	15 min	67.2	81.4	56.4	68.6

Source: BonTerra Consulting, October 2009

Roadway Noise

Typical, existing daily noise patterns throughout the City were modeled based on the results of the ambient noise survey. The average daily traffic (ADT) volume from the project Traffic Study (Appendix F) was used to identify roadway segments where future potential traffic increases could result in a substantial noise increase. Those segments selected for impact analysis in this EIR include:

- Those where existing traffic volumes would increase by 100 percent or more;

- All segments where noise level measurements were collected; and
- All segments with committed roadway improvements.

These roadway segments were chosen because they represent the most likely potential locations for future noise impacts and therefore represent a 'worst-case' scenario for assessment of substantial noise increases. Traffic noise contour boundaries are often utilized by local land planning and zoning authorities to evaluate sound level exposures on land that is being considered for development and is adjacent to highways. The noise contours do not take into account the effect of any existing noise barriers that may affect ambient noise levels, and do not take into account the noise contribution from traffic on other roadways, aircraft noise, or noise associated with transit facilities. Noise contour boundaries are utilized in this analysis to assess the traffic noise level impacts associated with modifications to planned future roadway improvements within the City. Existing traffic noise contours for selected roadway segments are summarized in Table 4.5-2 (Existing Noise Contours). These roadway segments reflect the three criteria expressed above and are provided as representative samples of existing conditions along the street network.

**Table 4.5-2
Existing Noise Contours**

Roadway Segment	ADT	Noise level (L _{DN}) at 50'	Distance (ft.) to noise contour (L _{DN})		
			70	65	60
1st St, S/O Orange Ave	4,000	61.9	8	24	77
6th St, S/O Olive Ave	2,000	55.1	2	5	16
6th St, S/O Walnut Ave	3,000	56.8	2	8	24
Adams Ave, E/O Brookhurst St	38,000	75.2	165	522	1,650
Atlanta Ave, E/O 1st St	9,000	63.4	11	35	110
Atlanta Ave, E/O Delaware St	7,000	64.3	13	42	134
Atlanta Ave, E/O Huntington St	10,000	63.9	12	38	122
Banning Ave, E/O Bushard St	3,000	60.3	5	17	54
Bolsa Ave, Edwards St to Goldenwest St	27,000	71.5	71	226	713
Brookhurst St, S/O Banning Ave	12,000	70.2	52	165	521
Edinger Ave, W/O Beach Blvd	30,000	72.0	79	251	792
Garfield Ave, Delaware St to Florida St	12,000	66.2	21	66	208
Goldenwest St, Bolsa Ave to McFadden Ave	39,000	75.3	169	536	1,693
Goldenwest St, N/O Slater Ave	26,000	72.6	92	291	919
Goldenwest St, S/O Orange Ave	11,000	71.0	62	197	624
Heil Ave, Beach Blvd to Gothard St	7,000	65.1	16	52	163
Newland St, Pacific Coast Highway to	8,000	64.3	14	43	136

Roadway Segment	ADT	Noise level (L _{DN}) at 50'	Distance (ft.) to noise contour (L _{DN})		
			70	65	60
Hamilton Avenue					
Pacific View Ave, E/O 1st St*	—	—	—	—	—
Seapoint Ave, S/O Palm Ave	6,000	65.0	16	50	158
Warner Ave, E/O Pacific Coast Highway	24,000	73.5	111	350	1,108

Source: BonTerra Consulting, October 2009
 * Pacific View, east of 1st St is a future roadway segment, therefore no existing data can be extrapolated

Railway Noise

The Union Pacific (UP) railway runs east of Gothard Street and extends from the northern City limits to its endpoint just north of Garfield Avenue. Approximately three trains per week use the active portion of the rail line north of Ellis Avenue. Those portions of this railway south of Ellis Avenue have been abandoned with some portions having been converted into a recreation area. The active portion of the railway is used approximately three times a week. The Noise Impact Analysis does not identify any existing noise issues with the UP railway.

Sensitive Receptors

Noise-sensitive receptors are generally considered to be humans who are engaged in activities or who are utilizing land uses that may be subject to the stress of significant interference from noise. Activities usually associated with sensitive receptors include, but are not limited to, talking, reading and sleeping. Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals and places where quiet is an essential element of the intended purpose. Residences are of primary concern because of the potential for increased and prolonged exposure to excessive, disturbing, or offensive interior or exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas may also be considered sensitive to increases in exterior noise levels. Schools, places of worship, hotels, libraries, some offices, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. Commercial and industrial land uses are generally not considered noise-sensitive receptors. A variety of land uses occur along the City's street network, including several noise-sensitive uses described above.

Vibration-sensitive receptors generally are considered to be humans who are engaged in activities or who are utilizing land uses that may be subject to significant interference from vibration. Activities and land uses often associated with vibration-sensitive receptors are similar to those associated with noise-sensitive receptors. Historic buildings can be particularly sensitive to vibration based on the age of the building. Equipment utilized in research, microelectronics

manufacturing, medical diagnostics, and similar activities can also be sensitive to vibration.

Regulatory Setting

California Code of Regulations, Title 24

Title 24 of the California Code of Regulations (California Building Standards Code) requires that new residential structures, other than detached single-family dwellings, be designed to prevent the intrusion of exterior noise attributable to exterior sources. Specifically, it requires that the interior L_{DN} with windows closed shall not exceed 45 dBA in any habitable room.

Caltrans Vibration Guidelines

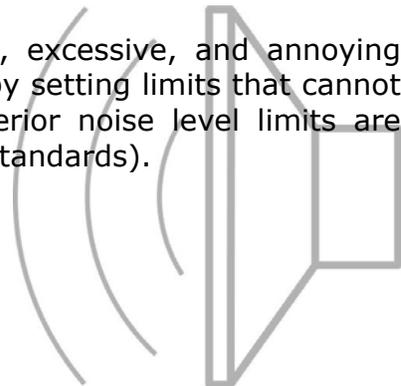
There are no Federal Highway Administration (FHWA), Federal Transit Administration (FTA), State, or local standards for construction-related vibration impacts. According to the California Department of Transportation (Caltrans), highway traffic and construction vibrations pose no threat to buildings and structures. For this analysis, potential structural damage and human annoyance associated with vibration from road construction activities is based on the Caltrans 'Transportation- and Construction-Induced Vibration Guidance Manual'. This manual, although not regulatory, provides an in depth study of the nature and production of vibration from transportation and construction sources, general methods for reducing vibration, and procedures for addressing vibration issues.

Huntington Beach General Plan Noise Element

The Noise Element of the City's General Plan is the guiding document for the City's noise policy and contains policies designed to protect residents and businesses from excessive and persistent noise intrusions, particularly from traffic and construction sources. Policy N1.2.1 defines noise sensitive uses and indicates that new sensitive uses to be sited in an area exposed to 60 dBA Ldn or more are to be redesigned to reduce the exterior noise levels to within 'acceptable limits'. 'Acceptable limits' are not defined in the Noise Element; however, the City's Noise Ordinance does identify noise zones (1 to 4) that establish exterior and interior noise level limits for properties within a designated zone (see below).

Huntington Beach Noise Ordinance

Noise Ordinances are designed to control unnecessary, excessive, and annoying sounds from one property to another. This is achieved by setting limits that cannot be exceeded at adjacent properties. Exterior and interior noise level limits are summarized in Table 4.5-3 (Exterior and Interior Noise Standards).



**Table 4.5-3
Exterior and Interior Noise Standards**

Zone	Uses	Noise Standard (dbA)		Time Period
		Exterior	Interior	
1	Residential	55	55	7am-10pm 10pm-7am
		50	45	
2	Office Public Institution	55	55	Anytime
3	Commercial	60	55	Anytime
4	Industrial	70	55	Anytime

The Noise Ordinance requirements are not applicable to mobile noise sources (e.g., heavy trucks traveling on public roadways). Control of mobile noise sources on public roads is preempted by Federal and State laws.

According to Section 8.40.090(d) of the Municipal Code, noise sources associated with construction, repair, remodeling, or grading of any real property are exempt from the City Noise Ordinance, provided said activities do not take place between the hours of 8:00pm and 7:00am on weekdays or Saturdays or at any time on Sunday or a Federal holiday. Therefore, temporary noise impacts during roadway construction that occur in the hours allowed by the City are exempt from the restrictions set forth in the Municipal Code.

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Expose persons to or generate noise levels in excess of standards established by the Huntington Beach General Plan Noise Element; or
- b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels; or
- c) Result in a substantial permanent increase in ambient noise levels above existing noise levels.

Environmental Impacts

IMPACT
4.5.A
4.5.C

Projected long-term traffic volumes would increase noise levels near land uses already exposed to significant traffic noise by a less than significant amount. This would occur with or without the proposed revisions to the Circulation Element, as a result of anticipated population growth.

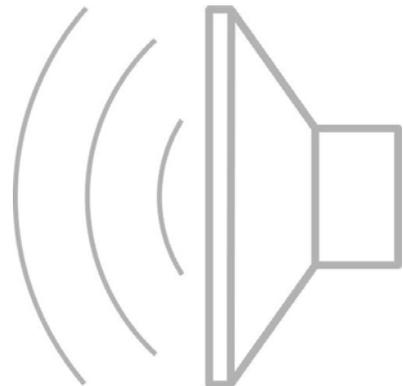
The City's street network is well established, and no new patterns or transportation routes would be created that could create any new sources of roadway noise. Roadway noise would increase over time, however, due to growth in traffic that

would occur as a result of local land use policies and socioeconomic factors that are not affected by the Circulation Plan. This section evaluates the projected noise level increases over existing conditions with respect to potential effects on existing sensitive receptors.

A noise level increase of 3 dBA is 'barely perceptible' to most people with a normal range of hearing, and an increase of 5 dBA is considered 'clearly noticeable'. Accordingly, for the purpose of evaluating the permanent noise level impacts over the long-term, a 'significant' traffic noise impact would occur if:

- the future noise level at a sensitive receptor does not exceed 60 dBA L_{DN} and the proposed project would increase the noise level by more than 5 dBA; or
- the future noise level at a sensitive receptor exceeds 60 dBA L_{DN} and the proposed project would increase the noise level by more than 3 dBA.

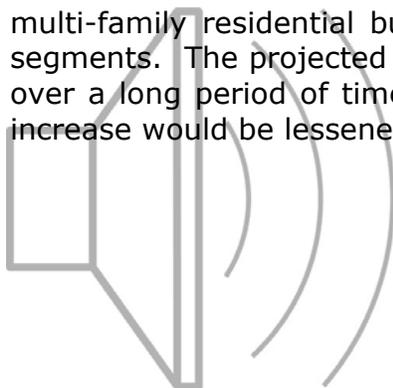
The traffic noise contour boundaries for long range conditions were estimated using the FHWA Highway Traffic Noise Prediction Model (RD 77 108). The FHWA model determines a predicted noise level through a series of adjustments to a reference sound level. These adjustments account for traffic flows, speed, truck mix, varying distances from the roadway, length of exposed roadway, and noise shielding. Table 4.5-4 (Proposed Circulation Element Future Noise Contours) presents the anticipated 60, 65, and 70 dBA L_{DN} contours represented as a distance from the centerline of each roadway segment for the proposed Circulation Element.



**Table 4.5-4
Proposed Circulation Element Future Noise Contours**

Roadway Segment	ADT	Noise level (L_{DN}) at 50'*	Distance (ft.) to noise contour (L_{DN})		
			70	65	60
1st St, S/O Orange Ave	10,000	65.8	19	61	192
6th St, S/O Olive Ave	6,000	59.8	5	15	48
6th St, S/O Walnut Ave	6,000	59.8	5	15	48
Adams Ave, E/O Brookhurst St	40,000	75.4	174	549	1,737
Atlanta Ave, E/O 1st St	19,000	66.8	24	76	241
Atlanta Ave, E/O Delaware St	15,000	67.6	29	91	288
Atlanta Ave, E/O Huntington St	21,000	67.3	27	84	266
Banning Ave, E/O Bushard St	7,000	64.0	13	40	126
Bolsa Ave, Edwards St to Goldenwest St	29,000	71.9	77	242	766
Brookhurst St, S/O Banning Ave	21,000	72.6	91	288	912
Edinger Ave, W/O Beach Blvd	38,000	73.0	100	317	1,004
Garfield Ave, Delaware St to Florida St	18,000	68.1	32	103	325
Goldenwest St, Bolsa Ave to McFadden Ave	46,000	76.0	200	632	1,997
Goldenwest St, Slater Ave to McFadden	32,000	73.3	106	336	1,064
Goldenwest St, S/O Orange Ave	20,000	73.6	113	359	1,134
Heil Ave, Beach Blvd to Gothard St	9,000	66.2	21	66	210
Newland St, Pacific Coast Highway to Hamilton Ave	8,000	64.6	14	46	144
Pacific View Ave, E/O 1st St*	6,000	59.8	5	15	48
Seapoint Ave, S/O Palm Ave	16,000	69.3	42	134	423
Warner Ave, E/O Pacific Coast Highway	19,000	72.4	88	277	877
Source: BonTerra Consulting, October 2009					
* 50 ft is a standard metric used for comparing noise levels at an equal distance					

A comparison of the existing roadway noise levels and the projected future noise level contours of the proposed Circulation Element indicates there are six roadway segments that could significantly impact sensitive receptors because the average noise levels would exceed 60 dBA L_{DN} and the increases are anticipated to be in excess of 3.0 dBA L_{DN} . These roadway segments are listed in Table 4.5-5 (Future Traffic Noise Level Increases). Residential uses including single-family homes and multi-family residential buildings are the sensitive receptors along these roadway segments. The projected noise level increases identified in Table 4.5-4 would occur over a long period of time, i.e., many years, and thus the perception of the noise increase would be lessened due to the gradual change rate.



**Table 4.5-5
Future Traffic Noise Level Increases**

Roadway	L _{DN} at 50 feet (dBA)		
	Existing	Proposed	Increase
1st St, S/O Orange Ave	61.9	65.8	3.9
Atlanta Ave, E/O 1st St	63.4	67.0	3.6
Atlanta Ave, E/O Delaware St	64.3	67.9	3.6
Atlanta Ave, E/O Huntington St	63.9	67.5	3.6
Banning Ave, E/O Bushard St	60.3	64.0	3.7
Seapoint Ave, S/O Palm Ave	65.0	68.4	3.4
Source: BonTerra Consulting 2009			

The projected long-term increases in roadway noise levels would occur with or without the updated Circulation Element, due to growth in traffic volumes that are forecast as a result of local land use policies and a variety of socioeconomic factors. Proposed Circulation Element policies and roadway design standards would not affect the generation or experience of increased traffic noise. Significant noise impacts due to the updated Element, therefore, would not occur. .

**IMPACT
4.5.B**

Future construction to implement aspects of the proposed Circulation Plan would result in less than significant groundborne vibration impacts.

Groundborne vibration impacts could occur during future roadway construction projects that are undertaken to add roadway and/or intersection capacity to maintain the network performance standards established in the updated Circulation Element. Groundborne vibration generated by roadway construction projects is usually highest from soil compaction and jackhammers. It is anticipated that jackhammers would be needed during removal of concrete sidewalks and pavement.

The vibration impacts would depend on the equipment mix, precise alignments, and distances to the nearest sensitive receptors. Table 4.5-5 (Estimated Construction Vibration Levels) presents vibration levels at distances of 20 and 50 feet from typical equipment used during roadway construction projects. As indicated in the October 2009 Noise Impact Analysis for the Circulation Element Update (Appendix D), the operation of jackhammers and heavy equipment has the potential to generate 'barely' to 'distinctly' perceptible vibration levels at receivers within 20 feet and 'barely' perceptible vibration levels at receivers within 50 feet. The threshold for structural vibration damage for older residential structures is 0.3 in/sec for intermittent sources that include typical construction equipment. Below this level, there is generally no risk of building damage. Table 4.5-6 shows that the predicted vibration levels generated by construction equipment would be less than 0.124 in/sec; below the 0.3 in/sec level that could create structural damage.

**Table 4.5-6
Estimated Construction Vibration Levels**

Equipment	PPV at 20 ft (in/sec)	PPV at 50 ft (in/sec)
Heavy equipment (excavator/backhoe)	0.124	0.031
Loaded trucks	0.106	0.027
Jackhammer	0.049	0.012
Small bulldozer	0.004	0.001
Source: BonTerra Consulting, October 2009 ppv: peak particle velocity; in/sec: inches per second		

Roadway construction has the potential to generate perceptible vibration levels to sensitive receptors within 20 feet from the operation of heavy equipment. Given that vibration levels dissipate rapidly with distance, and that homes along streets and intersections are typically more than 20 feet away from the street edge, residential land uses adjoining roadway and intersection improvement projects would not likely be subject to distinctly perceptible vibration levels over extended periods of time. Due to the relatively short duration of potentially perceptible vibration levels at any individual general or sensitive receptor and because vibration levels would be below the threshold for structural damage, vibration would not be substantial and the impact would be less than significant.

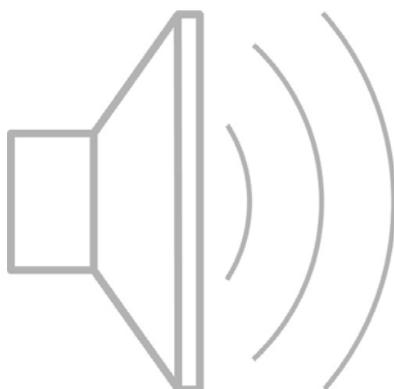
Specific truck routes are designated in the existing and updated Circulation Elements, to restrict heavy truck traffic to larger roadways that are designed to carry heavier loads and are buffered from sensitive land uses. No changes in designated truck routes are proposed and the mix of trucks in the traffic on those routes is not expected to change. Ground vibration associated with heavy truck movements, therefore, is not expected to change and such impacts would not be significant.

Mitigation Measures

None required

Level of Significance

All noise impacts will be less than significant without mitigation incorporation



4.6 Population and Housing

Pursuant to the findings of the Initial Study (Appendix A), this section examines impacts related to the potential displacement of housing and people as a result of the long term implementation of the Circulation Element update. Impacts related to growth inducement were found to be less than significant and are not discussed in this section. No comments related to displacement impacts were submitted as responses to the Notice of Preparation of a Draft Environmental Impact Report, or at either of the public Scoping Meetings.

Environmental Setting

The City's existing street network is generally developed on both sides with housing, commercial, industrial, recreation, and public uses, along with utilities infrastructure, and other development. Building setbacks vary considerably, as do the variety of improvements in the areas between the edges of the streets and the buildings. Setback improvements include sidewalks, trees and other landscaping, signs, walls, fences, parking spaces, utility and traffic signal boxes, overhead power lines, bus stops and turnouts, etc.

Planning and Regulatory Framework

There are currently no General Plan policies that specifically address circumstances involving displacement of residential, business or other types of improvements due to expansion of streets, intersections or other types of public or private infrastructure.

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Displace one or more existing housing units and necessitate the construction of replacement housing elsewhere.
- b) Displace a substantial number of people and necessitate the construction of replacement housing elsewhere.

Environmental Impacts

**IMPACT
4.6-1**

Future intersection capacity projects could result in displacement of one or more homes or businesses. This would be a significant and unavoidable impact.

For the most part, proposed roadway reclassifications, Master Plan of Arterial Highways amendments, and long range capacity improvements recommendations identified in the Circulation Element traffic study, would not require additional right-of-way and would thus not result in any displacement of existing homes, businesses or public buildings.

In some locations where future intersection capacity improvements are projected to be needed to achieve level of service standards, it is possible that widening along one or more of the intersection legs could impact existing private or public improvements, including existing residences and commercial structures. Please refer to Table 3-4, (Long Range Intersection Capacity Needs) for a complete list of locations where some physical expansions to existing intersections are anticipated. Until project-level designs are developed, however, specific impacts cannot be identified.

As part of the City's routine design and engineering process for streets and intersection improvements, geometric alternatives will be evaluated to consider costs/benefits of different approaches. Future design alternatives could include geometrics that would encroach into existing building footprints, landscape setbacks, sign structures, walls, fences, parking spaces, sidewalks, etc. Designs that achieve the level of capacity and operational improvement needed and avoid displacement of homes or businesses will be preferred, but cannot be ruled out at this time. If a preferred alternative for a particular intersection improvement does involve some displacement of an existing residential or business structure, the City will negotiate with affected property owners to provide fair compensation for the value of the improvements that are to be acquired, and this may also include relocation assistance to affected households or businesses. In some cases, such assistance may not be feasible, and it is possible that a particular intersection improvement project could result in displacement of one or more households or businesses that do not receive direct relocation assistance. If that occurs, it would be a significant impact.

Mitigation Measures

Since project-level designs and impacts cannot be identified until the actual time the projects are funded and selected for implementation, it is premature to define any particular mitigation measures that address potential housing or business displacement impacts.

Level of Significance

Potential displacement of one or more homes or businesses could occur as a result of future intersection improvement projects. If so, that would be considered a significant impact that cannot be avoided.



4.7 Public Services

Pursuant to the results of the Initial Study (Appendix A), this section examines potential effects on fire protection and paramedic emergency response times, due to proposed removal of previously planned and unbuilt roadway extensions that are no longer deemed necessary components of the long range Circulation Plan. Impacts to police services, schools, parks, and other services were found to be less than significant in the Initial Study (Appendix A) and are not discussed in this section. No comments were received regarding fire protection and emergency services during the circulation of the Notice of Preparation or during the two EIR Scoping Meetings. Information throughout this section was provided by the Huntington Beach Fire Department.

Environmental Setting

Stations and Equipment

Fire protection, rescue, emergency medical, and hazardous materials control and response services for the planning area are provided by the Huntington Beach Fire Department. The Department maintains eight fire stations served by 131 safety personnel and 24 ambulance and fire interns. A minimum of 41 fire suppression and eight ambulance personnel are on-duty each day. The location of each fire station and assigned apparatus are summarized in Table 4.7-1 (Huntington Beach Fire Stations).

**Table 4.7-1
Huntington Beach Fire Stations**

Station No.	Address	Apparatus
1	18311 Gothard Street	Command Vehicle Paramedic Engine Company Advanced/Basic Life Support Ambulance
2	16221 Gothard Street	Paramedic/Engine Company Truck Company Advanced/Basic Life Support Ambulance
3	19711 Bushard Street	Paramedic/Engine Company
4	21441 Magnolia Street	Paramedic/Engine Company
5	530 Lake Street	Paramedic/Engine Company Truck Company Advanced/Basic Life Support Ambulance
6	18591 Edwards Street	Paramedic/Engine Company Advanced/Basic Life Support Ambulance Hazardous Materials Response Unit
7	3831 Warner Avenue	Paramedic/Engine Company
8	5891 Heil Avenue	Paramedic/Engine Company

Source: City of Huntington Beach 2009

In addition to the fire protection services available through the Huntington Beach Fire Department, mutual aid and automatic aid agreements with other jurisdictions make supplementary resources accessible as needed. The Office of Emergency Services coordinates county- and state-wide distribution of services in the occurrence of large-fires or other disasters. Local automatic aid agreements with Orange County and the Cities of Westminster, Santa Ana, Newport Beach, Fountain Valley, and Costa Mesa Fire Departments enable participating City and county emergency calls to be responded to by the nearest available emergency unit regardless of the jurisdiction. These agreements provide the City with five alarm response capabilities.

Level of Service

According to the Fire Department's 2008 Annual Report, the Department responded to a total 13,853 incidents. These included 430 fires, 11,482 emergency medical responses, and 151 hazardous materials responses. The Department anticipates responding to approximately 14,000 incidents by the end of 2009. Overall, the average response time for 2008 was four minutes and 57 seconds. However, response times to the Bolsa Chica wetlands area are averaging about five minutes and seven seconds, slightly over the service response goal. Response times to the Bolsa Chica wetlands area have been steadily improving and are anticipated to reach the Department's service goal in the near future.

Future Facilities

The Huntington Beach Fire Department is responsible for ensuring that sufficient equipment and manpower is available to meet service needs and that fire stations are strategically placed to ensure that response time goals are met. The Department replaces equipment based on an adopted depreciation schedule. Fire stations are constructed or expanded based on response times. As response times increase, the Department considers expansion, relocation, and new construction opportunities and assesses the most viable means by which to meet response time goals.

At this time, the Huntington Beach Fire Department has no immediate plans to construct any additional fire stations. The Department is currently in the process of remodeling its existing fire stations, with Stations No. 2 and 5 next to be renovated. Over the long-term, the Department plans to move Station 8 from its current location on Heil Avenue to a new location on Graham Street in order to better serve the northwestern portion of the City. Any other new stations or station expansions would be in response to future development patterns and service needs. The Department reviews all new development proposals within the City and based on the nature of the development, imposes conditions of approval that are representative of the intensity of the development. Extensive development could directly require substantial expansion of existing fire department services and facilities in order to maintain response goals.

Planning Framework

The General Plan establishes the level of service standards for the Huntington Beach Fire Department through the General Plan pursuant to Policies PF 2.1.1 and PF 2.2.1 of the Public Facilities and Public Services Element and Policies GM 2.1.2 and GM 2.1.3 of the Growth Management Element. The adopted goals for fire, rescue, and emergency medical response arrival times are summarized in Table 4.7-2 (Fire Department Response Arrival Goals).

**Table 4.7-2
Fire Department Response Arrival Goals**

First Responding Unit	80% Goal	90% Goal	100% Goal
Engine Company	5 Minutes	N/A	N/A
Ladder Company	N/A	10 Minutes	15 Minutes
Paramedic Resource	5 Minutes	N/A	10 Minutes
Sources: General Plan 1996, 2002; Huntington Beach Fire Dept. 2009			

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Environmental Impacts

IMPACT 4.7.A

Emergency response times for fire suppression and paramedic services would not be adversely affected by the proposed amendments to the Circulation Plan.

The proposed Circulation Element would not directly require or result in the need for any expansion of fire protection services because it does not authorize any development, land use changes, or infrastructure improvements that could increase demand for fire protection services and it does not affect the Land Use Element or any City plan, program, or policy designed to manage and direct the intensity of new housing or businesses that would require emergency services. Furthermore, the identified roadway and intersection improvements would not require the need for additional emergency services because they do not cause any form of growth that could expand service needs. The identified roadway and intersection improvements would have a positive effect on fire department emergency response by reducing traffic congestion.

No existing roadway segments are proposed to be removed or realigned or to be converted to one-direction of travel; therefore, the proposed plan would have no effect on emergency response times due to modifications to the existing street network. Several planned roadway segments that are part of the adopted Circulation Plan are to be eliminated to avoid sensitive wetlands areas or because the traffic study determined the extension is no longer needed to manage long term traffic flows. These segments include: the extension of Hamilton Avenue from Newland Street to Beach Boulevard, the extension of Talbert Avenue from Springdale Street to Graham Street, the extension of Edinger Avenue to Pacific Coast Highway, and others. If deletion of any planned roadway segments would result in the need for expanded, relocated, or new fire protection facilities in order to meet response arrival goals, a significant impact could occur.

The existing General Plan EIR (2000) provided two scenarios for the future construction of fire stations in the Bolsa Chica area. Both scenarios involve the extension of Talbert Avenue from Springdale Street to Graham Street. The first scenario indicates that if Talbert Avenue is extended, then one fire station would need to be constructed in the vicinity of the intersection of Edwards Street at Garfield Avenue. The second scenario indicates that if Talbert Avenue is not extended through the Bolsa Chica area, then two stations would have to be constructed - one on Edwards Street and another near the intersection of Graham Street and Slater Street. The need for two fire stations was projected on the premise that portions of the Bolsa Chica wetlands would be developed with a substantial concentration of housing units. Without the extension of Talbert Avenue, one station could not respond to the contemplated residential development within the service goal timeframe. With the extension, the Edwards Street station would be able to serve all of the potential residential development in the Bolsa Chica area.

Since certification of the General Plan EIR, Station No. 6 has been constructed at 18951 Edwards Avenue. Development potential on the Bolsa Chica Mesa has been dramatically scaled back, from more than 3,000 new homes to less than 400. Given this change in land use plans in this area, the Huntington Beach Fire Department determined that there won't be a need for another fire station near Graham/Slater. A General Plan Amendment was adopted in 2002 to formally remove the previously planned station on Graham and Slater.

The Huntington Beach Fire Department prepared a study in September 2010 analyzing the potential impacts of eliminating planned future segments of Hamilton Avenue, Edinger Avenue, Delaware Street, Gothard Street, Talbert Avenue, and Springdale Street as part of the Circulation Element update. The study utilized a geographical information systems (GIS) model to establish five-minute response zones around each of the Department's fire stations. The deletion of roadway segments was then evaluated to determine if the deletion would impact the Department's ability to reach a particular area within the five-minute response goal. Of the seven segments evaluated, potential impacts to response times were identified for the Hamilton Avenue and Edinger Avenue deletions. The deletion of

the Hamilton Avenue extension was determined to increase response times by approximately 30 seconds; however, this increase would not cause first responders from Station No. 5 to exceed the five-minute response goal to the service area. The study indicates that the deletion of the Edinger Avenue extension would not result in a reduced response times from Station No. 7 but does note that the congestion relief this segment could provide could reduce response times by zero to 50 seconds, depending on congestion on Pacific Coast Highway. While the report identifies benefits of these extensions, it found that the deletions would not substantially impact the ability for Stations Nos. 5 and 7 to meet the 5-minute response goal. Impacts to fire services will be less than significant.

Mitigation Measures

None required

Level of Impact

Impacts will be less than significant without mitigation incorporation



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4.8 Transportation and Traffic

Pursuant to the findings of the Initial Study, this section discusses the performance of the proposed Circulation Plan with respect to congestion management and potential effects on emergency response times. Potential impacts related to air traffic, circulation design features, parking, and alternative transportation were found to be less than significant in the Initial Study (Appendix A) and are not discussed in this section. The discussion of traffic impacts is based on the traffic study prepared by Austin-Foust Associates to support the updated Circulation Element (see Appendix F). Information related to emergency response was provided by Huntington Beach Fire Department. Comments were submitted as responses to the Notice of Preparation of a Draft EIR by Caltrans, the City of Costa Mesa, the City of Fountain Valley, and the Orange County Transportation Authority (OCTA) that raised concerns about certain traffic issues. These comments are addressed below and in the discussion of cumulative traffic impacts (see Section 6.1, Cumulative Impacts).

The traffic report utilized in this analysis does not include an existing-plus-project analysis of the type sometimes included in an environmental document. The HBCE project analyzed here primarily eliminates some planned future infrastructure (i.e., removes certain planned infrastructure that does not physically exist today from the current Circulation Element). As such, an existing-plus-project scenario would not differ from the existing condition and no meaningful comparison could be obtained when using the existing condition as the baseline. Instead, the traffic analysis compares future conditions based on buildout of the current Circulation Element to conditions based on the proposed Circulation Element. By way of comparison, existing Baseline conditions are also presented in the HBCE traffic report.

The traffic report analyzes the future roadway system as proposed by the new Element, recommends sizing (roadway and intersection) improvements based on existing traffic levels together with anticipated growth, and analyzes the Element's ability to accommodate the future demand. Finally, the analysis identifies the intersections that will not meet the proposed level of service standard and recommends long-range improvements to address those deficiencies.

Environmental Setting

Streets and Highway Network

The City of Huntington Beach is served by a system of highways and local streets developed to provide regional traffic movement and local access. Interstate 405 (San Diego Freeway) at the northeast boundary of the planning area provides regional access to and from the City. State Highway 39 (Beach Boulevard) runs north-south and transects the central portion of the City and State Route 1 (Pacific Coast Highway) follows the coast at the western boundary of the project area. These state routes provide additional regional and sub-regional access to and from Huntington Beach. The existing roadway network is illustrated in Exhibit 4.8-1 (Existing Midblock Roadway Network).

Roadway Classifications

A classification system with the following five basic (typical) functional roadway classifications has been established by the existing Circulation Element: Principal Arterial, Major Arterial, Primary Arterial, Secondary Arterial, and Collector Arterial. The existing roadway classifications are highlighted in Table 4.8-1 (Existing Roadway Classifications) and illustrated in Exhibit 3-2 (Standard Roadway Cross Sections). In addition to these functional classifications, the existing roadway network includes local streets that are two-lane roadways without a median or curbside parking that primarily serves residential areas. Any street not classified as one of the five functional classes is considered a local street. Local streets will not be discussed because they experience nominal traffic and do not present a substantial traffic concern.



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**Table 4.8-1
Existing Roadway Classifications**

Arterial Type	Right-of-Way (feet)		Lanes	Maximum Volume (ADT)
	Total	Pavement		
Principal	120	104	4, divided	Varies
Major	120	104	6, divided	45,000
Primary	100	84	4, divided	30,000
Secondary	80	64	2, undivided	20,000
Collector	Varies		2, undivided	10,000

Source: City of Huntington Beach 1996

Average Daily Traffic

Average daily traffic (ADT) measures the two-directional traffic volumes passing a given point on a roadway, over a 24-hour period. Existing ADT volumes on the arterial highway plan are illustrated in Exhibit 4.8-2 (Existing ADT Volumes). These volumes were developed from a selective traffic count program performed in 2008 that showed that minimal growth had occurred since the comprehensive traffic count survey was performed in 2005; hence the 2005 traffic counts are applicable to today’s conditions.

Intersection Level of Service

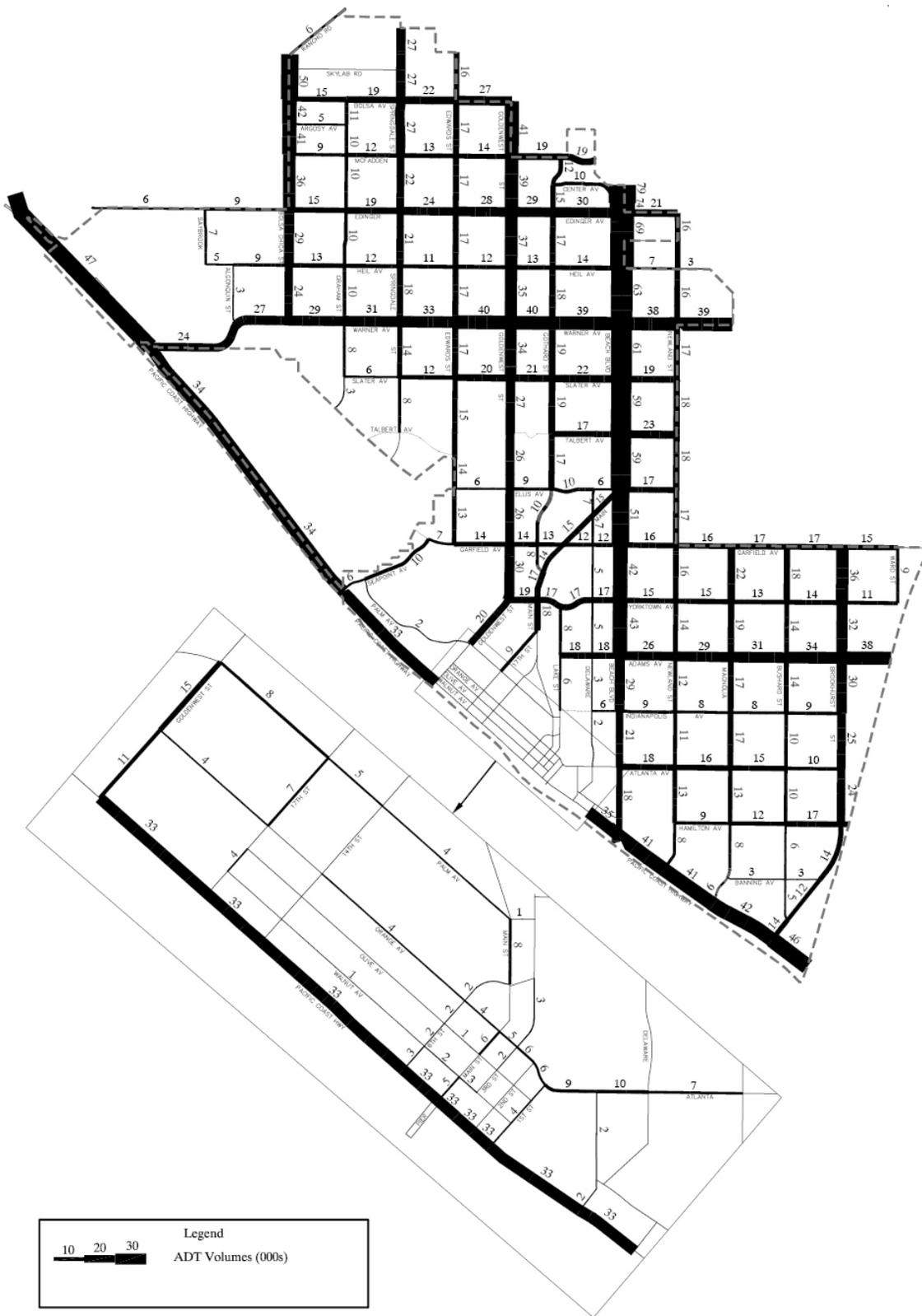
Intersection level of service (LOS) is a scale used to evaluate roadway network performance based on the performance of a system’s intersections. In order to determine an intersection’s LOS, an intersection capacity utilization (ICU) value must be calculated. ICU measures the volume to capacity (V/C) ratio of an intersection generally during the AM peak hour (7am to 9am) and PM peak hour (3pm to 6pm) timeframes. The ICU is translated into the intersection LOS based on the descriptions listed in Table 4.8-2 (Intersection Level of Service Descriptions). Intersection LOS can also be determined through a ‘stopped’ delay method that evaluates LOS based on the length of time a vehicle is stopped at an intersection. Delay-based LOS is also summarized in Table 4.8-2.

All existing intersection service levels were calculated utilizing the ICU method. In addition, the LOS for Caltrans intersections have been calculated using the delay-method as described in the Highway Capacity Manual (HCM). The existing AM peak hour and PM peak hour LOS of the entire roadway network is summarized in Table 2-1 of the traffic study (see Appendix F).



The City has established a LOS performance standard for all intersections in the planning area pursuant to the current General Plan Circulation Element (see the discussion of the current Circulation Plan below). The General Plan establishes LOS 'D' performance criteria for all intersections during peak hours. According to Table 2-1 of the traffic study, three intersections are currently not performing at criteria levels. These intersections are summarized in Table 4.8-3 (Existing Underperforming Intersections).





Source: Austin-Foust Associates, 2012

Exhibit 4.8-2 Existing Average Daily Traffic Volumes

Huntington Beach Circulation Element EIR



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**Table 4.8-2
Intersection Level of Service Descriptions**

LOS	Description	Vehicle Delay (in seconds)	ICU
A	LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	< 10.0	< .61
B	LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than the LOS A, causing higher levels of delay.	10.1 – 20.0	.61 - .70
C	LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20.1 – 35.0	.71 - .80
D	LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.1 – 55.0	.81 - .90
E	LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55.1 – 80.0	.91 – 1.0
F	LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	> 80.1	> 1.0

Source: Austin-Foust Associates 2011

**Table 4.8-3
Existing Underperforming Intersections**

No.	Intersection	AM Peak Hour		PM Peak Hour	
		ICU/Delay*	LOS^	ICU/Delay*	LOS^
60	Beach Boulevard@ Talbert Avenue	.70/38	B/D	.94/60	E/E
28	Beach Boulevard@ Edinger Avenue	.71/59	C/E	.88/57	D/E
126	Goldenwest Street @ Pacific Coast Highway	.74/19	C/B	.91/32	E/C

Source: Austin-Foust Associates 2011
 * ICU is represented as a ratio, delay is represented in seconds
 ^ Indicates LOS calculated from ICU methodology/Delay methodology

Emergency Access

According to the Fire Department’s 2008 Annual Report, the Department responded to a total 13,853 incidents. These included 430 fires, 11,482 emergency medical responses, and 151 hazardous materials responses. Overall, the average response time for 2008 was four minutes and 57 seconds.

Planning and Regulatory Framework

Huntington Beach General Plan – Circulation Element

The current Huntington Beach General Plan Circulation Element, adopted in 1996, was last amended in June 2004. The existing Circulation Element projects future traffic volumes through the year 2010 based on the General Plan Land Use Element adopted in 1996. The current Circulation Element identified nine key issues that were to be addressed over the long-term by the General Plan. These issues are listed below.

- Issue 1 Traffic congestion exists on several arterials and intersections within the City. Beach Boulevard experiences congestion along its entire length and at several major intersections. Pacific Coast Highway also experiences congestion during weekday peak hours and weekends.
- Issue 2 Parking shortages are experienced along Pacific Coast Highway and in the downtown area during the peak summer season.
- Issue 3 Alternative modes of transportation could provide a smoother link to Central Orange County and beyond.
- Issue 4 Discourage commuter or by-pass through traffic from entering residential areas.

- Issue 5 Future design of the circulation system should focus on the safety of the pedestrian, bicyclist, and motorist.
- Issue 6 The City's circulation system should be maintained at the highest level possible to decrease congestion, ensure safety, and ensure the ability of the City's emergency services to respond to emergency situations.
- Issue 7 Traffic generated from the build-out of the City's land uses may negatively impact surrounding cities.
- Issue 8 Congestion may impede the ability of the City's emergency services to respond in a timely manner.
- Issue 9 The unilateral deletion of City street segments from the Master Plan of Arterial Highways system by the City could result in the loss of Measure M funds.

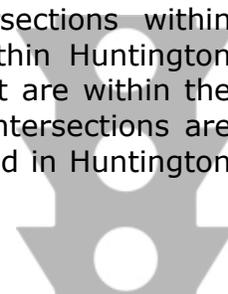
The current Circulation Element includes policies designed to address streets and highways, public transportation, transportation demand management, parking facilities, and scenic highways. Relating to traffic congestion, Policies CE2.1.1 and CE2.1.2 establish LOS-based performance standards for roadway segments and intersections. Policy CE2.1.1 stipulates that no intersection shall exceed a LOS 'D' during peak hours. Policy CE2.1.2 established a LOS 'C' for all roadway segments, except for Pacific Coast Highway south of Brookhurst Street, where no standard is specified.

Congestion Management Program

Proposition 111, passed in June 1990, requires California urbanized areas with a population of 50,000 or more to adopt a Congestion Management Program (CMP). The Orange County CMP's goals are to:

- Support mobility and air quality objectives by reducing traffic congestion;
- Provide a mechanism for coordinating land use and development decisions and support the regional economy; and
- Determine gas tax fund eligibility.

Orange County's local governments designated the Orange County Transportation Authority (OCTA) as the CMP agency for the County. OCTA is responsible for the development, monitoring, and biennial updating of Orange County's CMP. The current CMP was adopted in 2007. Table 4.8-4 (CMP Intersections within Huntington Beach) and Table 4.8-5 (CMP Roadway Segments within Huntington Beach) identifies the CMP intersections and roadway segments that are within the Huntington Beach planning area. These roadway segments and intersections are illustrated in Exhibit 4.8-3 (CMP Intersections and Roadways Located in Huntington Beach).



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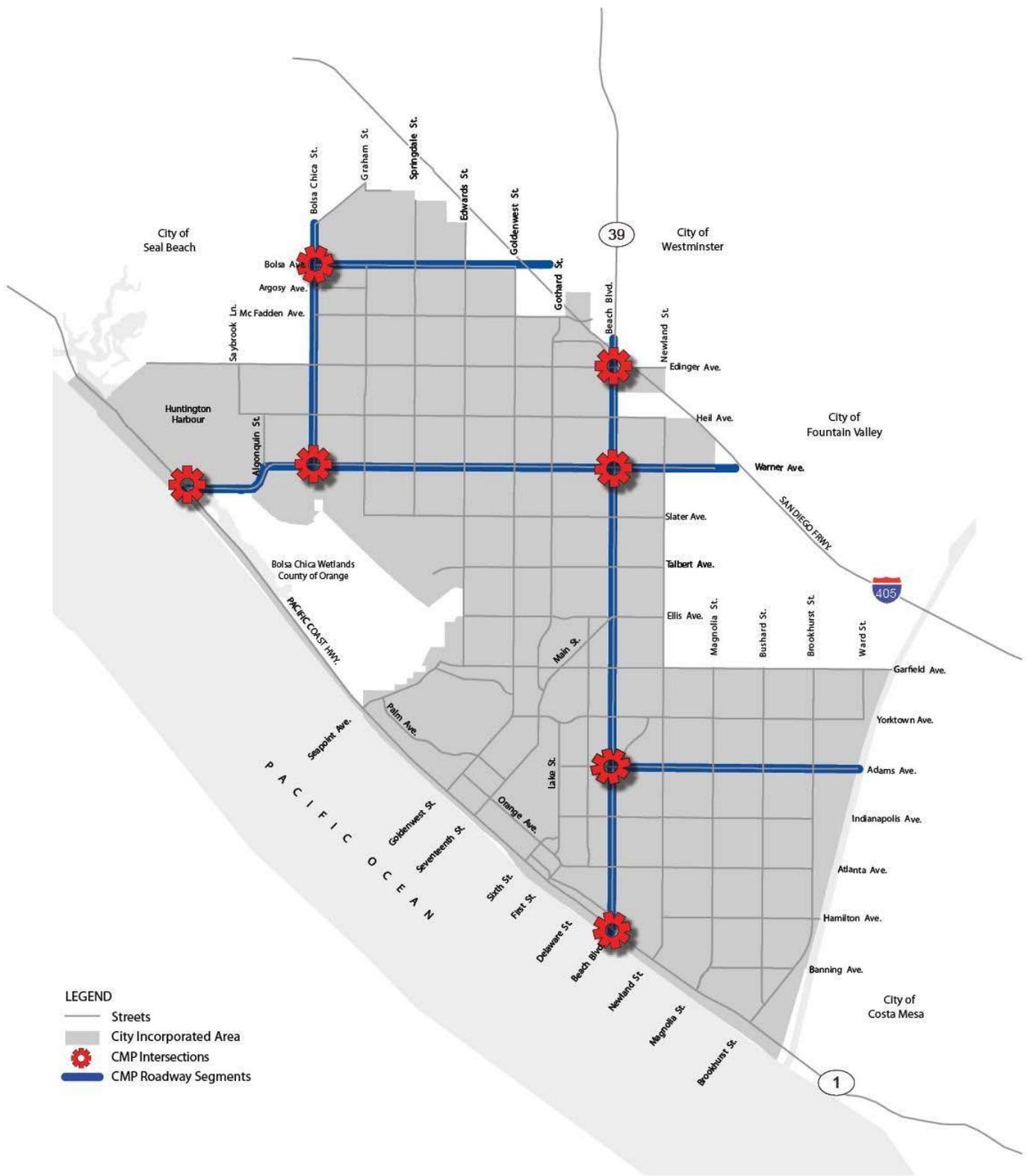


Exhibit 4.8-3 CMP Intersections and Roadways Located in Huntington Beach



Source: OCTA

Huntington Beach Circulation Element EIR

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OCTA utilizes the ICU methodology to determine an intersection LOS. In order to determine an ICU value, traffic counts are manually collected at CMP intersections. LOS ratings are assigned to each intersection based on the ICU ranges established by OCTA (in coordination with technical staff from local and State agencies). The CMP establishes a LOS 'E' (ICU rating between 0.91 and 1.00) as the peak hour performance standard for intersections, unless the baseline is lower. If the baseline exceeded LOS 'E', the performance standard for those intersections is established as the baseline ICU plus 0.09.

**Table 4.8-4
CMP Intersections within Huntington Beach**

No.	Intersection	2007 AM Peak Hour		2007 PM Peak Hour	
		LOS	ICU	LOS	ICU
28	Beach Boulevard/Edinger Avenue @ 405 Ramp	C	0.72	D	0.87
94	Beach Boulevard @ Adams Avenue	A	0.59	C	0.71
135	Beach Boulevard @ Pacific Coast Highway	A	0.60	B	0.66
47	Beach Boulevard @ Warner Avenue	C	0.79	D	0.86
4	Bolsa Chica Street @ Bolsa Avenue	B	0.65	A	0.59
41	Bolsa Chica Street @ Warner Avenue	B	0.64	C	0.75
39	Pacific Coast Highway@ Warner Avenue	D	0.82	D	0.90

Source: OCTA 2007

**Table 4.8-5
CMP Roadway Segments within Huntington Beach**

Roadway*	From	To	Classification
Beach Boulevard	I-405	Pacific Coast Highway	Major
Bolsa Chica Street	Warner Avenue	Rancho Road	Major
Bolsa Avenue	Bolsa Chica Street	Goldenwest Street	Major
Warner Avenue	Pacific Coast Highway	Magnolia Street	Major
Adams Avenue	Beach Boulevard	Santa Ana River	Major

Source: OCTA 2007, Huntington Beach 1996
* The CMP does not include LOS ratings for roadway segments

OCTA determines if participating jurisdictions are in conformance with the CMP by monitoring the following:

- Consistency with LOS standards;
- Adoption of Capital Improvement Programs (CIP);



- Adoption and implementation of a program to analyze the impacts of land use decisions including an estimate of the costs associated with mitigating those impacts; and
- Adoption and implementation of deficiency plans when highway and roadway level of service standards are not maintained.

OCTA gathers traffic data to determine the LOS at intersections throughout the CMP system. Cities are required to complete the CMP Monitoring Checklist that assists the OCTA in determining conformity with the CMP. Jurisdictions are also required to submit a CIP and to identify any intersection that fails to meet the LOS standard (known as a deficient intersection). Finally, a jurisdiction must ensure its traffic impact analysis process conforms to the CMP modeling consistency process.

The 2007 CMP indicates that the City of Huntington Beach and all other jurisdictions were in compliance with the obligations required for participating local government agencies. Further, it was determined that all CMP intersections in Huntington Beach met or operated better than the target LOS 'E' performance standard. As such, there are no deficiency plans underway for any of the CMP elements within the City. As required by the 2007 CMP, the Huntington Beach General Plan Circulation Element Traffic Study utilized the ICU methodology to determine each intersections LOS.

Master Plan of Arterial Highways

The OCTA administers the County Master Plan of Arterial Highways (MPAH). The MPAH designates the arterial system in the Orange County General Plan Circulation Element. The MPAH also identifies the intended future roadway system for the County. Huntington Beach's Circulation Element must be consistent with the MPAH in order to participate in County roadway funding programs, such as Measure M. In 1990, Orange County voters approved Measure M, authorizing a half-cent retail sales tax increase for a period of 20 years effective April 1, 1991. On November 7, 2006, voters approved an extension of this funding measure (referred to as "M2") until 2041. A portion of revenue generated by Measure M2 is returned to local jurisdictions for use on local and regional transportation improvements and maintenance projects. To qualify for this, Huntington Beach must submit a statement of compliance with the growth management components of the program. Requirements include the adoption of a traffic circulation plan consistent with the MPAH, adoption of a Growth Management Element within the General Plan, adoption and adequate funding of a local transportation fee program, and adoption of a seven-year capital improvement program that includes all transportation projects funded either partially or fully by Measure M funds. It should be noted that these requirements were adopted in the original Measure M and will be replaced by the renewed Measure M requirements in April 2011. M2 will not require compliance with or adoption of a Growth Management Element Plan. Changes to the MPAH can be requested by a local jurisdiction and are subject to a set of guidelines for the requisite technical studies and administrative actions.

A summary of MPAH facilities located within Huntington Beach is provided in Table 4.8-6 (MPAH Roadways within Huntington Beach). MPAH roadway segments are also illustrated in Exhibit 4.8-4 (MPAH Roadways within Huntington Beach).

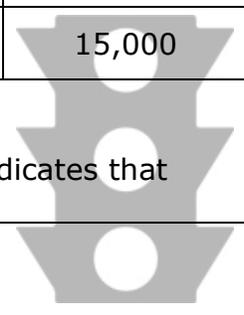
**Table 4.8-6
MPAH Roadways within Huntington Beach**

Roadway	From	To	MPAH Alignment	2005 ADT*
1 st Street	Atlanta Avenue	Pacific Coast Highway	Primary	4,000
6 th Street	Lake Street	Orange Avenue	Secondary	2,000
6 th Street	Orange Avenue	Pacific Coast Highway	Primary	3,000
17 th Street	Pacific Coast Highway	Main Street	Primary	9,000
Adams Avenue	Lake Street	Beach Boulevard	Primary	18,000
Adams Avenue	Beach Boulevard	Santa Ana River	Major	38,000
Algonquin Street	Heil Avenue	Warner Avenue	Secondary	3,000
Argosy Avenue	Bolsa Chica	Graham Street	Secondary	5,000
Atlanta Avenue	1 st Street	Brookhurst Street	Primary	18,000
Banning Avenue	Magnolia Street	Brookhurst Street	Secondary	3,000
<i>Banning Avenue</i>	<i>Brookhurst Street</i>	<i>Santa Ana River</i>	<i>Primary</i>	<i>N/A</i>
Beach Boulevard	Interstate 405	Pacific Coast Highway	Smart Street (8)	79,000
Bolsa Avenue	Bolsa Chica Avenue	Goldenwest Street	Major	27,000
Bolsa Chica Street	Rancho Road	Warner Avenue	Major	50,000
Brookhurst Street	Garfield Avenue	Pacific Coast Highway	Major	36,000
Bushard Street	Garfield Avenue	Brookhurst Street	Secondary	18,000
Center Street	Gothard Street	Beach Boulevard	Secondary	10,000
Delaware Street	Ellis Avenue	Pacific View Avenue	Secondary	7,000
Edinger Avenue	City Limits	Newland Street	Primary	30,000
Source: OCTA 2009, Austin-Foust Associates 2011 Note: Roadways in <i>italics</i> have not been constructed * Represents the greatest measured ADT along the segment, N/A indicates that ADT data is not available				

4.0 Environmental Impact Analysis

Roadway	From	To	MPAH Alignment	2005 ADT*
Edwards Street	City Limits	Garfield Avenue	Secondary	17,000
Ellis Avenue	Edwards Street	Gothard Street	Primary	9,000
Ellis Avenue	Gothard Street	Newland Street	Secondary	17,000
Garfield Avenue	Seapoint Avenue	Edwards Street	Secondary	7,000
Garfield Avenue	Edwards Street	Goldenwest Street	Major	14,000
Garfield Avenue	Goldenwest Street	Santa Ana River	Primary	17,000
Goldenwest Street	Bolsa Avenue	Garfield Avenue	Primary	41,000
Goldenwest Street	Garfield Avenue	Pacific Coast Highway	Major	20,000
Gothard Street	McFadden Avenue	Garfield Avenue	Secondary	19,000
Gothard Street	Garfield Avenue	Main Street	Primary	8,000
Graham Street	Bolsa Avenue	City Limits	Secondary	11,000
<i>Hamilton Avenue</i>	<i>Beach Boulevard</i>	<i>Newland Street</i>	<i>Primary</i>	<i>N/A</i>
Hamilton Avenue	Newland Street	Santa Ana River	Primary	17,000
Heil Avenue	Saybrook Lane	Newland Avenue	Secondary	14,000
Heil Avenue	Newland Avenue	Interstate 405	Collector	3,000
Indianapolis Avenue	Lake Street	Beach Boulevard	Collector	6,000
Indianapolis Avenue	Beach Boulevard	Brookhurst Street	Secondary	9,000
Lake Street	Yorktown Avenue	Orange Avenue	Primary	8,000
Magnolia Street	Interstate 405	Warner Avenue	Primary	N/A
Magnolia Street	Garfield Avenue	Pacific Coast Highway	Primary	22,000
McFadden Avenue	Graham Street	City Limits	Secondary	19,000
Newland Street	Edinger Avenue	City Limits	Secondary	16,000
Source: OCTA 2009, Austin-Foust Associates 2011 Note: Roadways in <i>italics</i> have not been constructed * Represents the greatest calculated ADT along the segment, N/A indicates that ADT data is not available				

Roadway	From	To	MPAH Alignment	2005 ADT*
Newland Street	Heil Avenue	Pacific Coast Highway	Secondary	18,000
Orange Avenue	Goldenwest Street	6 th Street	Secondary	4,000
Orange Avenue	6 th Street	1 st Street	Primary	6,000
Pacific View Avenue	1 st Street	Beach Boulevard	Primary	N/A
Palm Avenue	Seapoint Avenue	Goldenwest Street	Primary	2,000
Palm Avenue	Goldenwest Street	17 th Street	Secondary	8,000
Pacific Coast Highway	City Limits	Warner Avenue	Primary	47,000
Pacific Coast Highway	City Limits	Santa Ana River	Major	46,000
Rancho Road	Bolsa Chica Avenue	City Limits	Secondary	6,000
Saybrook Lane	Edinger Avenue	Heil Avenue	Secondary	7,000
Seapoint Avenue	Garfield Avenue	Pacific Coast Highway	Primary	10,000
Slater Avenue	Graham Street	Newland Street	Secondary	22,000
Springdale Street	City Limits	Talbert Avenue	Primary	27,000
Talbert Avenue	City Limits	Edwards Street	Primary	N/A
Talbert Avenue	Gothard Street	Newland Street	Primary	23,000
Walnut Avenue	6 th Street	1 st Street	Secondary	4,000
Ward Street	Garfield Avenue	Yorktown Avenue	Secondary	9,000
Warner Avenue	Pacific Coast Highway	Magnolia Street	Major	40,000
Yorktown Avenue	Goldenwest Street	Beach Boulevard	Primary	19,000
Yorktown Avenue	Beach Boulevard	Ward Street	Secondary	15,000
<p>Source: OCTA 2009, Austin-Foust Associates 2011 Note: Roadways in italics have not been constructed * Represents the greatest calculated ADT along the segment, N/A indicates that ADT data is not available</p>				



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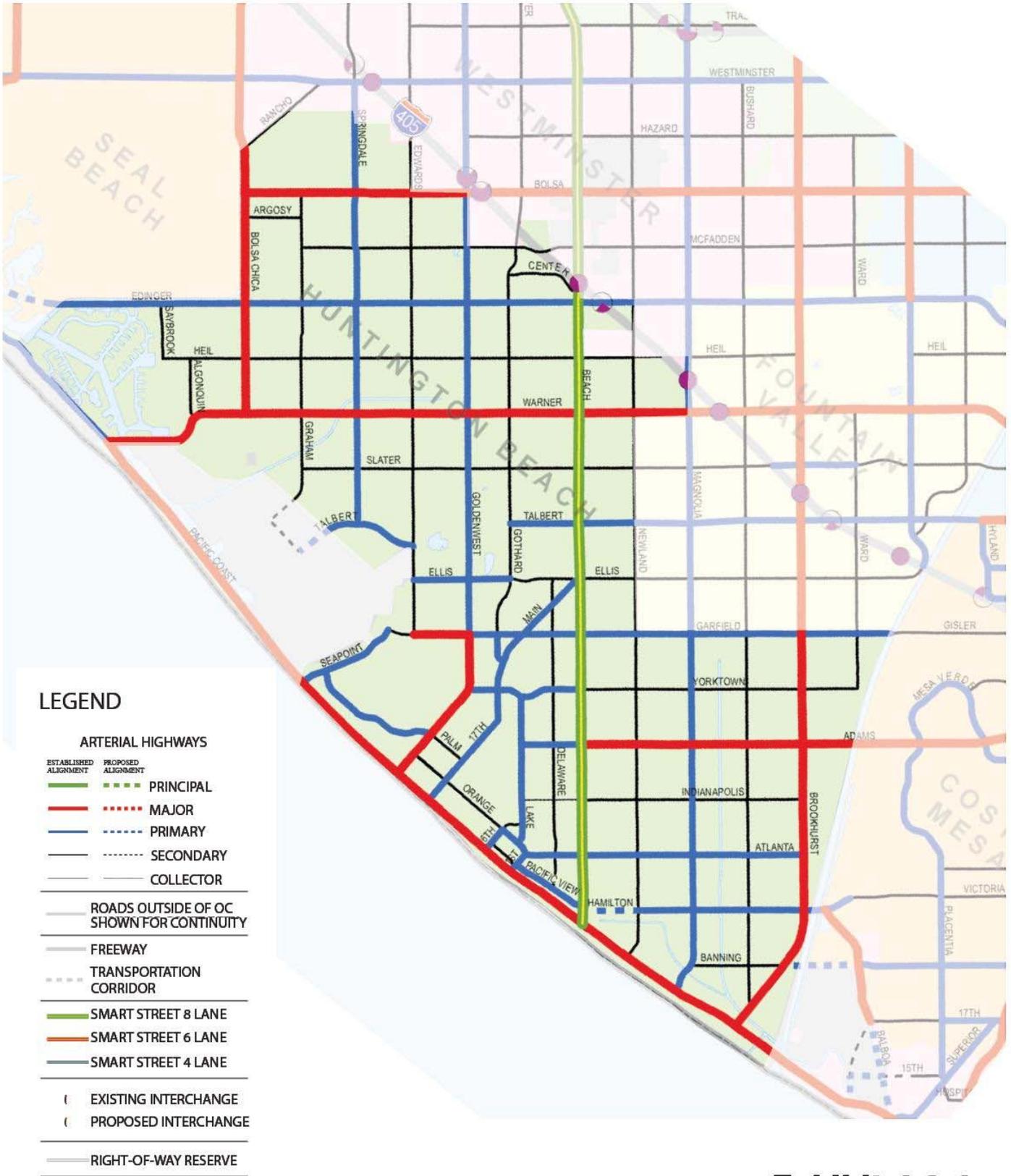


Exhibit 4.8-4

MPAH Roadways Within Huntington Beach

Huntington Beach Circulation Element
Huntington Beach, CA



Source: OCTA

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Comments Related to the MPAH

OCTA OCTA submitted comments on August 27, 2009 requesting some minor clarifications and corrections to the discussion of Measure M funding. These comments were related to the amount of funding distributed to local jurisdictions, future requirements for preparation of the growth management element, and the length of the extension of Measure M. These three items have been addressed above.

Huntington Beach General Plan – Public Facilities and Services Element

The General Plan establishes the level of service standards for the Huntington Beach Fire Department pursuant to Policies PF 2.1.1 and PF 2.2.1 of the Public Facilities and Public Services Element and Policies GM 2.1.2 and GM 2.1.3 of the Growth Management Element. The adopted goals for fire, rescue, and emergency medical response arrival times are summarized in Table 4.8-7 (Fire Department Response Arrival Goals).

**Table 4.8-7
Fire Department Response Arrival Goals**

First Responding Unit	80% Goal	90% Goal	100% Goal
Engine Company	5 Minutes	N/A	N/A
Ladder Company	N/A	10 Minutes	15 Minutes
Paramedic Resource	5 Minutes	N/A	10 Minutes
Sources: Huntington Beach General Plan 1996, 2002; Huntington Beach Fire Dept. 2009			

The General Plan Public Facilities and Public Services Element (PFPSE) identifies two areas of the City where the Fire Department’s five-minute response arrival goal could not be met (see Figure PF2 in the PFPSE). One area begins on the eastern border of the Bolsa Chica Wetlands and extends south and encompasses the Seacliff Country Club. The other area generally encompasses the northern portion of Huntington Harbour. Achieving response arrival goals in all areas of the City was identified as an issue to be addressed by the 1996 General Plan (Source: 4.8.5)

Two solutions for achieving response arrival goals over the long-term throughout the entire City were developed in the PFPSE. Both solutions depend on the planned extension of Talbert Avenue through the Bolsa Chica Wetlands and connecting to Graham Street (also known as the cross-gap connection). If the extension of Talbert Avenue was implemented, then one new fire station would be constructed near Springdale Street and the extension. If the extension of Talbert Avenue was not implemented, then two fire stations would be required; one to be located near the intersection of Garfield Avenue at Edwards Street, the other to be located near the intersection of Graham Street at Warner Avenue. Since adoption of the PFPSE, Fire Station No. 6 has been constructed and is operating at the intersection of

Edwards Avenue at Ellis Avenue. This station now achieves the 80% response arrival goal in the Bolsa Chica area. As discussed in Section 4.7, the development potential of the Bolsa Chica Mesa has been significantly reduced, to less than 400 homes, and the Fire Department has determined that a fire station is not required at the Graham Street location. The City adopted a General Plan Amendment in 2002 to formally remove that future station site.

Threshold of Significance

Implementation of the Circulation Element would result in a significant impact if it would:

- a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit; or
- b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.; or
- c) Result in inadequate emergency access.

Environmental Impacts

**IMPACT
4.8.A**

Proposed Critical, Principal, and Secondary Intersection performance standards will effectively manage projected traffic volumes to achieve desired levels of service and system operations.

Adoption and implementation of the proposed Circulation Element will not directly cause increases in traffic because it does not include any infrastructure or land development projects or land use approvals that could result in population increase, economic development or other forms of growth. The Circulation Element is designed to accommodate projected long-term traffic volumes and to minimize traffic congestion by meeting the City's circulation network performance standards. The following impact discussion will focus on the ability of the proposed Circulation Element to meet this goal.

Forecasting Methodology

Year 2030 traffic forecasts were developed using the City of Huntington Beach Traffic Model (HBTM). This methodology utilizes a specially prepared 2030 land use database within the planning area and uses the Center for Demographic Research's OCP-2006 demographic data outside the planning area. The 2030 land use database was built by estimating citywide development potential based on the classifications and spatial distribution defined in the General Plan Land Use Element. This incorporated assumptions concerning recycling of some underutilized parcels

and approved development plans and projects. The resulting database was compared to the OCP-2006 projections to ensure consistency. Based on the projections, traffic is anticipated to increase by approximately 16 percent by 2030. Traffic forecasts developed from the City's model and the land use database provide a set of roadway network capacity needs against which the proposed Circulation Plan was evaluated to identify potential deficiencies and propose improvements.

Downtown Specific Plan

The Downtown Specific Plan (DTSP) as approved by the City in 2010 proposed land use changes to the area bounded by Pacific Coast Highway, Beach Boulevard and Goldenwest Street. At buildout, the DTSP will allow an additional 107 hotel rooms and 19,000 square feet of commercial land uses and envisions 486 less residential units than supported by the existing General Plan. Chapter 5 of the project traffic study (Appendix F) summarizes the land use and trip generation for the DTSP and provides a comparison against the General Plan land uses assumed in the Circulation Element. The land use and trip generation change associated with the DTSP results in a one percent decrease in daily trips and a three percent decrease in the AM and PM peak hours. The conclusion from this trip generation analysis is that the DTSP will generate fewer trips than that assumed in the Circulation Element traffic study and will not result in any additional impacts from trip generation. The ICU analysis provided herein accounts for land use changes related to the DTSP.

Beach/Edinger Specific Plan

The Beach-Edinger Specific Plan as approved in 2010 includes land use changes to the area that extends along Beach Boulevard from Edinger Avenue to just south of Atlanta Avenue, and along Edinger Avenue from Goldenwest Street to Beach Boulevard. At buildout, the Specific Plan will allow 4,500 residential units, approximately 739,000 square feet of commercial uses, 112,000 square feet of office uses, and 350 hotel rooms. By way of comparison, the current General Plan would allow an additional 363 residential units, 1,748,000 square feet of commercial uses, and 240 hotel rooms. Chapter 5 of the project traffic study (Appendix F) summarizes the land use and trip generation for the Beach-Edinger Specific Plan and provides a comparison against the General Plan land uses assumed in the Circulation Element. This change results in a 17 percent decrease in daily trips, a six percent decrease in the AM peak hour, and a 12 percent decrease in the PM peak hour. The conclusion from this trip generation analysis is that the Specific Plan will generate fewer trips than that assumed in the Circulation Element traffic study and will not result in any additional impacts from trip generation. The ICU analysis provided herein accounts for land use changes related to the Beach/Edinger Specific Plan.

Intersection Performance Standards

The existing Circulation Element was developed in accordance with both link-based and intersection capacities and levels of service. The traffic study prepared for the updated Element is based only on intersection performance criteria, because ADT

link-based methodology is a less refined and generally inaccurate methodology for assessing roadway performance. Furthermore, erroneous conclusions can be reached from ADT results in that an adverse link-based LOS may suggest a roadway needs to be widened when in actuality improving performance at one or both intersections can ensure satisfactory performance.

To evaluate the effectiveness of the proposed Circulation Element to handle future traffic demand volumes, revised performance standards are proposed in the Circulation Element update that categorizes intersections as 'Principal' and 'Secondary' (see Objective 2.1). The purpose of the revision to the City's performance standards is to recognize that it is desirable to have a street system where most intersections operate at a LOS 'C' or better. The new performance standards also recognize that having a limited number of LOS 'D' intersections improves the ability to coordinate system operations and ultimately minimizes travel time. Please note that typical level of service calculations assume ideal roadway operating conditions. This is not always the case, however, and the new performance standards recognize that a few intersections have operational limitations and/or right-of-way constraints and cannot feasibly be reconstructed to achieve the performance standards for Principal and Secondary intersections. Operational limitations include short roadway sections that cause vehicle queues to block adjacent intersections, high pedestrian volumes, or uneven lane utilization. Actual levels of service in such locations are actually lower than the ICU calculation would normally indicate. For these 'Critical Intersections', the updated Circulation Element proposes ongoing monitoring to ensure traffic congestion does not substantially increase and does not exceed LOS 'E'. Critical intersections identified in the Traffic Study include the following four Principal intersections:

- Newland Street/Warner Avenue
- Newland Street/Talbert Avenue
- Brookhurst Street/Pacific Coast Highway
- Main Street/Ellis Avenue



Table 4.8-8 (Proposed Intersection Performance Standards) summarizes the new intersection performance standards.

**Table 4.8-8
Proposed Intersection Performance Standards**

Intersection Type	Description	Standard	
		LOS	ICU
Critical	Right-of-way constraints limit options for capacity enhancements, and will require monitoring to ensure congestion does not increase above ICU 1.00	E	< 1.00
Principal	Crossing of two major thoroughfares	D	< 0.91
Secondary	Intersections primarily serving residential areas	C	< 0.81

Source: Austin-Foust Associates 2011

The traffic study prepared for the proposed Circulation Element is based on 2030 traffic projections and calculated a peak AM and PM LOS for 120 intersections in the planning area. The projected LOS is based on the existing configuration of each intersection plus any intersection improvement to which the City has committed. Table 4-1 of the traffic study identifies the projected LOS for each intersection. Most intersections will operate within the criteria of the revised performance standards; however, 19 are projected to operate deficiently when compared to the City’s proposed standards, as noted in Table 4.8-9 (Projected Long Range (2030) Intersection Deficiencies).



**Table 4.8-9
Projected Long Range (2030) Intersection Deficiencies**

No.	Intersection	Type	AM Peak Hour		PM Peak Hour	
			ICU/Delay*	LOS	ICU/Delay*	LOS
8	Goldenwest Street @ Bolsa Avenue	Principal	0.91	E	1.05	F
28	Beach Boulevard @ Edinger Avenue	Principal	0.90/150	D/F	0.99/96	E/F
37	Beach Boulevard @ Heil Avenue	Principal	0.87/30	D/C	0.98/66	E/E
39	Pacific Coast Highway @ Warner Avenue	Principal	0.92/56	E/E	0.97/56	E/E
47	Beach Boulevard @ Warner Avenue	Principal	0.78/54	C/D	0.95/61	E/E
48	Newland Street @ Warner Avenue	Principal	0.89	D	0.91	E
52	Goldenwest Street @ Slater Avenue	Principal	0.84	D	0.99	E
53	Gothard Street @ Slater Avenue	Secondary	0.85	D	0.69	B
54	Beach Boulevard @ Slater Avenue	Principal	0.85/49	D/D	0.89/61	D/E
59	Gothard Street @ Talbert Avenue	Secondary	0.59	A	0.87	D
60	Beach Boulevard @ Talbert Avenue	Principal	0.83/49	D/D	0.99/75	E/E
61	Newland Street @ Talbert Avenue	Principal	0.68	B	0.89	D
76	Beach Boulevard @ Garfield Avenue	Principal	0.72/41	C/D	0.98/77	E/E
81	Ward Street @ Garfield Avenue	Secondary	0.86	D	0.58	A
87	Beach Boulevard @ Yorktown Avenue	Principal	0.61	B	0.88	D
88	Newland Street @ Yorktown Avenue	Secondary	0.68	B	0.86	D
98	Brookhurst Street @ Adams Avenue	Principal	0.99	E	1.03	F
126	Goldenwest Street @ Pacific Coast Highway	Principal	0.88/28	D/C	1.14/74	F/E
138	Brookhurst Street @ Pacific Coast Highway	Principal	0.74/30	C/C	1.10/89	F/F

Source: Austin-Foust Associates 2012
* ICU is represented as a ratio, delay is represented in seconds

The traffic study evaluated options to increase intersection capacities that would achieve the applicable LOS standard at these locations. Those intersections are

listed in Table 4.8-10 (Projected Levels of Service (2030) with Recommended Intersection Capacity Enhancements) and the list of specific improvements can be found in Table 4-2 of the traffic study.

Based on the options presented in the traffic study, it will be possible to provide additional capacity at a majority of intersections over the long-term in a manner that will meet the City's revised performance standards. Generally, one 'optimal' recommendation is provided; however, in some cases two options are included. The second option is generally greater in magnitude but provides greater benefit in terms of improving LOS. It should be noted that the 'Option 1' and 'Option 2' sets are not mutually exclusive and can be integrated based on the future needs of the City. See page 3-7 of the traffic study (Appendix F) for further explanation.

Six intersections will continue to underperform even with the Option 1 set of improvements. Some additional congestion on the Critical Intersections 48, 126, and 138 is considered acceptable because existing land use conditions limit options for improvements. Each of these is projected to operate no worse than LOS 'E,' with Option 1 or Option 2 improvements. Principal Intersections of Beach Boulevard/Warner Avenue, Goldenwest Street/Slater Avenue, and Beach Boulevard/Garfield Avenue would exceed the LOS 'D' standard with implementation of Option 1 improvements; however, improvements recommended in 'Option 2' will achieve that performance standard.

The intersection of Main Street/Ellis Avenue is also identified in the traffic study as a 'Critical Intersection', due to short roadway segments and a configuration that substantially impairs operating conditions.



**Table 4.8-10
Projected Levels of Service (2030) with Recommended Improvements**

No.	Intersection	Type	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
8	Goldenwest Street@ Bolsa Avenue	Principal	0.75	C	0.90	D
28	Beach Boulevard@ Edinger Avenue	Principal	0.79	C	0.85	D
37	Beach Boulevard @ Heil Avenue	Principal	0.81	D	0.90	D
39	Pacific Coast Highway @ Warner Avenue	Principal	0.85	D	0.80	C
47	Beach Boulevard@ Warner Avenue	Principal	0.78	C	0.90	D
48	Newland Street @ Warner Avenue	Principal	0.89	D	0.84	D
52	Goldenwest Street @ Slater Avenue	Principal	0.75	C	0.90	D
53	Gothard Street @ Slater Avenue	Secondary	0.75	C	0.64	B
54	Beach Boulevard @ Slater Avenue	Principal	0.82	D	0.89	D
59	Gothard Street@ Talbert Avenue	Secondary	0.50	A	0.75	C
60	Beach Boulevard@ Talbert Avenue	Principal	0.75	C	0.88	D
61	Newland Street @ Talbert Avenue	Secondary	0.68	B	0.80	C
76	Beach Boulevard @ Garfield Avenue	Principal	0.71	B	0.95	E
81	Ward Street @ Garfield Avenue	Secondary	0.67	B	0.50	A
87	Beach Boulevard@ Yorktown	Principal	0.67	B	0.88	D
88	Newland Street @ Yorktown Avenue	Secondary	0.59	A	0.69	C
98	Brookhurst Street @ Adams Avenue	Principal	0.74	C	0.91	W
126	Goldenwest Street @ Pacific Coast Highway	Principal	0.74	C	0.91	E
138	Brookhurst Street @ Pacific Coast Highway	Principal	0.66	B	0.96	E

Source: Austin-Foust Associates 2012

Except for the four 'Critical Intersections,' the proposed Circulation Plan, with the recommended long range capacity enhancements identified in the traffic study, will achieve the updated system performance standards throughout the City's

transportation network. At the Critical Intersections, achieving the level of service standard is recognized as infeasible due to practical limitations; therefore, higher than normal levels of congestion are considered acceptable at those locations. The updated Circulation Element, therefore, would generally result in beneficial impacts involving the carrying capacity of the City's roadway network.

Roadway Classification Upgrades, Downgrades, and Deletions

The updated Circulation Element proposes a variety of changes to the existing Circulation Plan and the MPAH, as listed in Table 4.8-11 (Changes to Circulation Plan) and as shown in Exhibit 3-3 (Proposed Circulation Plan). These changes are based on the 2030 traffic forecasts and are meant to more efficiently carry the projected traffic volumes. On some roadway segments where the 2030 traffic forecast resulted in a reduced volume from previous forecasts, the functional classifications have been downgraded to correspond more closely to the projected level of traffic. Conversely, where traffic volumes are anticipated to be higher than previously estimated, classifications are to be upgraded accordingly. Finally, some future roadway connections that are identified on the current Circulation Plan are to be deleted from the plan, primarily due to right-of-way obstacles or insufficient traffic demand shown in the 2030 forecasts (see Exhibit 3-3 for illustrations of all proposed Circulation Plan changes).

**Table 4.8-11
Changes to Circulation Plan**

Roadway Segments			Classifications		Part of MPAH?
Roadway	From	To	Current	Proposed	
17 th Street	Pacific Coast Highway	Main Street	Primary Arterial	Augmented Collector	Yes
Algonquin Street	Heil Avenue	Warner Avenue	Secondary Arterial	Augmented Collector	Yes
Argosy Avenue	Bolsa Chica Street	Graham Street	Primary Arterial	Collector	Yes
Bolsa Chica Street	Warner Avenue	City Limits	Major Arterial	Augmented Collector	Yes
Coldwater Lane	Yorktown Avenue	Adams Avenue	Local	Collector	No
Delaware Street	Ellis Avenue	Atlanta Avenue	Secondary Arterial	Augmented Collector	Yes
Edinger Avenue*	City Limits	Pacific Coast Highway	Primary Arterial	Delete	Yes
Edinger Avenue	City Limits	Bolsa Chica Street	Primary Arterial	Augmented Collector	Yes
Edinger Avenue	Springdale Street	Newland Street	Major Arterial	Aug. Primary	Yes
Ellis Avenue	Edwards Street	Gothard Street	Primary Arterial	Augmented Collector	Yes
Ellis Avenue	Gothard	Delaware	Primary Arterial	Augmented Collector	Yes

4.0 Environmental Impact Analysis

Roadway Segments			Classifications		Part of MPAH?
Roadway	From	To	Current	Proposed	
	Street	Street			
Ellis Avenue	Delaware Street	Beach Boulevard	Secondary Arterial	Delete	Yes
Garfield Avenue	Edwards Street	Goldenwest Street	Major Arterial	Primary	Yes
Garfield Avenue	Ward Street	Santa Ana River	Primary Arterial	Reserved	Yes
Goldenwest Street	Bolsa Avenue	Garfield Avenue	Major Arterial	Augmented Primary	Yes
Gothard Street	Garfield Avenue	Main Street	Primary Arterial	Secondary	Yes
Gothard Street*	I-405	McFadden Avenue	Secondary Arterial	Delete	Yes
Graham Street	Warner Avenue	Slater Avenue	Primary Arterial	Augmented Collector	Yes
Lake Street	Yorktown Avenue	Orange Avenue	Primary Arterial	Augmented Collector	Yes
Orange Avenue	6 th Street	1 st Street	Primary Arterial	Augmented Collector	Yes
Orange Avenue	Goldenwest Street	6 th Street	Collector/Secondary	Augmented Collector	Yes
Pacific View Avenue	1 st Street	Huntington Street	Primary Arterial	Augmented Collector	Yes
Palm Avenue	Goldenwest Street	17 th Street	Secondary Arterial	Augmented Collector	Yes
Pacific Coast Highway^	Warner Avenue	Bolsa Inlet	Major	N/A	Yes
Saybrook Lane	Edinger Avenue	Heil Avenue	Secondary Arterial	Collector	Yes
Springdale Street	Warner Avenue	Talbert Avenue	Primary Arterial	Secondary	Yes
Summit Drive	Seapoint Avenue	Goldenwest Street	Local	Collector	No
Talbert Avenue	Springdale Street	Edwards Street	Primary Arterial	Collector	Yes
Varsity Drive	Talbert Avenue	Edwards Street	Local	Collector	No
Walnut Avenue	6 th Street	1 st Street	Primary Arterial	Augmented Collector	Yes
Warner Avenue	Pacific Coast Highway	Algonquin Street	Major Arterial	Primary	Yes

Source: Austin-Foust Associates 2012
 * Located within surrounding jurisdiction, classification as noted in MPAH
 ^ Removed from circulation plan because it is a State Highway and not under jurisdiction of the City

Multimodal Transportation System Policy

In the past few years, legislation has been introduced regarding “Complete Streets”. This requires local jurisdictions to plan for multimodal strategies in their circulation elements. The multimodal network must identify how all roadway users (motorists, pedestrians, bicyclists, and transit riders, of all ages and abilities) will be accommodated.

The City has made multimodal transportation a priority in this Circulation Element, and addresses the needs of all users in the Circulation Plan. It has identified requirements for trip reductions, transit enhancements, pedestrian, bicycle and equestrian improvements, and impact and development fees. Implemented together, these will result in streets that serve all roadway users, and will thereby satisfy the legislative requirements regarding “Complete Streets”.

NOP Comments Related to Impact 4.8.B

Caltrans Caltrans submitted a letter on August 20, 2009 in response to the circulation of the NOP. Item 7 in their letter indicates that Caltrans does not consider the significance thresholds in the CMP appropriate for facilities under the jurisdiction of the State and recommends early coordination for projects impacting any State facility. Implementation Program CE-25 of the proposed Circulation Element will ensure that the City regularly coordinates with Caltrans and establishes clear objectives for all projects affecting State facilities. Item 9 requests that any potential traffic impacts to State facilities be analyzed using the latest version of the HCM. As discussed above, the traffic study prepared for the Circulation Element update analyzed all intersections under the jurisdiction of the State utilizing the delay methodology outlined in the HCM.

OCTA OCTA commented on MPAH facilities within Huntington Beach. Bullet 1 in their letter is related to the MPAH amendment process. The City understands that any amendment to the MPAH must be approved by OCTA to remain eligible for Measure M funds. Implementation Program CE-28 of the proposed Circulation Element describes the City’s approach to maintaining MPAH compliance. Bullet 2 identifies errors and clarifications related to MPAH facilities described in the NOP. That information has been corrected and is included in the discussion above (see Table 4.8-6).



**IMPACT
4.8.B**

The proposed Circulation Plan has been designed to achieve CMP performance standards at all CMP intersections in the planning area. Impacts to the CMP network would be less than significant.

Seven CMP intersections are located within Huntington Beach. Table 4.8-12 (Long-Term LOS for CMP Intersections within Huntington Beach) summarizes the projected peak LOS for each CMP facility located in the City. All CMP segments within the City are subject to a LOS 'E' performance standard per the CMP. The projected LOS listed below includes the recommended capacity enhancements discussed earlier.

The proposed Circulation Plan will not cause or result in any CMP facility within the City to exceed its adopted performance standard. The City will continue to comply with the provisions of the CMP as indicated in Policies CE1.2 and CE1.3 of the proposed Circulation Element. Compliance will include meeting LOS standards and completion of the CMP Monitoring Checklist, as discussed above. Impacts to CMP facilities will be less than significant.

**Table 4.8-12
Long-Term LOS for CMP Intersections within Huntington Beach**

No.	Intersection	2030 LOS	
		AM	PM
28	Beach Boulevard/Edinger Avenue @ 405 Ramp	C	D
94	Beach Boulevard @ Adams Avenue	B	D
135	Beach Boulevard @ Pacific Coast Highway	B	C
47	Beach Boulevard @ Warner Avenue	C	D
4	Bolsa Chica Street@ Bolsa Avenue	B	C
41	Bolsa Chica Street @ Warner Avenue	C	C
39	Pacific Coast Highway @ Warner Avenue	D	D

Source: OCTA 2007, Austin-Foust Associates 2012

**IMPACT
4.8.C**

Elimination of some previously planned/unbuilt segments of the arterial network is warranted on the basis of updated growth forecasts, and would not impede emergency access to any portion of the planning area.

The proposed Circulation Element includes removal of previously planned extensions as follows: Edinger and Hamilton Avenues to avoid impacts to sensitive wetlands; Talbert Avenue, Graham Street, and their connection due to reduced forecast traffic demand; Gothard/Hoover Street due to physical constraints; Delaware Street because the City does not have the right-of-way and the existing residential development has been in that location for many years; and Ellis Avenue because of operational concerns and no necessity.

The proposed Circulation Element was reviewed by the Huntington Beach Fire Department to determine if the proposed deletions of those planned road segments would impact emergency access to any portion of the City that could result in delayed response arrival times. As discussed in Section 4.7 of this EIR, the Department determined that these revisions to the future circulation network would not adversely affect emergency response times and no additional fire stations or modifications to existing stations would need to be built to achieve response time goals. .

Mitigation Measures

None required.

Level of Significance

Impacts will be less than significant without mitigation incorporated



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4.9 Greenhouse Gases and Climate Change

Greenhouse Gases and Climate Change

There are known serious consequences associated with climate change, and it is also known that climate change is influenced by a variety of human activities that generate greenhouse gases in various forms sufficiently to influence atmospheric conditions. Greenhouse gases are produced directly and indirectly by land use and transportation patterns and related energy technologies. This section addresses potential environmental effects involving direct and indirect emissions of greenhouse gases, pursuant to the provisions of California Senate Bill 97, which amended the State CEQA Guidelines to require such assessments as part of the environmental impact assessment process.

General Description of Global Climate Change

Scientific research published in 2007 by the Intergovernmental Panel on Climate Change (IPCC 2007) indicates very high confidence (i.e., at least 90 percent) that the rate and magnitude of current global temperature changes are strongly influenced by anthropogenic sources and that global warming will lead to adverse climate change effects around the globe. Anthropogenic effects, processes, objects, or materials are those that are derived from human activities, as opposed to those occurring in natural environments without human influence. Increased GHG emissions have led to warming trend of the earth's average temperature, which is causing changes in the earth's climate. GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition. This increasing temperature phenomenon is known as "global warming", and the climatic effect is known as "climate change" or "global climate change".

Climate change is a recorded change in the average weather of the earth measured by variables such as wind patterns, storms, precipitation, and temperature. Historical records show that global temperature changes have occurred naturally in the past, such as during previous ice ages. Eleven of the 12 years from 1995 to 2006 rank among the warmest years in the instrumental record of global surface temperature (since 1850). An increase in global surface temperature of 0.74 degrees Celsius ([°C] 1.33 degrees Fahrenheit [°F]) occurred during the 100-year period from 1906 to 2005.

GHGs are atmospheric gases and clouds within the atmosphere that influence the earth's temperature by absorbing most of the infrared radiation that rises from the sun warmed surface and that would otherwise escape into space. This process is commonly known as the "Greenhouse Effect." GHGs are emitted by natural processes and human activities. The earth's surface temperature averages about 58°F because of the Greenhouse Effect. Without it, the earth's average surface temperature would be somewhere around an uninhabitable 0°F (R. Henson, *Rough*

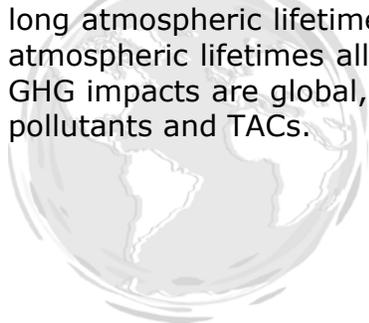
Guide to Climate Change, 2006). The resulting balance between incoming solar radiation and outgoing radiation from both the earth's surface and atmosphere maintains the planet's habitability.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and Nitrogen Trifluoride (NF₃). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies (such as the California Air Resources Board [CARB]) or climate change groups (such as the California Climate Action Registry [CCAR]) as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

Anthropogenic emissions of GHGs into the atmosphere enhance the Greenhouse Effect by absorbing radiation from other atmospheric GHGs that would otherwise escape into space, thereby trapping more radiation in the atmosphere and causing temperatures to increase. CO₂ is the most significant source of anthropogenic GHG. The global atmospheric concentration of CO₂ has increased from a pre-industrial (roughly 1750) value of about 280 parts per million (ppm) to 379 ppm in 2005, primarily due to fossil fuel use, with land use change providing a significant but smaller contribution. The annual growth rate in CO₂ concentrations continues to increase, with a larger annual CO₂ concentration growth rate during the ten year period between 1995 and 2005 than since the beginning of continuous direct measurements in 1960.

The most common GHG is CO₂, which constitutes approximately 84 percent of all GHG emissions in California (CEC 2006). Worldwide, the State of California ranks as the 12th largest emitter of CO₂ and is responsible for approximately two percent of the world's CO₂ emissions (CEC 2007, 2006). It is also noted that throughout the U.S., California is the fourth lowest in CO₂ emissions per capita (CEC 2006).

GHGs are *global* pollutants, unlike air pollutants such as ozone, particulate matter and toxic air contaminants (TACs), which are pollutants of regional and local concern. While pollutants with localized air quality effects have relatively short atmospheric lifetimes (generally on the order of a few days), GHGs have relatively long atmospheric lifetimes, ranging from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. In addition, the GHG impacts are global, as opposed to the localized air quality effects of criteria air pollutants and TACs.



GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO₂, which has a GWP of 1. For example, since CH₄ and N₂O are approximately 21 and 310 times, respectively, more powerful than CO₂ in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310, respectively. Carbon dioxide equivalent (CO₂e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO₂e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.9.1.

**Table 4.9-1
Global Warming Potentials and Atmospheric Lifetimes**

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO ₂)	50-200	1
Methane (CH ₄)	12	21
Nitrous Oxide (N ₂ O)	114	310
HFC-134a	48.3	1,300
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC: Hexafluoroethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900
HFC: hydrofluorocarbon; PFC: perfluorocarbon. Source: California Climate Action Registry 2009.		

General Environmental Effects of Global Climate Change

Executive Order S-3-05 resulted in a report on the impacts of climate change on California, including impacts to water supply, public health, agriculture, the coastline, and forestry. This report, *Scenarios of Climate Change in California: An Overview (Climate Scenarios Report)*, was published in February 2006.

The Climate Scenarios Report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project 3 potential warming ranges (i.e., temperature increases) that may occur in California during the 21st Century: the lower warming range (3.0°F–5.5°F); the medium warming range (5.5°F–8.0°F); and the higher warming range (8.0°F–10.5°F). The Climate Scenarios Report then analyzes future climate in California under each warming range.

Each emissions scenario would result in substantial temperature increases for California. According to the report, substantial temperature increases would result in a variety of impacts to California's people, economy, and environment that are associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming.

Under the emissions scenarios of the Climate Scenarios Report, the impacts of global warming in California are anticipated to include, but are not limited to, those listed below.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, in high ozone (O₃) areas such as the South Coast Air Basin (SoCAB) and the San Joaquin Valley, the number of days with weather conditions conducive to O₃ formation is projected to increase from 25 to 35 percent under the lower warming range or from 75 to 85 percent under the medium warming range. In addition, if global background O₃ levels increase as predicted, under some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios Report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from Northern California rivers and the Colorado River. The current distribution system relies on snowpack from the Sierra Nevada Mountains range to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada's spring snowpack by as much as 70–90 percent. Under the lower warming scenario, snowpack losses are expected to be only half as large as those expected if temperatures rise to the higher warming range. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack would pose challenges to those managing water distribution, would hamper hydropower generation, and would nearly eliminate all skiing and other snow related recreational activities.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta—a major California fresh water supply.

Global warming is also projected to decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain) and seriously harm winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

Agriculture

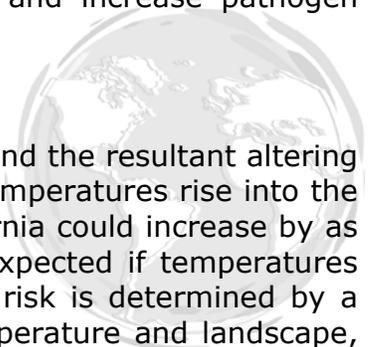
Increased GHG emissions are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. California farmers are projected to lose as much as 25 percent of the water supply they need. Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate O₃ pollution, which makes plants more susceptible to disease and pests, and which interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less than optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding seasons, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to intensify the risk of wildfire and the resultant altering of the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors—including precipitation, winds, temperature and landscape,



and vegetation conditions—future risks will not be uniform throughout the state. For example, if precipitation decreases as temperatures rise, wildfires in Southern California are expected to increase by approximately 30 percent toward the end of the 21st Century. In contrast, precipitation decreases could increase wildfires in Northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems are expected to decline by as much as 60–80 percent by the end of the 21st Century as a result of increasing temperatures. The productivity of the state’s forests is also expected to decrease as a result of global warming.

Global, National, State and Local Contributions to Greenhouse Gas Emissions

Global

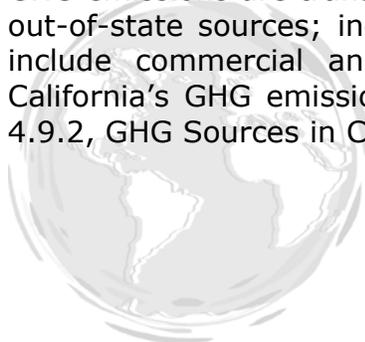
Worldwide anthropogenic GHG emissions as of 2006 totaled approximately 29,700 million metric tons of carbon dioxide equivalent (MMTCO_{2e}). Six countries and the European Community accounted for approximately 70 percent of the total global emissions.

United States

Data developed by the World Resources Institute (WRI 2008) indicate the U.S. generated the highest level of GHG emissions of any country, as of 2005. GHG emissions in six states—Texas, California, Ohio, Pennsylvania, Florida, and Illinois (in ranked order)—each ranked among the top 25 GHG emitters internationally. Analyses by the U.S. Environmental Protection Agency determined that CO₂ represents approximately 85 percent of the total nationwide GHG emissions. CO₂ from fossil fuel combustion, the largest U.S. GHG emissions source, accounted for approximately 80 percent of this country’s GHG emissions.

State of California

Based on the 2004 GHG inventory data (the latest year available) compiled by CARB for the California 1990 greenhouse gas emissions inventory, California emitted 484 MMTCO_{2e}, including emissions resulting from out-of-state generation of electricity supplied to California users. The primary contributors to California’s GHG emissions are transportation; electric power production from both in-state and out-of-state sources; industry; agriculture and forestry; and other sources, which include commercial and residential activities. These primary contributors to California’s GHG emissions and their relative contributions are presented in Table 4.9.2, GHG Sources in California – 2004 Inventory.



**Table 4.9-2
GHG Sources in California – 2004 Inventory**

Source Category	Annual GHG Emissions (MMTCO ₂ e)	Percent of Total	Annual GHG Emissions (MMTCO ₂ e)	Percent of Total
	Includes Imported Electricity		Excludes Imported Electricity	
Agriculture	27.9	5.8	27.9	6.6
Commercial Uses	12.8	2.6	12.8	3.0
Electricity Generation ^a	119.8	24.7	58.5	13.8
Forestry (excluding sinks)	0.2	0.0	0.2	0.0
Industrial Uses	96.2	19.9	96.2	22.7
Residential Uses	29.1	6.0	29.1	6.9
Transportation	182.4	37.7	182.4	43.1
Other ^b	16.0	3.3	16.0	3.8
Totals	484.4	100.0%	423.1	100.0%

MMTCO₂e: million metric tons of carbon dioxide equivalent

Note: Totals may not add due to rounding

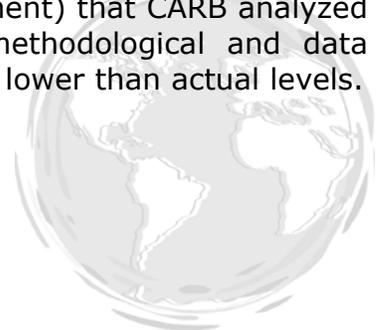
^a Imported electricity accounts for 61.3 MMTCO₂e.

^b Unspecified combustion and use of ozone-depleting substances.

Source: CARB 2007.

Orange County

Existing GHG emissions for Orange County were calculated for construction sources, mobile sources, natural gas consumption, and electricity generation by the Southern California Association of Governments (SCAG). As shown in Table 4.9-3, existing County emissions are estimated to be approximately 30 MMTCO₂e/year. It is important to note a few limitations before comparing SCAG regional GHG emissions to the State emissions inventory prepared by CARB. First, 2004 is the latest year for which CARB has estimated State emissions, and SCAG emissions are presented through 2008. However, the comparison provides a reasonable percentage estimate of State emissions that are generated in the SCAG region. Second, the CARB emissions inventory includes emissions estimates from various sources that were not included in the SCAG analysis because every emissions source (e.g., mineral industry, livestock, manure management) that CARB analyzed could not be analyzed for the SCAG region due to methodological and data limitations. As a result, SCAG emissions estimates may be lower than actual levels.



**Table 4.9-3
GHG Sources in Orange County – 2008**

Source Category	Annual GHG Emissions (MMTCO₂e)
Construction	0.10
Mobile	13.20
Electricity	7.72
Natural Gas	8.65
Total	29.67
MMTCO ₂ e: million metric tons of carbon dioxide equivalent	
Source: SCAG 2008.	

Huntington Beach

As described in Section 4.9.1, GHG is a global pollutant. Therefore, local or regional measurements of GHG concentrations at or near ground level are not relevant to the issue. Existing GHG emissions from vehicular traffic along the Huntington Beach street network are estimated at more than 437,000 metric tons/year (carbon dioxide equivalent), as presented in Table 4.9-5 (Estimated Annual GHG Emissions from Vehicle Travel).

Regulatory Setting and Planning Framework

Federal

At the moment, there are no federal laws or regulations governing the emission of greenhouse gases (GHGs), but regulatory efforts are underway, as described below.

On April 17, 2009, the Administrator of the USEPA signed a proposal with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act (CAA, USEPA 2009a):

- The Administrator is proposing to find that the current and projected concentrations of the mix of six key greenhouse gases—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding”.
- The Administrator is further proposing to find that the combined emissions of CO₂, CH₄, N₂O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key GHGs and hence to the threat of climate change. This is referred to as the “cause or contribute finding.”

The proposed findings were published in the Federal Register for the public comment period, which ended on June 23, 2009. Two public hearings were held in May 2009. The USEPA will consider all comments before issuing final findings. The findings do not include any proposed regulations. Before taking any steps to reduce GHGs under the CAA, the USEPA would conduct an appropriate process and consider stakeholder input.

The American Clean Energy and Security Act of 2009 (HR 2454) was passed by the House of Representatives (HR) on June 26, 2009. This proposed law includes, but is not limited to, a cap-and-trade global warming reduction plan designed to reduce economy-wide greenhouse gas emissions by 17 percent by 2020 and by 83 percent by 2050. Other provisions would (1) require utilities to produce 12 percent of their electricity from renewable resources by 2012; (2) require new buildings to be 30 percent more efficient by 2012; and (3) would provide incentives regarding new carbon capture and sequestration technologies. In September 2009, the Senate began drafting of a similar bill, currently identified as "Kerry-Boxer."

The 2007 Energy Independence and Security Act (HR 6) mandates improved national standards for vehicle fuel economy. These standards, known as Corporate Average Fuel Economy (CAFE) standards, require a fleetwide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase-in requirements to achieve this goal. A CARB analysis suggests that achieving this goal will require an annual improvement in fleetwide average fuel economy of approximately 3.4 percent between 2011 and 2020. Although the explicit purpose of requiring improved national standards for fuel economy was not to address climate change, these requirements would improve the fuel economy of the nation's vehicle fleet and thus incrementally lower the amount of fuel use and GHG emissions associated with vehicle trips.

On May 19, 2009, the Obama Administration announced more aggressive CAFE standards applicable to all new cars and trucks sold in the United States. The new standards, covering model years 2012–2016, and ultimately requiring an average fuel economy standard of 35.5 mpg in 2016, are projected to save 1.8 billion barrels of oil over the life of the program with a fuel economy gain averaging more than five percent per year and a reduction of approximately 900 million metric tons in GHG emissions. These standards will be implemented through a joint regulation issued by the USEPA and the Department of Transportation's (USDOT's) National Highway Traffic Safety Administration (NHTSA). An important aspect of the new standards is the agreement among the USEPA, USDOT, and the State of California for a single national CAFE standard.

State of California

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs in California. In this capacity, CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, and oversees local programs. There are

numerous State plans, policies, regulations, and laws related to GHGs and global climate change. Following is a brief discussion of some of these plans, policies, and regulations.

Assembly Bill 1493

In 2002, Assembly Bill (AB) 1493 (Pavley) required CARB to develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state”. To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations. Amendments included (1) the addition of GHG emission standards to California’s existing motor vehicle emission standards and (2) the requirement that automobile manufacturers meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. In order to enact State standards for vehicle emissions, a USEPA waiver was required.

Subsequent to prolonged litigation, the USEPA denied California’s waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging the USEPA’s denial on January 2, 2008. The Obama administration subsequently directed the USEPA to re examine their decision. On May 19, 2009, challenging parties, automakers, the State of California, and the federal government reached an agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the USEPA and the USDOT agreed to adopt a federal program to reduce GHGs and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent or greater GHG benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed (1) to revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by “pooling” California and specified State vehicle sales; (2) to revise its standards for 2012–2016 model year vehicles so that compliance with USEPA adopted GHG standards would also comply with California’s standards; and (3) to revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations.

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevadas, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, Executive

Order S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

The California Legislature adopted the public policy position that global warming is “a serious threat to the economic well-being, public health, natural resources, and the environment of California” (California Health and Safety Code, Section 38501). Further, the State Legislature has determined that “the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra Nevada snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems,” and that “Global warming will have detrimental effects on some of California’s largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the State” (California Health and Safety Code, Section 38501). These public policy statements became law with the enactment of AB 32, the California Global Warming Solutions Act of 2006, signed by Governor Arnold Schwarzenegger in September 2006. AB 32 is now codified as California Health and Safety Code Sections 38500–38599.

AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction is to be accomplished through an enforceable statewide cap on GHG emissions to be phased in starting in 2012. AB 32 directs CARB to establish this statewide cap based on 1990 GHG emissions levels; to disclose how it arrived at the cap; to institute a schedule to meet the emissions cap; and to develop tracking, reporting, and enforcement mechanisms. Emissions reductions under AB 32 are to include carbon sequestration projects and best management practices that are technologically feasible and cost-effective. As of February 2011, CARB had not yet promulgated GHG emissions or reporting standards that are directly applicable to any local General Plan program.

Senate Bill 97

Signed August 2007, Senate Bill (SB) 97 directed the Governor’s Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the assessment and mitigation of GHG emissions. On June 19, 2008, the OPR issued a Technical Advisory on addressing climate change impacts of a proposed project under CEQA (OPR Climate Change Advisory) (OPR 2008). The OPR Climate Change Advisory recommends that lead agencies quantify, determine the significance of, and (as needed) mitigate the cumulative climate change impacts of a proposed project. The OPR Climate Change Advisory identifies that each lead agency is required, under CEQA, to exercise its own discretion in choosing how to determine significance in the absence of adopted thresholds or significance guidelines from the State, CARB, or the applicable local air district.

In April 2009, the OPR transmitted Proposed SB 97 CEQA Guideline Amendments to the California Secretary of Natural Resources. On July 3, 2009, the Natural Resources Agency (CNRA) commenced the Administrative Procedure Act (APA) rulemaking process for certifying and adopting these amendments. The procedures included two public hearings held in August 2009 and the receiving of public comment through August 27, 2009. Approximately 80 comments were received and reviewed. CNRA made changes to the originally proposed amendments and published the revisions for a public review period from October 23, 2009, through November 10, 2009. These included the following guidance:

- (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
 - (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
 - (2) Rely on a qualitative analysis or performance based standards.
- (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
 - (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
 - (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
 - (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Following completion of the APA rulemaking process, amendments to the State CEQA Guidelines were codified into the California Public Resources Code on March 18, 2010, and added two new impact significance thresholds to the standard Initial Study Checklist, in Appendix G. These thresholds are addressed in the impact analysis part of this section.

CARB Scoping Plan

As discussed previously, AB 32 requires CARB to develop a Scoping Plan to lower the State's GHG emissions to meet the 2020 limit (California Health and Safety Code, Sections 38500 et seq.). The Scoping Plan was approved at the December 2008 board meeting. The measures in the CARB adopted Scoping Plan will be developed and in place by 2012. Key elements of the Scoping Plan include (1) expanding and strengthening existing energy efficiency programs and building and appliance standards; (2) achieving a statewide renewable energy mix of 33 percent; (3) developing a California cap-and-trade program linked with other similar programs; (4) establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets; (5) implementing existing laws and standards such as California's clean car standards (AB 1493), goods movement measures, and the Low Carbon Fuel Standard (LCFS); and (6) issuing targeted fees to fund the State's long-term commitment to AB 32 administration.

The Scoping Plan measures are grouped into ten sectors. The Transportation Sector includes, but is not limited to, vehicle emissions standards, the LCFS, tire inflation measures, truck idling standards, and other actions to reduce emissions related to goods movement.

The vehicle emissions standards are identified in the Scoping Plan as Pavley I and Pavley II – Light Duty Vehicle GHG Standards. These are the standards described above under the AB 1493 heading. On April 23, 2009, CARB approved the LCFS, which has a goal to reduce GHG emissions from California's transportation fuels by 10 percent, equal to 16 MMTCO_{2e}, by 2020. The regulation requires providers, refiners, importers, and blenders to ensure that the fuels they provide for the California market meet an average declining standard of "carbon intensity." This is established by determining the sum of greenhouse gas emissions associated with the production, transportation, and consumption of a fuel, also referred to as the "fuel pathway." The LCFS is undergoing public review; LCFS regulatory action is anticipated in 2010.

Attorney General

The California Attorney General (AG) has filed numerous comment letters with agencies whose analysis under CEQA failed to properly analyze or mitigate a project's potential significant environmental impacts. As part of the AG's efforts to work with agencies as they confront the challenge of addressing global warming in their CEQA documents, the AG publishes a document with "information that may be

helpful to local agencies in carrying out their duties under CEQA as they relate to global warming. Included in this document are various measures that may reduce the global warming related impacts of a project” (DOJ 2008). The AG measures are addressed in Section 4.9.5 of this analysis.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is not a state agency; it is an association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA was formed in 1976 to promote clean air and to provide a forum for sharing of knowledge, experience, and information among the air quality regulatory agencies around the State (CAPCOA 2009a). CAPCOA has been a leader in providing white papers and resource material relative to addressing climate change impacts under CEQA. In June 2009, CAPCOA published Model Policies for Greenhouse Gases in General Plans, A Resource for Local Government to Incorporate General Plan Policies to Reduce Greenhouse Gas Emissions. The publication emphasizes that it is a resource, not a guidance document. The circulation element opportunities that CAPCOA lists are very similar to those identified by the AG and are discussed in Section 4.9.5 below.

South Coast Air Quality Management District

Air quality in Orange County is regulated by the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the agency that is principally responsible for comprehensive air pollution control in the SoCAB. To that end, the SCAQMD, a regional agency, works directly with SCAG, County transportation commissions and local governments and also cooperates actively with all federal and State government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Beginning in April 2008, the SCAQMD convened a working group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. To date, SCAQMD has not adopted or proposed significance criteria for application to a local general plan program, and the Governing Board has deferred action on selecting a screening threshold for residential and commercial projects.

City of Huntington Beach

There are no local statutes, policies or programs developed specifically to address global climate change; however, the City’s General Plan Air Quality Element does include a number of emissions reduction strategies that would have a co-benefit of reducing total greenhouse gas emissions. Those strategies are identified in Table 4.9-4, later in this section.

Climate Change Impacts

Threshold of Significance

The Project would create a significant cumulative contribution to global climate change if it would:

- a) Generate greenhouse gas emissions, either directly or indirectly, that 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.

Methodology

As described above, the June 2008 OPR Technical Advisory encourages lead agencies to analyze GHG emissions in environmental documents and to follow three basic steps: (1) identify and quantify the GHG emissions that could result from a proposed project; (2) analyze the effects of those emissions and determine whether the effect is significant; and (3) identify feasible mitigation measures or alternatives that will reduce the impact to below a level of significance if the impact is significant.

The purpose of the Circulation Element is to manage anticipated traffic growth in the most efficient manner. As described in the impact analyses below, the proposed policies would support technological improvements and transportation mode shifts that would result in reductions of GHG emissions; however these reductions cannot be quantified at the General Plan level. For information purposes, and consistent with the OPR guidance, the volumes of GHG emissions from vehicle travel in the City in 2009 and in 2030 are included in this analysis.

GHG emissions from vehicle travel in the City were calculated by using the CARB Emission Factor model, EMFAC 2007, and vehicle miles traveled (VMT) data provided by the project traffic consultant. The EMFAC model is used to calculate emission rates from all motor vehicles (such as passenger cars to heavy-duty trucks) that are operating on highways, freeways, and local roads in California. EMFAC2007 is the most recent version of this model. The model reflects the CARB's current understanding of how vehicles travel and how much they pollute. EMFAC calculates the emission rates of 1965 and newer vehicles powered by gasoline, diesel, or electricity. Emission factors are calculated for criteria air quality pollutants and for the GHGs CO₂ and CH₄ for each vehicle class within each calendar year, for 24 1-hour periods, for each month of the year, for each district, basin, and county in California. EMFAC can report the gram per mile emission rates of a single technology group or the ton per day inventory for the entire 28,000,000 vehicle California fleet. Output data can be obtained as a function of ambient temperature, relative humidity, and speed. Vehicle testing provides basic emission data. Fleet composition is based on vehicle registration data. VMT data used to calculate regional emissions are estimated from odometer readings reported in smog testing. Major updates of EMFAC have occurred at three to five year

intervals. EMFAC is not currently used as the basis for CARB’s official GHG inventory, which is based on fuel usage information. CARB is working towards reconciling the differences between the two methodologies.

The principal adopted policy for reduction of GHG in California is AB 32. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. The elements of AB 32 defined in the Scoping Plan are classified by sector; the Transportation Sector is the sector related to the proposed Circulation Element Update. The currently defined actions to be taken within the Transportation Sector are to be implemented at the State level, and not by individual cities. The most prominent of these actions are the Light-Duty Vehicle GHG Standards (Pavley) and the LCFS, which are described in Section 4.2 above. Further implementation of some Scoping Plan actions, such as setting regional transportation related GHG targets, may result in regulations applicable at the local level, but at the present time, actions taken at the Circulation Element level would not directly conflict with AB 32.

To assist lead agencies in the CEQA process, the AG publishes and periodically updates The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level (DOJ 2008). This publication includes a list of project-level measures to reduce GHG emissions and global warming impacts, as well as strategies to be applied through a General Plan program. These strategies are considered to be an appropriate set of guidance measures to assess the effects of a local transportation plan in the context of evolving statewide programs to reduce GHG from all sources, including vehicle emissions.

Environmental Impacts

IMPACT
4.9.A
4.9.B

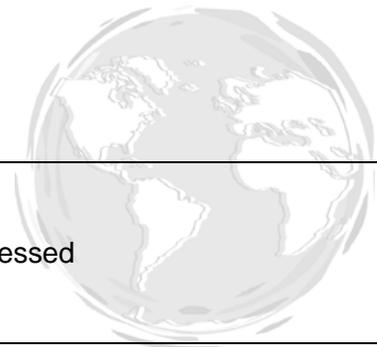
The updated Circulation Element would have a less than significant impact involving greenhouse gas emissions and global climate change.

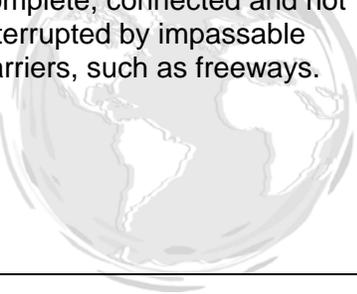
Key GHG reduction strategies identified by the AG, and corresponding policies and implementation measures included in the proposed Circulation Element Update, are summarized in Table 4.9.4.



**Table 4.9-4
Comparison with Attorney General Global Warming Measures**

AG Suggested Measure	Proposed Circulation Element Update	
Circulation Element	Policy	Implementation Program ^a
<p>In conjunction with measures that encourage public transit, ride sharing, bicycling and walking, implement circulation improvements that reduce vehicle idling. For example, coordinate controlled intersections so that traffic passes more efficiently through congested areas.</p>	<p>CE 1.7: Use Intelligent Transportation System (ITS) measures to reduce congestion at intersections, as applicable.</p>	<p>CE-13: Traffic Technology. Use appropriate technologies to improve traffic flow and reduce and manage congestion, such as:</p> <ul style="list-style-type: none"> • Installing and maintaining preemptive emergency signaling devices for each direction at appropriate traffic signal-controlled intersections within the City. • Continuing to implement a traffic signal coordination program to improve traffic flow. • Developing a citywide traffic management center
	<p>CE 7.8: Implement and operate appropriate traffic control devices throughout the community to reduce conflicts between pedestrians, bicycles, and motor vehicles.</p>	<p>CE-2: Accident Monitoring. Monitor recurring accident locations (including vehicle versus vehicle, bicycle and/or pedestrian accidents), and determine necessary recommendations and modifications to the appropriate facilities. This may include the use of advance technologies where appropriate.</p>
<p>Create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling and walking. Before funding transportation improvements that increase vehicle miles traveled, consider alternatives such as increasing public transit or improving bicycle or pedestrian travel routes.</p>	<p>CE 7.1: Coordinate the planning of equestrian, bicycle, bus and pedestrian routes and facilities to promote an interconnected system.</p>	<p>CE-6: Bikeway Plan: Implement and update Huntington Beach's Bikeway Plan^b to plan and prioritize facilities for both recreational cyclists and commuters.</p>
<p>Give funding preference to investment in public transit over investment in infrastructure for private automobile traffic.</p>	<p>Not addressed</p>	<p>Not addressed</p>



AG Suggested Measure	Proposed Circulation Element Update	
Circulation Element	Policy	Implementation Program ^a
<p>Include safe and convenient bicycle and pedestrian access in all transportation improvement projects.</p>	<p>CE 7.4: Encourage the use of easements and/or rights-of-way along flood control channels, public utilities, railroads, and streets, for use by bicyclists and/or pedestrians, where safe and appropriate.</p> <p>And</p> <p>CE 7.5: Maintain existing pedestrian and bicycle facilities, and require developers to provide pedestrian walkways and/or bicycle pathways between new residences and schools, parks, and public facilities.</p>	<p>CE-19: Alternative Transportation Mode Design Features Require new development to incorporate transit-oriented design features and attractive, accessible, and appropriate transit, bicycle, equestrian, and pedestrian amenities to promote and support public transit and alternate modes of transportation, including but not limited to:</p> <ul style="list-style-type: none"> • Requiring bus turn-outs and shaded bus stops where appropriate. • Requiring new development to provide convenient and well-lit pedestrian facilities consistent with applicable standards. • Requiring that all new bicycle trip destinations, including schools, shopping areas, and transit stops be equipped with bicycle racks and/or bicycle lockers. • Continue to allow equestrian access to the beach. • Encouraging developments to incorporate easements and/or rights of way along flood control channels, public utilities, railroads and streets for the use of bicyclists and/or pedestrians.
<p>Ensure that non-motorized transportation systems are complete, connected and not interrupted by impassable barriers, such as freeways.</p> 	<p>See CE 7.1 above, plus</p> <p>CE 7.2: Coordinate with neighboring jurisdictions to ensure that bicycle routes within the City connect to and are consistent with routes in adjacent jurisdictions.</p>	<p>See CE-6 above, plus</p> <p>CE-28: Orange County Transportation Authority Work with the Orange County Transportation Authority (OCTA) to achieve the following: Support and implement the OCTA Commuter Bikeways Strategic Plan and participate in future updates and revisions to the Plan. Review, every five years, the Orange County Master Plan of Bikeways to assure consistency. Update Huntington Beach’s Bike Plan, as appropriate.</p>

AG Suggested Measure	Proposed Circulation Element Update	
Circulation Element	Policy	Implementation Program ^a
<p>Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.</p>	<p>See CE 7.5 above, plus CE 7.10: Ensure that bicycle and pedestrian facilities within the City comply with accessibility provisions of the Americans with Disabilities Act (ADA).</p>	<p>See CE-6 and CE-19 above.</p>
<p>Provide adequate and affordable public transportation choices including expanded bus routes and service and other transit choices such as shuttles, light rail, and rail where feasible.</p>	<p>CE 4.1: Encourage and support the various public transit agencies and companies, ride-sharing programs, and other incentive programs that provide forms of transportation other than the private automobile.</p> <p>CE 4.3: Explore the possibility of locating a transportation center in or near Downtown.</p> <p>CE 4.4: Pursue an urban transit system that serves Huntington Beach.</p> <p>CE 4.5: Maintain a system of transit and para-transit services that assist seniors and persons with disabilities.</p>	<p>CE-14: Transit Encourage and support development of convenient and attractive transit facilities in addition to the Goldenwest Transportation Center. Support efforts to make both new and existing facilities available and accessible to the disabled and seniors.</p> <p>CE-28: Orange County Transportation Authority Work with the Orange County Transportation Authority (OCTA) to achieve the following: Expand and improve bus service within the City.</p> <ul style="list-style-type: none"> • Encourage provision of attractive and appropriate transit amenities, including shaded bus stops. • Provide special transit services (such as direct shuttle or dial-a-ride services). • Plan and implement an urban rail system that links the City to central Orange County and Los Angeles County. • Invest in and pursue the development of a transportation center in the coastal area.
<p>Assess transportation impact fees on new development in order to maintain and increase public transit service.</p>	<p>Not addressed</p>	<p>Not addressed</p> 
<p>Provide public transit incentives, including free and reduced fare areas.</p>	<p>See CE 4.1 through CE 4.5, above.</p>	<p>Not addressed</p>

AG Suggested Measure	Proposed Circulation Element Update	
Circulation Element	Policy	Implementation Program ^a
<p>Adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation. For example, reduce parking for private vehicles while increasing options for alternative transportation; eliminate minimum parking requirements for new buildings; “unbundle” parking (require that parking is paid for separately and is not included in rent for residential or commercial space); and set appropriate pricing for parking.</p>	<p>CE 5.1: Require developers to incorporate design features that reduce air pollution from motor vehicles, such as transit facilities and park-and-ride sites; bus benches, shelters, pads, or turnouts; bicycle racks and lockers; and preferred parking for ride sharers.</p>	<p>See CE-19 above</p>
<p>Develop school transit plans to substantially reduce automobile trips to, and congestion surrounding, schools. (According to some estimates, parents driving their children to school account for 20-25% of the morning commute.) Plans may address, e.g., necessary infrastructure improvements and potential funding sources; replacing older diesel buses with low or zero-emission vehicles; mitigation fees to expand school bus service; and Safe Routes to School programs and other formal efforts to increase walking and biking by students.</p>	<p>Not addressed</p>	<p>See CE-19 above, plus CE-15: Pedestrian Facilities and Enhancement Zones Maintain existing pedestrian facilities and require new development to provide accessible pedestrian walkways between developments, schools, and public facilities. Prepare and maintain a Pedestrian Facilities Technical Administrative Report describing the location and proposed improvements in enhancement zones and other pedestrian facility related analyses. Such improvements may include wider sidewalks, enhanced or new crosswalks, trees, pedestrian-scale lighting, or traffic-calming measures. All improvements shall comply with ADA accessibility standards.</p>
<p>Create financing programs for the purchase or lease of vehicles used in employer ride sharing programs.</p>	<p>Not addressed</p>	<p>Not addressed</p>

AG Suggested Measure	Proposed Circulation Element Update	
Circulation Element	Policy	Implementation Program ^a
<p>Enter into partnerships to create and expand polluting vehicle buy-back programs to include vehicles with high greenhouse gas emissions.</p>	<p>Not addressed</p>	<p>Not addressed</p>
<p>Provide public education and information about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction; trip linking; public transit; biking and walking; vehicle performance and efficiency (e.g., keeping tires inflated); low or zero-emission vehicles; and car and ride sharing.</p>	<p>CE 5.3: Require businesses to provide employee incentives for using alternatives to the conventional automobile, including carpools, vanpools, buses, bicycles, walking, and telecommuting.</p> <p>CE 5.4: Support the efforts of businesses to use transportation management techniques such as flex-time, staggered working hours and other means to lessen commuter traffic during peak hours.</p> <p>CE 5.5: Support the promotion of ride sharing through publicity and public education.</p>	<p>CE-35: Transportation Management Outreach Promote, publicize, and encourage the use of transportation management strategies that will aid in meeting SCAQMD mandates and guidelines, including:</p> <ul style="list-style-type: none"> • Use of low emission and alternative fuel vehicles within the City, including neighborhood electric vehicles (NEVs). • Use of carpools, vanpools, walking, and multioccupancy programs for midday uses. • Employers creating Commuter Rideshare Matching Services or databases containing employees' zip codes and commuting preferences to be provided to interested participants. • Employers participating in Guaranteed Ride Home programs that provide a rides home to employees. • Employers using flex time, staggered working hours, and other means to reduce commuter traffic during peak hours. • Creating NEV roadway systems and encouraging electrical vehicle charging stations. • Participate with SCAG in the creation of a Sustainable Communities Strategy per SB 375
<p>^a Limited to the parts of the implementation program that relate to the corresponding policy. ^b The Proposed Circulation Element Update includes a City Bikeway Plan with an interconnected network of Class I, II, and III bike lanes.</p> <p>Sources: California Department of Justice, 2008; City of Huntington Beach, Legislative Draft General Plan Circulation Element, 2009.</p>		

The proposed Huntington Beach Circulation Element Update would contribute to the reduction of future GHG emissions in the following aspects:

- Vehicle Technology. Policy CE 5.2 and Implementation Measure CE-35 would encourage and support the use of low-emission vehicles within the City. GHG emissions would be reduced through advanced vehicle technology that would improve the energy efficiency (i.e., miles per gallon) or emission efficiency (i.e., grams of CO₂e per VMT) of the vehicle fleet.
- Fuel Technology. Policy CE 5.2 and Implementation Measure CE-35 would encourage and support the use of alternative fuel vehicles within the City. GHG emissions would be reduced by the use of vehicles fueled by natural gas, biofuels, hydrogen fuel cells, and other low-carbon fuels.
- Travel Activity. A number of policies and implementation measures described in Table 4 encourage the use of public transit, bicycles, and pedestrian transportation as an alternate to vehicle travel. There are additional policies that encourage carpool and ride-share as an alternative to single occupancy driving. Development of these alternative modes of transportation would reduce VMT and corresponding GHG emissions.
- Vehicle and System Operations. Policies CE 1.7 and CE 2.2 and Implementation Measures CE-11, CE-12, and CE-13 would improve the efficiency of the transportation network so that a larger share of vehicle operations occur in favorable conditions, with respect to speed and smoothness of traffic flow, resulting in more fuel efficient vehicle operations and a reduction in GHG emissions.

GHG Emissions

The proposed update to the Circulation Element is designed to accommodate long range traffic volumes to minimize congestion problems on the existing streets and highway network, and would not generate any new stationary or mobile sources of GHG pollutant emissions. Therefore, the calculation of GHG is based upon the forecast of total daily vehicle miles travelled (VMT) on the City's street network. Mobile source emissions were calculated for the existing conditions, the current Circulation Element, and the proposed Project. Although traffic volumes will increase and a system to manage traffic more efficiently will be implemented, the speeds on most roadways are, and will continue to be, governed by posted speed limits. For purposes of calculation, it was assumed that the average traffic speed for all vehicles in 2009 and in 2030 is 35 miles per hour. The VMT data and the estimated emissions are shown in Table 4.9-5.



**Table 4.9-5
Estimated Annual GHG Emissions from Vehicle Travel**

Scenario	Daily VMT in Huntington Beach	GHG Emissions (MTCO₂e/yr)
Existing Conditions – 2009	2,735,124	437,061
Proposed Circulation Element – 2030	3,302,762	536,421
<i>Increase: Proposed Circulation Element less Existing</i>	<i>567,638</i>	<i>99,360</i>
Current General Plan – 2030	3,353,350	544,637
<i>Decrease: Proposed Circulation Element less Current Circulation Element</i>	<i>-50,588</i>	<i>-8,216</i>
<p>VMT: vehicle miles traveled; MTCO₂e/yr: metric tons of carbon dioxide equivalent per year.</p> <p>It is assumed that the 2030 GHG emission data derived from EMFAC emission factors are overestimates, because the EMFAC 2007 model does not currently project the changes in CO₂ emissions that will occur once CAFE and LCFS regulations are implemented.</p> <p>Source: BonTerra, October 2009, based on VMT provided by Austin-Foust Associates, Inc.</p>		

As shown in Table 4.9-5, the daily VMT in the City of Huntington Beach is forecasted to increase by more than 22 percent between 2009 and 2030. In that same period, GHG emissions would increase by 99,360 MTCO₂e per year, approximately 25 percent, because the CO₂ emission factor in the EMFAC model is forecasted to increase by approximately two percent between 2009 and 2030. The data in Table 4.9-5 also show that, with implementation of the proposed Circulation Element Update, the forecasted VMT in the City would be approximately two percent less than with the existing Circulation Element, and GHG emissions would be less by the same percentage.

The GHG emissions forecasts presented in Table 4.9-5 show there would be a substantial increase in vehicle GHG emissions in the City between 2009 and 2030, that the increase would be due to the anticipated increases in VMT and CO₂ emission factors, and that these increases would occur regardless of whether the City elects to adopt and implement proposed Circulation Element Update. Therefore, the updated Circulation Element would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. As discussed earlier, the proposed plans and policies would support many of the transportation control measures recommended by the California Attorney General to reduce GHG emissions and would not conflict with any

applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

It is concluded that the updated Circulation Element would have a less than cumulatively considerable impact with respect to global climate change.

Mitigation Measures

None Required

Level of Significance

Impacts will be less than significant without mitigation incorporation



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5	Alternatives

Purpose

Pursuant to Section 15126.6 of the State CEQA Guidelines, this chapter discusses a range of reasonable alternatives to the proposed project that would attain some or all of the main objectives of the project while avoiding or substantially lessening one or more of the significant environmental effects that would occur with the proposed project. An examination of such alternatives is intended to foster informed decision-making and public participation in the examination of the project's environmental merits and disadvantages.

Alternatives Considered but Rejected

An EIR is not required to consider alternatives that are infeasible, unreasonable, or overly speculative. There is no standard set forth in the CEQA Guidelines for the number of alternatives that must be addressed; this is determined on a case-by-case basis, depending on the unique characteristics of the project location, the project objectives, the environmental setting, and the range and magnitude of significant impacts that are associated with the proposed project. The following alternatives were considered but rejected after considering implementation feasibility.

Alternative Circulation Networks

The urban development pattern in and around Huntington Beach is well established, as is the local and regional transportation network. Given this urban pattern and current trends in people and freight-moving technologies, it is presumed that the primary modes of travel will continue to be passenger automobiles and light-heavy duty trucks over the long-term (20+ years). Options for changes to roadway classifications and intersection improvements have been considered based on the City's existing development patterns and the levels of increased traffic that could result from the City's long range land use plan. Forecasts to the year 2030 have been developed that correlate with the latest Orange County Projections (OCP-2006), which are considered the definitive growth forecasts for the county, and employed in a variety of regional planning programs. It would be unreasonable to assume different population projections and to design a circulation system for alternative growth scenarios. Furthermore, considering alternative roadway networks or other major changes to the circulation pattern is not viable because large-scale redevelopment would be required to change the City's physical infrastructure to either improve roadway connectivity or expand alternative transportation options such as light-rail or subways.

Intersection improvements could be designed to achieve higher LOS performance standards than the proposed standards; however, this is considered infeasible and unwarranted because of the additional environmental and social costs associated with right-of-way acquisition, property acquisition and clearing, displacement of homes and businesses, and possibly encroachment into sensitive wetland areas.

Considering these restrictions, no other viable circulation alternatives are available for consideration.

Alternative Selected for Evaluation

Alternatives selected for evaluation because they were determined to meet most of the project objectives and could avoid potentially significant impacts of the proposed project are described below. Table 5-1 (Alternatives Impact Comparison Summary) summarizes the differences in potential impacts between the proposed project and Alternatives 1 and 2.

**Table 5-1
Alternatives Impact Comparison Summary**

Impacts	Project	Alternative 1	Alternative 2
Air Quality	NO/L	≥	≥
Biological Resources	NO/L	≥	=
Cultural Resources	L/M	≤	≤
Land Use and Planning	L/M	≤	=
Noise	L	=	=
Population and Housing	SU	≤	≤
Public Services	L	≥	≥
Transportation and Traffic	NO/L	≥	≥
GHG and Climate Change	NO/L	≥	≥
Key: SU Significant and unavoidable Impacts L/M Less than significant impacts with mitigation incorporated L Less than significant impact NO No impact ≥ Impacts are greater than or equal to proposed plan = Impacts are similar/equivalent to proposed plan ≤ Impacts are less than or equal to proposed plan			

Alternative 1: ‘No Project’ Alternative

According to Section 15126.6(e)(2) of the CEQA Guidelines, the evaluation of alternatives in an EIR shall include a ‘no project’ scenario, defined as “. . . what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” For the purpose of this EIR, this alternative assumes that the proposed Circulation Element update would not be adopted and implemented. Instead, the City’s circulation network would continue to be developed according to the existing Circulation Plan and the adopted Master Plan of Arterial Highways. This alternative is considered to be feasible, since it is currently in effect as the City’s legislatively adopted Circulation Element.

The proposed Circulation Element is designed to update the current Circulation Element based on new projected traffic data. As such, the Circulation Element update revises the classification of some roadway segments to account for

increased or reduced projected traffic demand volumes. The proposed Circulation Element also establishes new level of service standards for assessing the performance of the City's roadway network. The proposed intersection level of service standards are designed to recognize the desire for stable traffic flows at Secondary Intersections (LOS C) while recognizing that some intersections are subject to significant through traffic due to the urban nature and destination character of the City, i.e., Principal and Critical Intersections, designed to achieve LOS 'D' and 'E', respectively.

The Circulation Element update proposes to delete a number of roadway segments from the current Circulation Plan and the Master Plan of Arterial Highways (MPAH). These segments have not been constructed and are proposed to be deleted in order to avoid impacts to sensitive wetlands, or because updated traffic forecasts indicate there is no need for these planned segments. Finally, the project includes revisions to the City's scenic nodes and corridor designations to better reflect current traffic patterns. If the adopted Circulation Plan were to remain in effect, the existing roadway classifications, intersection capacities, and MPAH facilities would remain in place and would not be changed to account for the updated traffic forecasts. The City would continue to utilize the current performance standards for roadway segments and intersection capacity when determining roadway network performance. Finally, no changes to scenic nodes and corridors classifications would occur and future streetscape improvements would be designed in accordance with the classifications of the current Scenic Corridors Plan.

Alternative 2: Existing Performance Standards

Alternative 2 would keep the majority of the proposed Circulation Element components intact including a similar Circulation Plan and alternative transportation strategies; however, Alternative 2 would continue the existing performance standards of the current Circulation Element. The proposed Circulation Plan would, therefore, be analyzed in light of a LOS D peak hour performance standard for intersections and a LOS C average daily performance standard for links.

The primary result of this alternative would be that secondary intersections would be subject to a decreased performance standard, from the proposed LOS C to the existing LOS D. This would apply to fifty intersections within the planning area, approximately 40 percent of the 124 intersections identified in the proposed Circulation Element and analyzed in the project traffic study.

Comparison of Alternatives

Air Quality

Emission sources, primarily in the form of vehicular exhaust, would be the same for the existing and updated Circulation Elements. Future traffic volumes throughout the City's street network would be approximately the same for both Circulation Plans and the distribution and total levels of exhaust emissions would be similar. Projected improvements in vehicular emissions controls, changeover of the vehicle

fleet to a mix of newer and less polluting types of automobiles and trucks, increasing restrictions on fuel content and improvements in average fuel efficiencies are expected to substantially reduce total pollution levels, despite an approximately 20 percent increase in traffic volumes for either Circulation Plan. The air quality study determined that changes in long range air pollution levels associated with vehicular traffic would be below the SCAQMD significance thresholds for either Circulation Plan. Neither Plan, therefore, would contribute cumulatively considerable levels of non-attainment pollutants, i.e., ozone precursors or particulate matter. The air quality study also determined that significant pollutant concentrations would not occur at any intersection, because projected volumes and levels of service would not exceed screening thresholds for carbon monoxide. Given the similar levels and distribution of traffic in either Circulation Plan, neither would result in a significant concentration of air pollutants near sensitive receptors.

Alternatives 1 and 2 could result in increased transportation-related pollutant emissions because the existing LOS D performance standard for secondary intersections would result in longer delays at those intersections. Longer intersection delays increase the time vehicles are operating and idling, resulting in a proportional increase in pollutant emissions. In addition to the gross increase in pollutant emissions, the potential for carbon monoxide hotspots to form at secondary intersections would increase as traffic levels worsen (see Section 4.1 for more information related to carbon monoxide hotspots). This would be of particular concern at the intersections of Gothard Street at Slater Avenue, Gothard Street at Talbert Avenue, and Newland Street at Talbert Avenue because these secondary intersections are projected to operate at a peak hour LOS D.

Biological Resources

Impacts to biological resources could be significant under the existing Circulation Element because the current Element contains planned roadway extensions that pass through the sensitive Bolsa Chica wetlands and other wetland areas. The proposed Circulation Element and Alternative 2 delete those planned roadway extensions, thus avoiding future wetlands impacts. None of the alternatives would have a significant effect on other kinds of sensitive biological resources or conflict with any adopted Habitat Conservation Plan or a Natural Community Conservation Plan as there are none in effect in Huntington Beach.

Cultural Resources

Similar impacts to archaeological and paleontological resources could occur under the existing and proposed Circulation Elements. Both plans include future roadway and intersection improvements with a low potential for disturbing buried cultural or fossil materials. Mitigation measures 4.3.A-1 and 4.3.B-1 would avoid potentially significant effects for either Plan. Impacts to archeological and palentological resources could be reduced under Alternatives 1 and 2 because fewer secondary intersection improvements would be required to meet the existing LOS D standard.

Land Use and Planning

The existing Circulation Element is consistent with all elements of the existing General Plan, including the Coastal Element. There are some differences in the proposed Circulation Element involving scenic nodes and corridors reclassifications and deletion of bikeway segments that are currently reflected in the Coastal Element. These differences would be the same for Alternative 2. These are minor impacts that can be remedied through a series of General Plan revisions to incorporate the changes in the proposed Circulation Element into the corresponding General Plan Elements. This would include text revisions to the Urban Design, Growth Management, Coastal and Noise Elements, along with circulation map revisions in the Coastal Element. None of these minor revisions would be necessary with the No-Project Alternative.

Noise

As discussed in Section 4.5, the proposed Circulation Element would not result directly in long-term traffic-related noise level increases because traffic volume increases would occur with or without the adoption of an updated circulation element. Similarly, neither the existing Circulation Element or Alternative 2 would result in direct noise level increases. Furthermore, the difference in projected noise levels under the proposed circulation element and the two alternatives would be insignificant, in absolute terms, because the long-term, incremental nature of increases in traffic noise levels would be gradual and imperceptible to persons of normal hearing sensitivity.

Population and Housing

Impacts to existing residential or business structures and other private and public improvements could occur under any of the alternatives in order to add traffic capacity at intersections that are approaching or would exceed level of service standards. Performance standards for the existing Circulation Element and Alternative 2 are more generalized to all intersections, whereas the standards in the proposed Plan are specified differently for Critical, Principal, and Secondary intersections. Specific project designs for future intersection improvements would not be authorized under any alternative until such time as traffic conditions warrant improvements and sufficient funding is appropriated. The potential for a particular set of intersection improvements to displace residences or businesses in order to meet the geometric footprint required to provide the level of needed capacity would be less under the existing Circulation Element and Alternative 2 due to the decreased performance standards, resulting in a decreased need for intersection improvements. Under any alternative, the City would evaluate intersection improvement designs to determine if significant right-of-way impacts could be avoided or mitigated to a level of less than significant.

Public Services – Fire Protection

The primary differences between the existing Circulation Element, the proposed Circulation Element, and Alternative 2 related to emergency response are the cross-

gap connection through the Bolsa Chica Wetlands area and other roadway extensions identified in the existing Circulation Plan. The proposed Circulation Element and Alternative 2 would not include the cross-gap connection. According to the current Circulation Element, the cross-gap connector would eliminate the need to have two fire stations in the Bolsa Chica area in order to meet the Fire Department's response arrival time goals. At the time the current Element was adopted, a substantial amount of new development was anticipated in the Bolsa Chica area that would have generated a need for a second fire station. One of those stations has been constructed at 18951 Edwards Street (Station No. 6); however, the second station has been determined to not be necessary.

The Huntington Beach Fire Department has determined that their response time to Bolsa Chica area would not be impacted due to the deletion of the previously planned cross-gap connector. The Orange County Land Use Element Map designates the majority of the wetlands area as Open Space Reserve. The City previously determined that a new fire station near the vicinity of the intersection of Graham Street and Slater Avenue would not be required, because the development potential of the Bolsa Chica Mesa has been significantly reduced, to less than 400 homes. In addition to the deletion of the cross-gap connection, the Fire Department determined that the other proposed roadway segment deletions (including Edinger Avenue) and functional reclassifications would not adversely affect response times to other portions of the City. Potential long-term impacts on fire protection services as related to roadway deletions would be similar and less than significant for all alternatives because none would interfere with the response time goals of the Huntington Beach Fire Department.

Alternative 2 and the existing Circulation Element could generally result in increased response times to the planning area when compared to the proposed Circulation Element because of increased delays at secondary intersections when compared to the proposed Circulation Element.

Transportation and Traffic

The updated Circulation Element, including the recommended long-term capacity improvements identified in the traffic study, would achieve the proposed system performance standards, with the levels of traffic that are forecast for 2030. Since the existing Element was designed to handle traffic volumes projected several years ago for approximately Year 2010 conditions, and had less stringent intersection performance standards, the proposed updated Element is superior in terms of managing the projected levels of traffic and achieving more appropriate performance standards. Similarly, the proposed Circulation Element would result in improved system performance when compared to Alternative 2 because of the Proposed Element's improved performance standards. The proposed Circulation Element and Alternative 2 would better address alternative transportation as they both reflect updated planning approaches to circulation, particularly related to 'complete streets', when compared to the existing Circulation Element.

Greenhouse Gas Emissions and Climate Change

Minor differences in total GHGs associated with trucks and passenger automobiles could occur, since the adopted Circulation Plan has somewhat higher total vehicle miles traveled (VMT) because of retention of several planned road segments that would be eliminated in the proposed Plan. Such differences would be insignificant on a regional or global level. Traffic-related GHG emissions would incrementally decrease as vehicle performance improves resulting from federal, State, and regional standards and regulations implemented pursuant to AB32 (California Global Warming Solutions Act). Alternatives 1 and 2 could result in slightly higher GHG emissions due to increased delays at secondary intersections resulting in lengthier travel times throughout the planning area.

Environmentally Superior Alternative

Generally, the impacts of the existing and proposed Circulation Elements would be similar while the impacts of Alternative 2 would be greater. None of the alternatives would be inconsistent with the Regional Air Quality Management Plan or Regional Transportation Plan, neither would conflict with an adopted Habitat Conservation Plan or Natural Communities Conservation Plan, and neither would conflict with plans for alternative modes of travel. Both the existing and proposed Circulation Elements would indirectly result in less than significant increases in total air pollutant and greenhouse gas emissions, less than significant increases in roadway traffic noise levels and less than significant impacts on fire protection services. Alternative 2 would result in increased impacts related to air quality, emergency response, circulation system performance, and climate change. A few minor inconsistencies with other General Plan elements would be created by the updated Circulation Element and Alternative 2 that do not exist with the existing Circulation Element. The existing and proposed Circulation Elements could result in a significant impact involving removal of business or residential structures and displacement of the occupants, as part of an intersection capacity/level of service improvement project. Conversely, Alternative 2 would result in reduced impacts to businesses and housing because of the need for fewer intersection improvements. The proposed Circulation Element and Alternative 2 delete previously planned roadway segments that are not warranted by updated traffic forecasts and this would avoid potential intrusion into several sensitive wetland areas. The updated Circulation Element is designed to manage a more recent and more accurate set of traffic forecasts, with more efficient system performance standards, thus resulting in better roadway network performance that would reduce exhaust emissions associated with traffic congestion. The existing Circulation Element and Alternative 2 would result in poorer performing circulation network. On balance, the proposed Circulation Element is considered to be the environmentally superior alternative.

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6	Analysis of Long Term Effects

6.0 Analysis of Long Term Effects

Cumulative Impacts

Introduction

Section 15135 of the State CEQA Guidelines defines a cumulative impact as a result of the combination of the project effects evaluated in the EIR together with other projects causing related impacts. The environmental impacts of past and present projects that have already been implemented have been incorporated into this EIR within the description of existing conditions in each section. The assessment of impacts resulting from implementation of proposed Circulation Element policies presented in earlier chapters of this EIR is based on the cumulative effects of the plan throughout the entire planning area, assuming full build-out of all reasonably expected land use potential as expressed through the existing General Plan Land Use Plan. This section of the EIR addresses cumulative impacts with respect to potential interaction of environmental effects resulting from implementation of the updated circulation plan, together with effects resulting from growth and environmental changes occurring outside of the planning area and within Orange County.

Please note, many of the standard CEQA impact topics were screened out during the Initial Study process because such effects clearly would not occur or would be less than significant. Accordingly, those impact topics are not addressed with respect to cumulative impacts.

The CEQA Guidelines specify two methods of projecting a future baseline scenario to develop a context in which to evaluate cumulative impacts.

List Method. A list of land development projects, communities facilities projects, infrastructure projects that have been approved or are in a government agency planning review process, are expected to occur within a similar time frame as the proposed project, and are located within common areas where environmental impacts could interact with project-related impacts. Such a list may include projects outside the control of the lead agency. This method is appropriate for a site-specific, project level environmental impact analysis, with a near-term planning horizon, but is not suitable for program level analysis with a long-term horizon and a range of actions that could occur throughout a broader area than a single project site. Since the proposed project is a long-term plan for managing a variety of surface transportation needs throughout the City of Huntington Beach, the list method is not appropriate for this EIR.

Growth Projections Method. A summary of projections contained in an adopted general plan or related planning document or in a prior environmental document that has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. As discussed in *Section*

4.8 Transportation and Traffic, the traffic study prepared for the updated Circulation Element is based on citywide growth forecasts that account for implementation of the City's adopted land use policies, expressed in the Land Use Element of the General Plan. These forecasts were correlated with OCP-2006 growth forecasts developed to support a variety of countywide and regional planning programs, including SCAG's Regional Transportation Plan, the SCAQMD Air Quality Management Plan, and the Orange County Congestion Management Plan. Traffic forecasts through 2030 were developed to estimate roadway volumes, intersection levels of service and the need for roadway network improvements, as additional growth takes place throughout the Huntington Beach planning area.

Air Quality

As discussed in *Section 4.1 Air Quality*, total vehicular emissions associated with traffic volumes on the City's entire street network are projected to decline over time, despite higher overall traffic volumes. As explained therein, this is due to emission reduction benefits expected from replacement of older vehicles with newer vehicles that have stronger emissions controls and are more fuel efficient, together with more stringent State restrictions on fuel content that would also reduce emissions. The air quality study prepared for the updated Circulation Element determined that emissions of criteria pollutants due to projected performance of the roadway network would not exceed the regional thresholds established by the SCAQMD and that the updated Circulation Plan would not result in exposure of sensitive receptors to significant concentrations of air pollutants. Furthermore, the updated Element is consistent with the applicable transportation emissions reduction strategies of the AQMP. The air quality impact of the updated Circulation Element would, therefore, be less than cumulatively considerable.

Biological Resources

Physical alterations to existing streets and intersections within the City's roadway network could not affect biological resources outside of the network. As discussed in *Section 4.2 Biological Resources* herein, the proposed Circulation Element update would not result in significant impacts to any biological resources, including wetlands resources in the Coastal Zone. The updated plan would not, therefore, contribute to any significant cumulative impacts involving biological resources.

Cultural Resources

To ensure that future roadway and intersection improvements anticipated by the updated Circulation Element do not impact significant archaeological and paleontological resources, Mitigation Measures 4.3.A-1 and 4.3.B-1 will be implemented. These measures require selective construction site monitoring by qualified archaeological and paleontological professionals, to ensure proper identification and documentation of potentially significant resources. Implementation of the updated Circulation Element update would not contribute to cumulative impacts on cultural or paleontological resources.

Greenhouse Gas Emissions and Climate Change

Please refer to *Section 4.9 (Greenhouse Gases and Climate Change)* herein.

Land Use and Planning

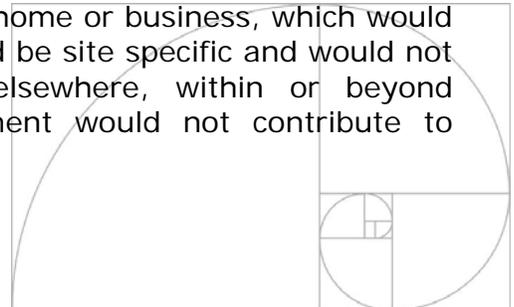
The Circulation Element update is designed to accommodate long-term growth within the planning area based on the City's existing Land Use Element that was accounted for in the regional planning efforts of SCAG and Orange County. The proposed Circulation Element does not authorize or consider any changes in the City's land use policies, or propose or assume any changes in regional growth management policies. None of the City's existing street network or the planned transportation system would adversely affect any land within a state or federal habitat conservation area. The Circulation Element update will not affect the land use and planning programs of any neighboring jurisdiction or regional association and does not include any long-term infrastructure improvement projects that could divide any existing community within a neighboring jurisdiction. The proposed Circulation Element would not contribute to any cumulative land use and planning impacts.

Noise

The context for assessing long-term transportation related noise impacts is located along the roadway network within the boundaries of Huntington Beach. The proposed Circulation Element is designed to accommodate projected traffic volumes caused by future population and employment growth patterns, in an efficient manner that achieves specified intersection level of service standards. As such, this project would not directly or indirectly generate any traffic and would not worsen cumulative, long-term roadway noise levels, within or outside of the planning area. Future development along the larger, busier elements of the local road network will be examined with respect to potentially adverse effects of traffic noise, as part of the City's standard planning and development approval process. The proposed Circulation Element would not change any of those processes or the standards by which roadway noise exposure is considered as a significant impact. This project would have less than cumulatively considerable effects involving noise levels.

Population and Housing

In Section 4.6, it was determined that a future intersection improvement project undertaken to achieve the updated Circulation Element performance standards could potentially require displacement of an existing home or business, which would be a significant impact. That kind of an impact would be site specific and would not lead to or interact with displacement impacts elsewhere, within or beyond Huntington Beach. The updated Circulation Element would not contribute to cumulative population and housing impacts.



Public Services – Fire Protection

Generally, the updated Element would help maintain emergency response goals for the entire planning area, by reducing traffic congestion that could impair fire engines and supporting vehicles en route to a fire or medical emergency. Since the Huntington Beach Fire Department is the primary fire protection agency for the entire City, as well as the unincorporated Bolsa Chica area, proposed amendments that would remove several planned/unbuilt links from the arterial highway plan would not affect emergency response times along routes where other fire departments are first responders. The updated Circulation Element would not result in cumulatively considerable impacts involving emergency response efforts for fire protection or other emergency services.

Transportation and Traffic

Many of the arterials that form the backbone of the City's street network continue into adjoining jurisdictions to the north, east and west. Achievement of the intersection performance standards contained in the updated Circulation Element will help maintain smooth traffic flow for inter-jurisdictional travel. Policies CE-1.1 through CE-1.10 are organized around the goal of Regional Mobility, and implementing these policies will foster cooperative efforts with neighboring cities, Orange County, OCTA and the State of California, to fund, manage, maintain, upgrade and expand the regional transportation network.

Beach Boulevard (State Route 39) is a major north-south route through the entire county, and Pacific Coast Highway (State Route 1) is part of a coastal route that connects southern and northern California. Both are owned and maintained by the California Department of Transportation. Interstate 405 Freeway is part of the federal highway system; the mainline freeway and the interchanges that occur near Huntington Beach are maintained by the California Department of Transportation. There are several roads that provide access from within the City to an interchange with I-405: Bolsa Avenue, Goldenwest Street, Center Street, Beach Boulevard, Magnolia Avenue and Warner Avenue. These freeway access routes have been in place for many years and the proposed Circulation Element would not change this established pattern of freeway access.

Regional Transportation Plan Consistency

Introduction

The 2008 Regional Transportation Plan (RTP) connects the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties to a vision in which innovative solutions address the daunting challenges of regional mobility we face today. It presents a long range vision and investment framework to address these challenges, and is the culmination of a multi-year effort to maintain and improve the regional transportation system through a balanced approach that considers system preservation, operation and management,

improved coordination between land use decisions and transportation investments and strategic expansion to accommodate growth.

Improvement projects identified in the RTP are designated to implement the following goals:

- Maximize mobility and accessibility for all people and goods in the region
- Ensure travel safety and reliability for all people and goods in the region
- Preserve and ensure a sustainable regional transportation system
- Maximize the productivity of [the] transportation system
- Protect the environment, improve air quality, and promote energy efficiency
- Encourage land use and growth patterns that complement transportation investments and improve the cost-effectiveness of expenditures
- Maximize the security of [the] transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies

Progress in achieving these goals is evaluated by the following performance standards. Mobility is measured by speed and delay on the transportation system. Accessibility is measured by the percentage of afternoon peak period work trips that are within 45 minutes of home and the distribution of work trip travel times. Reliability is measured by the variation in day-to-day travel times due to accidents, weather, road closures, and other non-recurrent system problems. Productivity is measured by the percent capacity of the transportation system during peak hours. Safety is measured by accident rates. Sustainability and preservation are measured by the condition and overall performance of the system as reliability, productivity, and safety improve and rehabilitation requirements decrease. Cost-effectiveness is measured as a 2.21 to one benefit-to-cost ratio return on investment in the system. The environmental quality goal is measured by a decrease in emissions generated by travel. Finally, regional transportation investments are evaluated with respect to environmental justice considerations, measured by the equitable distribution of benefits and costs so that people are not disproportionately impacted by the system due to income, class, race, color, or national origin.

Regional Access from Huntington Beach

Regional and inter-regional roadway access is provided by a system of freeways and arterials in the vicinity of Huntington Beach. The San Diego Freeway (Interstate 405) is the major north south freeway serving the planning area, traversing the northeastern portion of the city. Pacific Coast Highway (SR-1) extends parallel to the coast on the western portion of the city. Pacific Coast Highway provides regional access to the city of Newport Beach to the south and the city of Seal Beach to the north and beyond. The Orange County Transportation Authority (OCTA) provides local transit service and regional transit connections between the city and other areas of the county and region. OCTA provides a variety of transit services including bus service, passenger service, passenger rail and mobility services for those with special needs. OCTA continues to develop new

transit alternatives to improve regional mobility. Regional transportation plans and programs being reviewed include regional and local transit, bicycle routes, and improved accessibility for Huntington Beach to and from points east of the Santa Ana River.

Planned Regional Circulation Improvements

The traffic study prepared for the proposed Circulation Element update accounted for future capacity improvements (additional lanes) to the I-405 freeway that are programmed for construction (see Table 6-1, Committed Improvements to Regional Freeways) and incorporated the benefits of these improvements into future level of service projections at the I-405/Center Street ramps. Intersection improvements have also been programmed in the near term, to increase capacity at Beach Boulevard/Edinger Avenue and Beach Boulevard/Heil Avenue.

**Table 6-1
Committed Improvements to Regional Freeways**

Freeway	Segment	Improvement
SR-73	Spruce to I-405	Widen N/B & S/B to four general purpose lanes
I-405	Euclid to Harbor	Widen S/B to six general purpose lanes
I-405	Harbor to Fairview	Widen S/B to eight general purpose lanes
I-405	Fairview to SR-73	Widen S/B to seven general purpose lanes
I-405	I-5 to SR-55	Add one N/B & S/B lane
I-405	SR-73 to I-605	Add one N/B & S/B lane
I-405	SR-22 to I-605	Add one N/B & S/B HOV lane
Source: Austin-Foust Associates 2009		

The RTP includes several future projects that will alleviate traffic congestion in the vicinity of Huntington Beach.

- The addition of one northbound and southbound auxiliary lane to I-405, between Magnolia and Beach
- The addition of one northbound and southbound all purpose lane to I-405, from State Route 73 to the Los Angeles County border
- Widen Bolsa Avenue bridge from four to six lanes between Chestnut and Goldenwest
- Construct a fourth northbound through lane on Beach at the I-405 interchange and remove the I-405 off-ramp at the northeast corner of Beach at Edinger
- Widen Atlanta Avenue from two lanes to four lanes from First to Delaware

RTP Consistency

The updated Circulation Element Goal CE1 focuses on the efficient movement of people and goods throughout the city on a circulation system that maintains sufficient level of service and includes policies that support regional transportation planning. Policy CE1.2 specifically supports the need to monitor and participate in applicable regional transportation plans and proposals. Policy CE1.3 requires

compliance with the OCTA Congestion Management Program, another important regional transportation plan. Policy CE1.4 requires coordination of the planning, construction, and maintenance of circulation improvements with adjacent jurisdictions and transportation agencies to ensure consistency in the regional circulation system. The proposed Circulation Element supports the environmental and sustainability goals of the RTP through Goal CE5 that seeks to maximize use of transportation demand management (TDM) strategies to reduce vehicle miles traveled and improve regional air quality. TDM strategies include transit facilities, park-and-rides, ride sharing, and other methods for reducing vehicle usage. The proposed Circulation Element further supports alternate transit options through Policy CE7.3 that requires coordination with the County to ensure consistency with the County's Master Plan of Bikeways and Policy CE7.6 that supports an equestrian trail system that connects to regional facilities.

Conclusion

The proposed Circulation Element would not conflict with the RTP and in fact supports the RTP goals by improving the local circulation system to assist in meeting the RTP performance targets. Circulation Element Implementation Programs CE-25 through CE-34 establish the City's commitment to work with Caltrans, OCTA, SCAG, various rail authorities, and public utility companies to facilitate/support/integrate with efforts to reduce congestion and increase capacity on the highways and freeway segments that pass through Huntington Beach. The City of Huntington Beach is in compliance with the Regional Transportation Plan, the Orange County Congestion Management Plan, and the Orange County Master Plan of Arterial Highways. In these ways, the updated Element supports regional transportation planning and congestion management programs and ensures that the City's roadway network does not result in cumulatively considerable traffic impacts.

Growth Inducing Impacts

Growth-inducing effects include ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. A prime example is a major infrastructure project or road extension which provides urban service capacities to currently undeveloped areas, thus removing an obstacle to population growth.

The proposed Circulation Element is intended to provide an efficient surface transportation system in Huntington Beach to manage increases in traffic volumes as the City and surrounding areas continue to grow and redevelop over the next 20+ years. Future year traffic forecasts developed to establish long range system needs are based on the City's adopted land use policies and official growth forecasts developed for a variety of regional planning programs, as contained in the Orange County Projections 2006 set of growth forecasts. As such, the traffic forecasts are considered accurate and the proposed circulation plan and performance standards would not provide additional capacity that could induce growth where it is not already planned. Streets and intersection improvements that will eventually be needed to maintain desired levels of service will involve relatively minor expansions

of existing facilities; no new streets, no street extensions, no new bridges, no new rail lines or other transportation infrastructure are proposed that could induce growth.

Significant Irreversible Environmental Changes

The updated Circulation Element provides a policy framework to accommodate long range forecasts for vehicular traffic demand volumes and to promote a variety of transportation options within Huntington Beach. Once land is developed with infrastructure such as roadways or bus stations, reversion to open space for conservation, resource management, or other purposes is highly unlikely. In the planning area, the surface transportation system has been long established, and the updated Element would not expand the established footprint of this system.

An irreversible commitment of non-renewable natural resources is inherent in any infrastructure project or in the case of the Circulation Element update, numerous streets and intersection improvement projects over a long period of time. The primary natural resources that could be lost through future roadway and intersection improvement projects include aggregate and hydrocarbons used in the production of asphalt (used in combination to create asphalt concrete, or AC). Asphalt concrete would be laid to add additional lanes and turning pockets at identified roadway and intersection improvement areas. Concrete (a mixture of cement and aggregate) would also be utilized in the construction or reconstruction of sidewalks, curbs, and gutters. Metals used in their raw form and in the production of alloys, such as steel and copper, would be utilized in the form of new roadway signage, mounting poles, underground utility conduits, and utility cables. Although these materials would no longer be available in a raw, natural form, many of these materials will be used and reused in recycled forms, especially in terms of asphalt concrete. Approximately 80% of asphalt is retrieved and recycled for future applications. Considering the recyclable nature of such materials, the loss of these resources is not anticipated to be substantial.

Implementation of the Circulation Element update represents a long-term commitment to the consumption of energy for electricity and fuels to power various modes of mechanized transportation and manage the traffic control network. Electricity derived from various sources, including renewable and non-renewable sources, will continually be used to power traffic lights and street lights. Gasoline and diesel fuels will continue to power construction equipment and vehicles, as well as the passenger automobiles, light, medium and heavy duty trucks that will travel on the street network. Impacts associated with long term energy consumption will depend on the energy sources and methods of producing energy. Typical hydrocarbon-based sources produce higher volumes of various criteria air pollutants and greenhouse gasses than renewable energy sources. In the future, increased use of renewable energy sources such as wind and solar power is anticipated to partially substitute for current methods of electricity production that generally involves burning of non-renewable hydrocarbons like oil and coal. Transportation related fuels are also anticipated to be partially supplemented by alternative fuel sources such as biodiesel and cellulosic ethanol. The City's General Plan generally

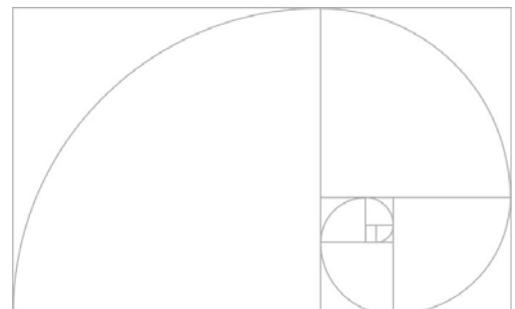
supports use of alternative energy sources and the Circulation Element update includes policies supporting alternative modes of transportation that would ultimately reduce the use of hydrocarbon-based fuels; however, primary changes in future use of alternative fuels will be the responsibility of State and Federal legislation. To the extent that hydrocarbon based fuel sources are replaced with less polluting, renewable sources; environmental impacts will be reduced.

Environmental accidents resulting from the long-term implementation of the Circulation Element could occur from a variety of circumstances. An accident on the City's designated truck routes could result in explosions (e.g., in the case of oxygen transport) or release of hazardous materials (i.e. the transport of used oils or greases). Use of hazardous materials during construction of roadway or intersection improvements could also result in the accidental release of hazardous materials or wastes. These types of accidental risk of upset are not anticipated to be substantial in relation to the implementation of the Circulation Element update because of the following:

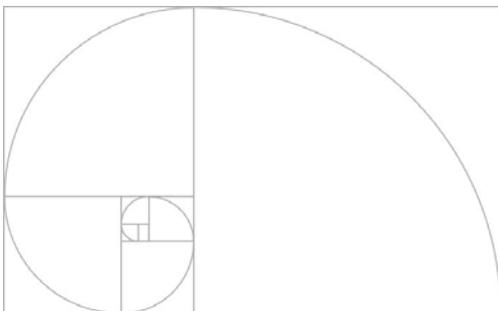
- A) No changes to designed truck routes are proposed, therefore no new uses or persons will be exposed to any new or different modes or methods of materials transportation.
- B) The proposed Circulation Element update will not change, revise, or otherwise conflict with any local, State, or Federal standard or regulation related to the routine or intermittent use, transport, or disposal of any hazardous materials or waste.
- C) Construction of future roadway or intersection improvements will not require the use of explosives or other highly-volatile materials.

Unavoidable Significant Environmental Impacts

The analyses of the various impact topics presented in Sections 4.1 to 4.9 concluded that the proposed plan would not result in any unavoidable significant environmental impacts, except a possibility of displacing a business or residence in conjunction with acquisition of right-of-way to increase traffic capacity at a particular intersection.



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7	Effects Found Not to be Significant

7.0 Effects Found Not to be Significant

CEQA Guidelines Section 15128 requires a statement indicating the reason that various possible significant effects are determined not to be significant and therefore are not discussed in the EIR. The Initial Study prepared for the Circulation Element Update and circulated on July 30, 2009 determined that the impacts listed below would not occur or would be less than significant. Therefore, they have not been further analyzed in this DEIR. Please refer to the Initial Study in Appendix A for explanations of the basis for these conclusions.

Geology and Soils

- Surface Fault Rupture – Less Than Significant Impact
- Seismic Ground Shaking – Less Than Significant Impact
- Seismic-Related Ground Failure – Less Than Significant Impact
- Landslides – Less Than Significant Impact
- Soil Erosion and Loss of Top Soil – Less Than Significant Impact
- Soil Stability – Less Than Significant Impact
- Expansive Soils – Less Than Significant Impacts
- Septic Tanks – No Impact

Hydrology and Water Quality

- Water Quality Standards and Discharge Requirements – Less Than Significant Impact
- Groundwater Supplies and Recharge – No Impact
- On- or Off-site Erosion or Siltation – Less Than Significant Impact
- On- or Off-site Flooding – Less Than Significant Impact
- Storm Drain Capacity and Runoff – Less Than Significant Impact
- Other Water Quality Concerns – No Impact
- 100-Year Flood Hazards to Housing – No Impact
- Impedance or Redirection of 100-Year Floods – No Impact
- Dam or Levee Failure – No Impact
- Seiche, Tsunami, and Mudflow Hazards – No Impact
- Construction Runoff – Less Than Significant Impact
- Post-Construction Runoff – Less Than Significant Impact
- Outdoor Work Area Runoff – No Impact
- Beneficial Uses – Less Than Significant Impact
- Velocity and Volume Increases – Less Than Significant Impact
- Increases in Erosion – Less Than Significant Impact

Agricultural Resources

- Farmland Mapping and Monitoring Program – No Impact
- Williamson Contracts – No Impact
- Farmland Conversion – No Impact

Mineral Resources

- State and Regional Resources – No Impact
- Local Resources – No Impact

Hazards and Hazardous Materials

- Transport, Use, and Disposal of Hazardous Materials – No Impact
- Release of Hazardous Materials – Less Than Significant Impact
- Hazardous Materials and Schools – No Impact
- Contaminated Sites – No Impact
- Public Airport Hazards – No Impact
- Private Airport Hazards – No Impact
- Emergency Response and Evacuation – Less Than Significant Impact
- Wildland Fires – No Impact

Utilities and Service Systems

- Wastewater Treatment Requirements – No Impact
- Water and Wastewater Facilities – Less Than Significant Impact
- Storm Drain Facilities – Less Than Significant Impact
- Water Supply – Less Than Significant Impact
- Wastewater Treatment Capacity – Less Than Significant Impact
- Landfills – Less Than Significant Impact
- Solid Waste Regulations – Less Than Significant Impact
- Stormwater Treatment Best Management Practices – No Impact

Aesthetics

- Scenic Vistas – No Impact
- Scenic Resources – No Impact
- Visual Character – Less Than Significant Impact
- Light and Glare – Less Than Significant Impact

Recreation

- Deterioration of Facilities – No Impact
- Construction or Expansion of Facilities – No Impact
- Recreational Opportunities – No Impact

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8.0 Preparation Team

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Environmental Impact Report

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9.0 References

Organizations and Persons Consulted

City of Huntington Beach Circulation Element Update

Committee Members

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Cathy Green, Council Member
Fred Speaker, Planning Commissioner
Blair Farley, Planning Commissioner
John McGovern, Public Works Commissioner
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City of Huntington Beach Fire Department

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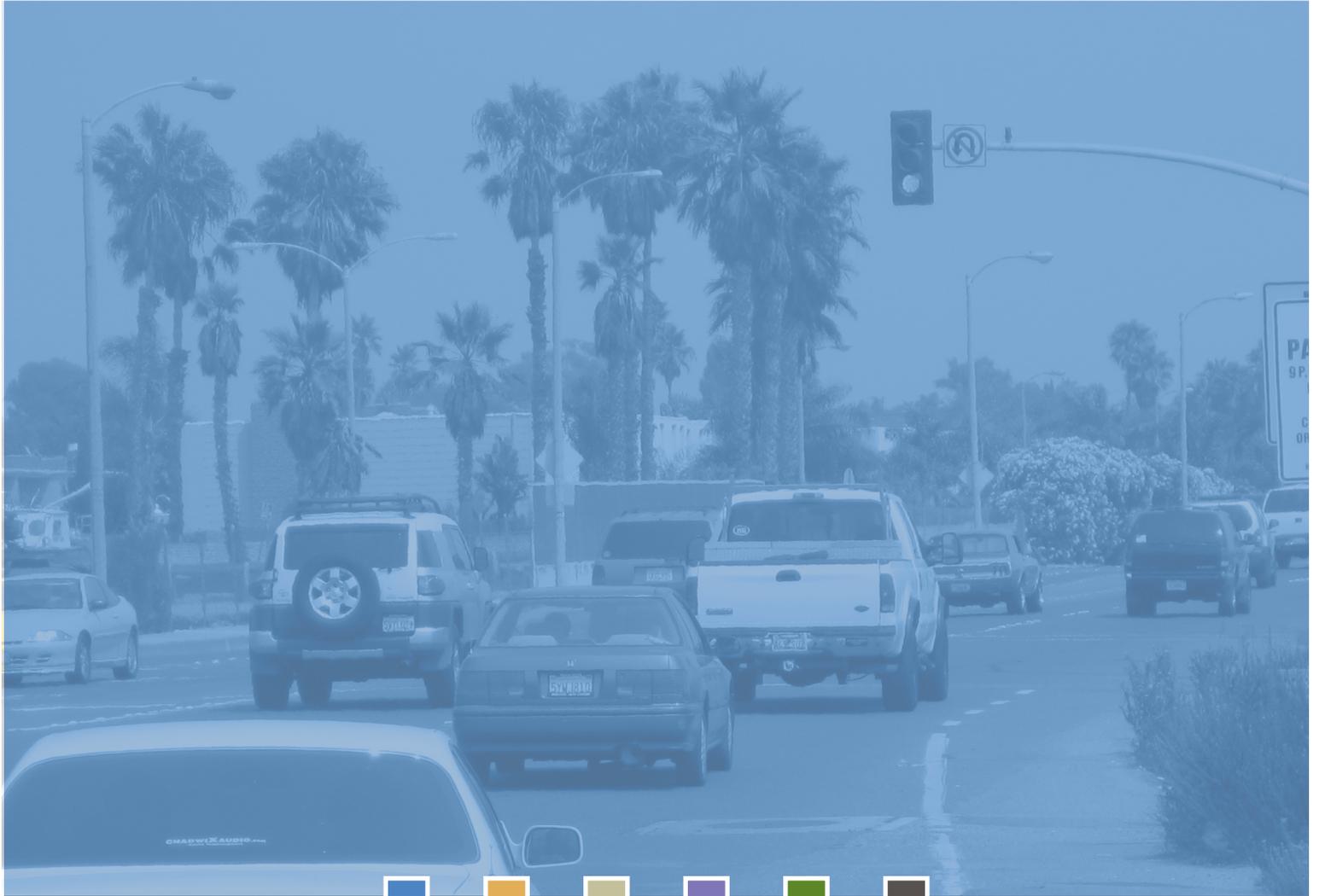
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City of Huntington Beach

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