






CEQA Manual

City of Irvine

VOLUME III. TECHNICAL APPENDICES

PREPARED BY: CITY OF IRVINE

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IRVINE CEQA MANUAL

VOLUME III – Technical Appendices

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A ACRONYMS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACM	asbestos-containing materials
ACWM	asbestos-containing waste materials
ADT	average daily traffic
AELUP	Airport Environs Land Use Plan
af	acre-foot
agl	above grade level
ALUC	Airport Land Use Commission
amsl	above mean sea level
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARIA	Aquatic Resource Integrity Area
ATCM	Airborne Toxic Control Measures
BAT	best available technology
BAU	business as usual
BCT	best control technology
BFE	base flood elevation
BMP	best management practices
BP	before present
C&D	City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Plan
CalEEMod	California Emissions Estimator Model
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CBC	California Building Code

Appendices

APPENDIX A

CCA	Community Choice Aggregation
CCAA	California Clean Air Act
CCE	Community Choice Energy
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CDR	Center for Demographic Research at CSU Fullerton
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Act Information System
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGP	Construction General Permit
CGS	California Geologic Survey
CH4	methane
CIP	Capital Improvement Program
CLOMR	Conditional Letter of Map Revision
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO2	carbon dioxide
Corps	United States Army Corps of Engineers
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EIS	Environmental Impact Statement

EMP	Emergency Management Plan
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERR	Environmental Records Review
FAA	Federal Aviation Administration
FAR	Federal Air Regulations
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIND	Facility Information Detail
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
fps	feet per second
FRA	Federal Railroad Administration (Transportation)
FRA	Federal Responsibility Area (Wildfire)
FTA	Federal Transit Administration
GCP	General Construction Permit
GHG	greenhouse gas
GIP	General Industrial Permit
GMP	Groundwater Management Plan
gpm	gallons per minute
GWP	Global Warming Potential
HCM	Highway Capacity Manual
HCP	habitat conservation plan
HQTC	high quality transportation corridor
HVAC	Heating, Ventilating, and Air Conditioning System
IA	Implementation Agreement
IAWP	Interim Agricultural Water Program Reduction Guidelines
IBC	Irvine Business Center
ICU	Intersection Capacity Utilization
ILP	Irvine Lake Pipeline
IPCC	Intergovernmental Panel on Climate Change
IPD	Irvine Police Department
IRP	Integrated Water Resources Plan

IRWD	Irvine Ranch Water District
ITAM	Irvine Transportation Analysis Model
ITE	Institute for Transportation Engineers
ITC	Irvine Technology Center
IUSD	Irvine Unified School District
JWA	John Wayne Airport
LAWRP	Los Alisos Water Reclamation Plant
LCP	Local Coastal Program
Ldn	day-night noise level
LESA	California Agricultural Land Evaluation and Site Assessment Model
LEPC	Local Emergency Planning Committee
Leq	equivalent continuous noise level
LID	low impact development
LIP	Local Implementation Program
LOMR	Letter of Map Revision
LOS	Level of Service
LRA	Local Responsibility Area
LRDP	Long Range Development Plan
LST	Localized Significance Thresholds
LTFP	Long Term Facilities Plan
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MEP	maximum extent practical
mgd	million gallons per day
MMTons	million metric tons
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MPR	Master Plan Report
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer systems
MSEP	Metrolink Service Expansion Program
MTons	metric tons
MWD	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County

MWRP	Michelson Water Reclamation Plant
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCCP	natural communities conservation plan
ND	Negative Declaration
NEPA	National Environmental Protection Act
NFRAP	No Further Response Actions Planned (Cultural Resources)
NOC	Notice of Completion
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NOX	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priority List
NSMP	Nitrogen Selenium Management Program
NTS	Natural Treatment System
O3	ozone
OCCOG	Orange County Council of Governments
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCHCA	Orange County Health Care Agency
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OCWD	Orange County Water District
OCWR	Orange County Waste and Recycling
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PA	Planning Areas
Pb	lead
PCB	polychlorinated biphenyls
PDF	Project Design Feature
PHGA	peak horizontal ground acceleration
PM	particulate matter
PPP	Plans, Programs, and Policies

PPV	Peak Particle Velocity
PRC	Public Resources Code
RCB	reinforced concrete box
RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RHNA	Regional Housing Needs Assessment
RMP	Risk Management Plans
RMS	root mean square
RTAC	Regional Transportation Advisory Committee
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan (Biological Resources)
SAMP	Subarea Master Plan (Utilities and Service Systems)
SARA	Superfund Amendments and Reauthorization Act
SARWQCB	Santa Ana Regional Water Quality Control Board
SAUSD	Santa Ana Unified School District
SB	Senate Bill
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCG	Southern California Gas Company
SCS	Sustainable Communities Strategy
SERC	State Emergency Response Commission
SFHA	Special Flood Hazard Areas
SIP	State Implementation Plan
SMARA	California Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SoCAB	South Coast Air Basin
SOI	Sphere of Influence
SOX	sulfur oxides
SR	State Route
SRA	Seismic Response Area (Geology and Soils)
SRA	Source Receptor Area (Air Quality)
SRA	State Responsibility Area (Wildfire)
SRRE	Source Reduction and Recycling Element

STC	Sound Transmission Class
SVUSD	Saddleback Valley Unified School District
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TAZ	Traffic Analysis Zone
TCE	trichloroethylene
TDM	transportation demand management
TDR	Transfer of Development Rights
TMDL	total maximum daily load
TNM	Traffic Noise Model
TPA	transit priority area
TRI	Toxic Release Inventory
TSD	Treatment Storage and Disposal
TSS	total suspended solids
TUSD	Tustin Unified School District
UCI	University of California, Irvine
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VMT	vehicle miles traveled
VOC	volatile organic compounds
WDR	waste discharge requirements
WQMP	Water Quality Management Plan
WRMP	Water Resources Master Plan
WSPG	Water Surface Pressure Gradient
WUI	wildland urban interface

Appendices

APPENDIX A

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Appendices

B SOURCES OF INFORMATION

Aesthetics

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Appendices

C PLANS POLICIES AND PROGRAMS

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
Aesthetics	**Standard Conditions**	***City Standard Condition 3.6 (Site Lighting Requirements).*** Prior to the issuance of building permits, the applicant shall demonstrate they have met the Irvine Uniform Security Code requirements for lighting by providing the below listed items for a complete review by the Police department. Failure to provide a complete lighting package will result in the delay of satisfaction of this condition. a. Electrical plan showing light fixture locations, type of light fixture, height of light fixture, lighting ratio, and point-by-point photometric lighting analysis overlaid onto a tree landscape plan with a legend. The photometric plan should only show those fixtures used to meet the Irvine Uniform Security Code requirements. b. Site plan demonstrating that landscaping shall not be planted so as to obscure required light levels per the Irvine Uniform Security Code. c. Site plans that are full-scale and legible. ***City Standard Condition 4.8 (Wireless Facilities–Aesthetics).*** Prior to authorization to use, occupy and/or operate the wireless communication facility, any camouflaging and aesthetic conditions required under this approval shall be inspected and verified to have been met.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations), Chapter 5 (Uniform Security Code).*** Section 5-9-517 (Special Nonresidential Building Provisions) of Chapter 5 discusses standards and requirements for lighting and glare in the City, including heights of lighting fixtures; design, installation, and maintenance of lighting fixtures; standards for new development of multifamily and nonresidential development; lighting for parking areas; and sign illumination. The Uniform Security Code is designed, in part, to limit light and glare to the extent feasible while providing sufficient light in a safe manner. ***Irvine Zoning Ordinance, Chapter 3-8 (Wireless Communication Facility, Satellite Dish and Antenna Standards).*** This chapter of the Zoning Ordinance establishes development standards for wireless communication facilities, satellite dish antennae, and all other forms of antennae and accessory wireless equipment designed to take into account the general welfare of City residents and to be visually compatible with their surroundings while effectively serving the communication needs of the community. All wireless communication facilities, satellite dish antennae, and other forms of antennae are required to comply with the development standards outlined in this chapter, which include visual impact and screening standards. ***Irvine Zoning Ordinance, Chapter 3-16 (Lighting).*** As required by Chapter 3-16 of the City's Zoning Ordinance, outdoor lighting is required to be designed and installed so that all direct rays are confined to the site and adjacent properties are protected from glare. The level of lighting on the site shall comply with the requirements of the City's Uniform Security Code (Irvine Municipal Code, Title 5, Division 9, Chapter 5). ***Irvine Zoning Ordinance, Chapter 3-15 (Landscaping Standards).*** This chapter of the Zoning Ordinance outlines the minimum site landscaping and maintenance requirements. This chapter also outlines the screening and landscaping requirements for parking areas and parking structures. ***Irvine Zoning Ordinance, Chapter 3-37 (Zoning District Land Use Regulations and Development Standards).*** This chapter of the Zoning Ordinance outlines the regulations and development standards that are applicable to land uses proposed throughout the various planning areas of the City, including setbacks, building heights, landscaping, and maximum building intensity (IBC only). ***Irvine Zoning Ordinance, Chapter 5-4 (Hillside Overlay District).*** This chapter of the Zoning Ordinance provides regulations for the development of those areas in the City of Irvine and its sphere of influence which, due to their topography, require special consideration to assure that they are developed in a way that will substantially maintain their natural character and environmental and aesthetic values in accordance with the policies set forth in Section 5-4-2.	**Irvine (Local)**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		Irvine Zoning Ordinance, Division 7 (Signs). The intent of this division of the Zoning Ordinance, also known as the Sign Ordinance, is to promote and protect the public health, safety and welfare by regulating existing and proposed signs of all types within the City. This division outlines the standards and regulations that apply to the design and installation of signage, including quantity, location, dimensions, lighting, etc.	
	Other Regulations	***General Plan Land Use Element*** *Policy A-1(a):* Develop identifiable City edges, pathways, entry points, and landmarks, and conserve visual resources along scenic corridors which characterize Irvine. *Policy A-3(b):* Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance. ***California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations***. Outlines mandatory provisions for lighting control devices and luminaires.	**Irvine (Local)**
Agricultural Resources	**Standard Conditions**	There are no standard conditions applicable.	**N/A**
	Municipal/Zoning Code	There are no Municipal/Zoning Code provisions applicable.	**N/A**
	Other Regulations	***General Plan Conservation and Open Space Element*** *Policy L-10(a):* Provide for farming opportunities in the community, where feasible and appropriate, through an Agricultural Legacy Program facilitating limited-scale agricultural operations and programs on public lands. The program may include components such as edible landscape, metro-farming, heritage farming, model farming, educational and community service farming and other farm or farm market programs. *Policy L-10(b):* Consider creating a "working model" farm to act as a center for education and enjoyment of all age groups pursuant to the Agricultural Legacy Program in conjunction with the City's planning efforts concerning the re-use of MCAS El Toro, or with the South Coast Research Extension owned by UC Regents. *Policy L-10(d):* Permit agricultural uses, on an interim basis, on land designated for development, and consider agricultural uses as a part of the City's planning efforts for re-use of MCAS El Toro. *Policy L-10(f):* Allow for conversion of interim and permanent agricultural uses to development to provide land for the construction of housing units consistent with the Land Use and Housing Elements, and the development of commercial and industrial buildings consistent with the provision of job opportunities as described in the Land Use Element, where such conversion does not conflict with other L-10 policies.	**Irvine (Local)**
Air Quality	**Standard Conditions**	There are no applicable standard conditions regarding air quality.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 4 (Public Safety), Division 21 (Reduction of Air Pollution from Motor Vehicles).*** This division is intended to support the South Coast Air Quality Management District's (SCAQMD's) imposition of the vehicle registration fee and to bring the City into compliance with the requirements set forth in Health and Safety Code § 44243 in order to receive fee revenues for the purpose of implementing programs to reduce air pollution from motor vehicles. ***Irvine Municipal Code, Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code).*** The City of Irvine's Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the Uniform Building Code as adopted and modified by City ordinance. The Grading Code also outlines dust control requirements. For example, as outlined in Section 5-10-127 (Import and export of earth material), where an excess of 5,000 cubic yards of earth material per project site is moved on public roadways from or to the site of an earth grading operation, the following requirements shall apply: A. Either water or dust palliative or both must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from, to or within the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for hauling purposes in a condition free of dust, earth or debris attributed to the grading operation.	**Irvine (Local)**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District). Section 5-8-4.A.2 (Compatibility with Surrounding Uses) of Chapter 5-8 states that applicants for new residential and/or residential mixed use are required to submit data as determined by the Director of Community Development to evaluate compatibility uses with respect to issues including but not limited to noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, soil/groundwater contamination, and John Wayne Airport compatibility. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.3 (Residential Disclosures) of Chapter 5-8 states that all discretionary applications for residential or residential mixed use are required to include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment, including language regarding the proximity to John Wayne Airport, as follows: *Notice of Airport in Vicinity*. This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (i.e., noise, vibration, odors). ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.4 (Air Quality Standards) of Chapter 5-8 outlines the required standards for residential and residential mixed-use projects, including: • Use, service and maintenance of construction equipment, including the use of Tier 3 or higher emissions standards for off-road construction equipment and restrictions on non-essential idling. • Preparation of a dust control plan for ground-disturbing activities, which shall include measures for fugitive dust control under Rule 403 of the South Coast Air Quality Management District. • Limitations and restrictions on coatings and solvents that contain volatile organic compounds. • Requirement for the installation of Minimum Efficiency Reporting Value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems for residences located within 500 feet of Interstate 405. • Requirement for the submittal of a Health Risk Assessment (HRA) for residential or residential mixed-use projects located within the distances to industrial uses outlined in Section 5-8-4.A.4. • Requirement for the submittal of a HRA for residential or residential mixed-use projects located within 1,000 feet of an industrial facility that emits toxic air contaminants. • Requirement for the submittal of an odor assessment for all residential projects located within 1,000 feet on an industrial facility that emits substantial odors. ***Irvine Zoning Ordinance, Chapter 2-13 (Hazardous Waste Facility Procedure).*** This chapter of the Zoning Ordinance establishes uniform standards, land use regulations and a permit process for controlling the location, design, maintenance and safety of offsite hazardous waste facilities. This chapter also outlines the environmental review process for such facilities, including the requirement for an analysis of all anticipated air quality impacts associated with the project and proposed mitigation to ensure no degradation of air quality in the area.	
	Other Regulations	***SCAQMD Rule 201 – Permit to Construct.*** The South Coast Air Quality Management District (SCAQMD) requires developers who build, install, or replace any equipment or agricultural permit unit, which may cause new emissions of or reduce, eliminate, or control emissions of air contaminants to obtain a permit to construct from the Executive Officer. ***SCAQMD Rule 402 – Nuisance.*** SCAQMD prohibits the discharge of any quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property to be emitted within the South Coast Air Basin (SoCAB). ***SCAQMD Rule 403 – Fugitive Dust.*** SCAQMD prohibits any person to cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that: (a) the dust remains visible in the atmosphere beyond the property line of the emission source; or (b) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle. ***SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities.*** This rule specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.	**SCAQMD (Regional)**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		California Air Resources Board Rules. The California Air Resources Board (CARB) outlines a number of rules that limit nonessential idling of large commercial vehicles and equipment. • CARB Rule 2480 (13 CCR 2480): Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools. Limits nonessential idling for commercial trucks and school buses within 100 feet of a school. • CARB Rule 2485(13 CCR 2485): Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling. Limits nonessential idling to five minutes or less for commercial trucks. • CARB Rule 2449(13 CCR 2449): In-Use Off-Road Diesel Idling Restricts. Limits nonessential idling to five minutes or less for diesel-powered off-road equipment.	**CARB (State)**
Biological Resources	**Standard Conditions**	***City Standard Condition 2.20 (Wildlife Habitat Clearance).*** Prior to the issuance of permits for any grading activity including, but not limited to, clearing, grubbing, mowing, discing, trenching, grading, fuel modification, agriculture planting activity, and/or other related construction activity for a project that will involve removal of native plant communities and wildlife habitat, the applicant shall obtain written authorization from the appropriate Federal, State and local agencies having jurisdiction over the habitat area. The authorization shall state that said activity complies with the regulations enforced by those agencies. Additionally, any mitigation requirements set forth by such agencies shall be incorporated into the project's final design plans. This written authorization, along with plans and mitigation measures, shall be submitted to the Director of Community Development for review and shall have been approved by the Director prior to issuance of a permit for any grading activity. ***Standard Condition 3.13 (Open Space Education).*** Prior to issuance of the first building permit for a project adjacent to open space, location, design, and text for wild land interface signage shall be approved by the Director of Community Services in conjunction with the approval of the Master Landscape and Trails Plan, if any, or the Landscape Plan. The signage shall be located at all trailheads adjacent to the development. The signage shall educate users of the responsibilities associated with wild land interface and shall address relevant issues including the role of natural predators in the wild lands and how to minimize impacts of human and domestic pets on native communities and their inhabitants. ***Standard Condition 6.10 (Open Space Education).*** For any project adjacent to open space, the project applicant or subsequent builder shall distribute a wild land interface brochure to all owners, residents, and/or tenants (to be obtained from The Nature Reserve of Orange County www.naturereserveoc.org) to educate owners, residents, and/or tenants of the responsibilities associated with living at the wild land interface. The brochure shall address relevant issues, including the role of natural predators in the wild lands and how to minimize impacts of human and domestic pets on native communities and their inhabitants. ***City Standard Condition 6.11 (Open Space Landscaping).*** Prior to the issuance of landscape construction plans for lots adjacent to any open space areas, the interface between the natural and developed areas shall be designed to employ techniques to minimize slopes and decrease slope angles, as well as, where appropriate, recreate natural features (i.e., drainage courses, rock outcroppings, landscaping, etc.), especially within areas adjacent to the Natural Communities Conservation Plan (NCCP) Reserve, pursuant to the provisions of the approved NCCP/Habitat Conservation Plan. The landscape plans shall be reviewed by the Director of Community Services, and approved by the Director of Public Works, with regard to the landscaped interface.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry).*** Chapter 4, also known as the Urban Forestry Ordinance, outlines the provisions for the protection and enhancement of the existing urban forest resource by application of sustainability in landscaping policies and through the provision of professional management. For example, if any trees are removed, the applicant is required to carry out a tree survey and obtain a permit for their removal in accordance with the City's urban forestry ordinance (including 1:1 replacement). ***Irvine Municipal Code, Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General).*** Sec. 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.1 (Development Adjacent to San Diego Creek or San Joaquin Marsh) of Chapter 5-8 outlines the provisions for development adjacent to the San Diego Creek or San Joaquin Mark, including: the prohibition of highly reflective glass windows and use of building angles in order to reduce light and glare impacts on the creek and marsh environment and reduce the incidence of bird collisions, and the prohibition of the use of exotic plant species in landscape plans that may be invasive to native habitats.	**Irvine (Local)**
	Other Regulations	***General Plan Conservation and Open Space Element*** *Policy L-2(f):* Locate sensitive human use in preservation areas away from areas with rare or endangered species, including migratory bird species and rare plant species. *Policy L-2(j):* Light-sensitive biotic areas should be protected from glare caused by outdoor lighting fixtures.	**Irvine (Local)**

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		Policy L-2(k): If determined necessary through project review, a wall or fence combined with vegetation screening shall be constructed between light-sensitive habitat areas and adjacent urban development. Similar measures should be taken wherever light and glare might produce adverse impacts upon light-sensitive biotic areas. ***Eucalyptus Windrow Maintenance and Protection Plan for Lower Peters Canyon (September 1996)***.	
		Clean Water Act, Section 404. The United States Army Corps of Engineers (Corps) regulates discharges of dredged or fill material into "waters of the U.S." Pursuant to Section 404 of the federal Clean Water Act (CWA), a permit is required for any filling or dredging within waters of the U.S. The permit review process entails an assessment of potential adverse impacts to Corps wetlands and jurisdictional waters, wherein the Corps may require mitigation measures. Also, where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the Regional Water Quality Control Board (RWQCB).	**SARWQCB (Regional)**
		Section 401 Water Quality Certification and 404 Permit of the Clean Water Act (CWA). Prior to any installation of any new storm drain connections to and/or discharges into the San Diego Creek or San Joaquin Marsh, the City or other project applicants shall 1) obtain a permit or other authorization from the Corps pursuant to Section 404 of the federal CWA; 2) obtain a Section 401 Water Quality Certification from the California Regional Water Quality Control Board (RWQCB), Santa Ana Region, pursuant to Section 401 of the CWA, which requires any applicant for a federal permit, such as a CWA Section 404 permit, to provide the licensing agency a certification from RWQCB that the project will comply with adopted water quality standards; and 3) provide notification to the California Department of Fish and Wildlife (CDFW) of the project pursuant to Section 16-2 of the Fish and Game Code and comply with any further actions required by CDFW.	**Corps (Federal)** **CDFW (State)** **SARWQCB (Regional)**
		Clean Water Act, Section 401 and 402. Section 401(a)(1) of the CWA specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency a certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable Regional Water Quality Control Board (RWQCB) must certify that the project will comply with water quality standards. Permits requiring Section 401 certification include US Army Corps of Engineers (Corps) Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the Environmental Protection Agency (EPA) under Section 402 of the CWA. NPDES permits are issued by the applicable RWQCB. The City of Irvine is within the jurisdiction of the Santa Ana RWQCB (Region 8).	**Corps (Federal)**
Cultural Resources	**Standard Conditions**	***City Standard Condition 2.5 (Archeologist/Paleontologist).*** Prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters from an archaeologist and/or a paleontologist. The letters shall state that the applicant has retained these individuals, and that the consultant(s) will be on call during all grading and other significant ground disturbing activities. Determination of the need for these consultants shall be based on the environmental analysis for the project. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange (OC Public Works/OC Planning). The archaeologist and/or paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered during grading, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. This condition and the approved recommendations shall be incorporated on the cover sheet of the grading plan under the general heading: "Conditions of Approval."	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General).*** Sec. 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products.	**Irvine (Local)**
	Other Regulations	***California Public Resources Code.*** Archeological, paleontological, and historical sites are protected pursuant to a wide variety of state policies and regulations enumerated under the California Public Resources Code. In addition, cultural and paleontological resources are recognized as nonrenewable, and therefore receive protection under the California Public Resources Code and CEQA. ***California Assembly Bill 52.*** Assembly Bill 52 (AB 52) was signed into law in 2014 and applies to projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration on or after July 1, 2015. AB 52 requires that the lead agency consult with California Native American tribes that are traditionally and culturally affiliated with geographic areas and that request notification. This bill also required the separate consideration of tribal cultural resources in the CEQA thresholds. ***California Senate Bill 18.*** Senate Bill 18, (SB18) regarding Traditional Tribal Cultural Places (TTCP), was signed into law in September 2004 and went into effect on March 1, 2005. It places new requirements upon local governments for developments in or near a TTCP. Per SB 18, the law requires local jurisdictions to provide opportunities for involvement of California Native Americans tribes in the land planning process for the purpose of preserving traditional tribal cultural places.	**Irvine (Local)**
		California State Health and Safety Code. The discovery of human remains is regulated per California Health and Safety Code Section 7050.5. ***California Public Resources Code.*** If the remains are determined to be Native American, the handling of the remains is regulated per California Public Resources Code Section 5097.98.	**County Coroner (Local)**

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Energy	**Standard Conditions**	There are no standard conditions applicable.	**N/A**
	Municipal/Zoning Code	***Irvine Zoning Ordinance, Chapter 3-31 (Solar Energy System Standards).*** This chapter encourages investment in solar energy systems on all parcels in the City, both residential and nonresidential, while providing guidelines for the installation of those systems that are consistent with the architectural and building standards of the City. All solar energy systems shall comply with all applicable provisions of the City of Irvine Codes and the standards of this chapter. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** As outlined in Section 5-8-4.A.7 (GreenPoint Rated Development) of Chapter 5-8, applicants for new residential development in the IBC are required to submit evidence to the satisfaction of the Director of Community Development that proposed buildings have been designed and constructed to be Green-Point Rated. ***Irvine Zoning Ordinance, Chapter 9-36 (Planning Area 36-Irvine Business Complex).*** Section 9-36-20 (Environmental Standards) of Chapter 9-36 outlines the environmental standards that are applicable to new development projects in the IBC. Provisions include: • Submittal of evidence that toilets, urinals, sinks, showers, and other water fixtures installed onsite are ultra-low-flow fixtures that exceed the Uniform Building Code. • Submittal of evidence for new non-residential developments that proposed buildings are designed and constructed to achieve the "Designed to Earn the Energy Star" rating.	**Irvine (Local)**
	Other Regulations	***Building and Energy Efficiency Standards (CCR Title 24).*** Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for these structures shall be required to demonstrate that the project meets the current Building and Energy Efficiency Standards as adopted and amended by the City of Irvine. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Plans submitted for building permits shall include written notes demonstrating compliance with the current energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows. ***Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential).*** The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24). ***Title 24.*** Prior to the issuance of each building permit, the Project Applicant shall be required to demonstrate that the project meets the applicable California Green Building Standards (24 CCR 11). ***Title 24.*** Prior to the issuance of each building permit, the Project Applicant shall be required to demonstrate that buildings have been designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR 6). ***Energy Efficient Traffic Lights.*** New traffic signals installed within the Irvine Business Complex will have light emitting diodes. The City is implementing a program to convert all traffic lights in the City to traffic light emitting diodes. ***Irvine Sustainability Community Initiative.*** The Irvine Sustainability Community Initiative (Initiative Ordinance 10-11), adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy and sustainability. For example, the City would continue to develop and implement recycling, zero waste or other innovative onsite business programs to divert waste from landfills and also continue to develop and implement the use of native, California-friendly and drought-tolerant landscaping.	**Irvine (Local)**

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Geology and Soils	**Standard Conditions**	***Standard Condition 2.6 (Site Specific Geotechnical Study).*** Prior to the issuance of grading permits, the applicant shall provide to the Chief Building Official a site-specific geotechnical study for each proposed structure. The geotechnical report shall be prepared by a registered civil engineer or certified engineering geologist, having competence in the field of seismic hazard evaluation and mitigation. The geotechnical report shall contain site-specific evaluations of the seismic hazard affecting the project, and shall identify portions of the project site containing seismic hazards. The report shall also identify any known off-site seismic hazards that could adversely affect the site in the event of an earthquake. The contents of the geotechnical report shall include, but shall not be limited to, the following: a. Project description. b. A description of the geologic and geotechnical conditions at the site, including an appropriate site location map. c. Evaluation of site-specific seismic hazards based on geological and geotechnical conditions, in accordance with current industry standards of practice. d. Recommendations for earthwork and construction. e. Name of report preparer(s), and signature(s) of a certified engineering geologist and/or registered civil engineer, having competence in the field of seismic hazard evaluation and mitigation. f. Include the official professional registration or certification number and license expiration date of each report preparer in the signature block of the report. ***Standard Condition 3.3 (Disclosure Statements).*** Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included. a. Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport. b. Reference to Emergency Preparedness information available on the City of Irvine website at www.cityofirvine.org/office-emergency-management. c. Map of Special Flood Hazard Area information for areas subject to inundation. d. Notice that initial occupancy and any subsequent change in use or occupancy of any non-residential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended. e. Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police. f. Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements. g. Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations. h. Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations. i. Notice that residential buildings such as single-family homes, condominiums and apartments are prohibited from being used as short-term rentals (aka vacation rentals). A rental arrangement for a term of less than 31 days is considered “short-term”. For more detailed information contact the Community Development Department.	**Irvine (Local)**
	Municipal/Zoning Code	***Municipal Code, Title 5 (Planning), Division 9 (Building Regulations).*** The City of Irvine’s building code regulations are included in Division 9 of the City’s Municipal Code, as adopted under Section 5-9-101 (Adoption of Building Code). Division 9 adopted by reference the most recent version of the CBC. ***Municipal Code, Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code).*** The City of Irvine’s Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the UBC as adopted and modified by City ordinance. The Grading Code also contains water quality requirements.	**Irvine (Local)**
	Other Regulations	***California Building Code.*** Development in the City of Irvine is required to adhere to the building standards of the most recent California Building Code (CBC), also known as Title 24 of the California Code of Regulations. The CBC is based on the International Building Code. These codes provide minimum standards to protect property and the public welfare by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. ***City of Irvine Grading Manual.*** The City of Irvine Grading Manual (Grading Manual) is a compilation of rules, procedures and interpretations necessary to carry out the provisions of the City of Irvine Grading Code. The purpose of the Grading Manual is to assist users of the Grading Code by supplementing it with detailed information regarding rules, interpretations, standard specifications, procedures, requirements, forms and other information applicable to control excavation, grading and earthwork construction in the City of Irvine. The Grading Manual also contains guidelines for the preparation of geotechnical and geology reports, slope stability analysis and erosion control plans. Appendix B of the Grading Manual contains the "Technical	**Irvine (Local)**

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		Guidelines for Soil and Geology Reports" and Appendix D contains the “Minimum Standards for Slope Stability Analysis.” The geotechnical and geology reports, slope stability analysis and erosion control plan are required to be submitted as part of the grading plan and are reviewed and approved by the Building & Safety Division of the Community Development Department.	
		South Coast Air Quality Management District Rules 402 and 403. Rules 402 and 403 require that fugitive dust be controlled during construction activities to limit exposure of nearby sites to fugitive dust resulting from construction activities. Rule 402 requires dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance offsite. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source.	**SCAQMD (Regional)**
		General Construction Permit. The General Construction Permit (GCP), issued by the State Water Resources Control Board (SWRCB) as Order 2009-0009-DWQ, NPDES Permit No. CAS000002, regulates stormwater and non-storm water discharges associated with construction or demolition activities including, but not limited to clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre. The GCP requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which must list Best Management Practices (BMPs) that the discharger will use to protect stormwater runoff and erosion control and the placement of those BMPs. The General Construction Permit (Order 2009-0009-DWQ, NPDES Permit No. CAS000002) has been administratively extended until a new order is adopted and becomes effective.	**SARWQCB (Regional)**
Greenhouse Gas Emissions	**Standard Conditions**	***City Standard Condition 2.24.*** Prior to the issuance of grading permits for a project that involves the demolition of an asphalt or concrete parking lot on site, the applicant shall submit a waste management plan demonstrating compliance with the requirements of Title 6, Division 7 of the City of Irvine Municipal Code relating to recycling and diversion of demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City-authorized waste haulers.	**N/A**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities).*** This chapter is intended to meet the requirements of California Government Code Section 65089.3(b)(3), which requires development of a trip reduction and travel demand element to the Congestion Management Plan, and California Government Code Section 65089.3(b), which requires adoption and implementation of a trip reduction and travel demand ordinance. Developers of commercial, industrial and mixed-use projects are required to provide the trip reduction support measures set forth in Section 6-3-605, as applicable, within each such development. Measures include: A. A percentage of parking spaces, located as close as is practical to the entrance(s) of the use they are intended to serve, shall be reserved for use of carpool vehicles. B. Secure, adequate and convenient storage shall be provided for bicycles pursuant to the zoning code of the City. C. Bus bays, bus stops and bus shelters shall be provided adjacent to roads and streets traversing or bounding the development, as requested by the City and pursuant to proposed or existing bus stop locations identified by Orange County Transit District or its successor agency (i.e. Orange County Transportation Authority). D. A transportation information center shall be provided within each building generating 100 or more employees based on the chart below. E. A shower and locker room facility for each sex shall be provided in each building generating 400 or more employees based on the above employee generation factors. F. Sidewalks or other paved pathways following direct and safe routes from the external pedestrian circulation system to each building in the development shall be provided. ***Irvine Zoning Ordinance, Chapter 3-31 (Solar Energy System Standards).*** This chapter encourages investment in solar energy systems on all parcels in the City, both residential and nonresidential, while providing guidelines for the installation of those systems that are consistent with the architectural and building standards of the City. All solar energy systems shall comply with all applicable provisions of the City of Irvine Codes and the standards of this chapter. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** As outlined in Section 5-8-4.A.7 (Green-Point Rated Development) of Chapter 5-8, applicants for new residential development in the IBC are required to submit evidence to the satisfaction of the Director of Community Development that proposed buildings have been designed and constructed to be Green-Point Rated. ***Irvine Zoning Ordinance, Chapter 9-12 (Planning Area 12).*** Section 9-12-47.G (Green Building Requirements within the 5.5H Medical and Science Zoning District) of Chapter 9-12 states that project applicants are required to comply with all City, State, and Federal greenhouse gas emissions and green building requirements applicable to new development on a citywide basis that are in place at the time of each tentative tract map approval within Planning Area 12. ***Irvine Zoning Ordinance, Chapter 9-40 (Planning Area 40/Spectrum 8).*** Section 9-40-4.L (Green Building Requirements) of Chapter 9-40 states that project applicants are required to comply with all City, State, and Federal greenhouse gas emissions and green building requirements applicable to new development on a citywide basis that are in place at the time of each tentative tract map approval within Planning Area 40. ***Irvine Zoning Ordinance, Chapter 9-36 (Planning Area 36-Irvine Business Complex).*** Section 9-36-20 (Environmental Standards) of Chapter 9-36 outlines the environmental standards that are applicable to new development projects in the IBC. Provision include:	**Irvine (Local)**

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		• Requirement that construction contractors provide alternative transportation mode incentives, such as bus passes, and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. • Submittal of evidence that the project uses recycled materials for at least 20 percent of construction materials. • Requirement that construction contractors use off-road construction equipment that conforms to Tier 3 of the USEPA, or higher emissions standards for construction equipment over 50 horsepower that is commercially available. • Submittal of evidence that toilets, urinals, sinks, showers, and other water fixtures installed onsite are ultra-low-flow fixtures that exceed the Uniform Building Code. • Submittal of evidence that the project's landscape irrigation system is an automated, high-efficient irrigation system that reduces water waste. • Requirement to use reclaimed water on all master landscaped areas. • Requirement for new parking lots to include tree planting designed to result in 50 percent shading of parking lot surface areas within 15 years. • Requirement for the provision of onsite recycling facilities on all new developments as required by the Director of Public Works. • Submittal of evidence for new non-residential developments that proposed buildings are designed and constructed to achieve the "Designed to Earn the Energy Star" rating.	
	Other Regulations	***Irvine Sustainability Community Initiative.*** The Irvine Sustainability Community Initiative (Initiative Ordinance 10-11), adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy and sustainability. For example, the City would continue to develop and implement green building practices for new and retrofitted buildings and homes in the City, such as those rated or certified by Energy Star, Leadership in Environmental Design (LEED), Build It Green or other comparable programs that address energy and water conservation, renewable energy and use of recycled materials. ***City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance.*** The C&D ordinance requires that 1) all residential projects of more than one unit, 2) nonresidential developments on 5,000 square feet or larger, and 3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated. ***Building and Energy Efficiency Standards (CCR Title 24).*** Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for these structures shall be required to demonstrate that the project meets the current Building and Energy Efficiency Standards, as adopted and amended by the City of Irvine. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Plans submitted for building permits shall include written notes demonstrating compliance with the current energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows. ***Title 24.*** Prior to the issuance of each building permit, the Project Applicant shall be required to demonstrate that the project meets the applicable California Green Building Standards (24 CCR 11). ***Title 24.*** Prior to the issuance of each building permit, the Project Applicant shall be required to demonstrate that buildings have been designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR 6). ***Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential).*** The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24). ***Additional Fixed Route Shuttle System to Complement The iShuttle.*** In March 2008, the City introduced The *i*Shuttle service, which complements regional bus service and provides direct express transportation to and from the nearby Tustin Metrolink Station, John Wayne Airport, and throughout the IBC. The *i*Shuttle currently operates six routes and a fleet of fully accessible, compressed natural gas (CNG) buses. The iShuttle is funded by the City of Irvine and the Orange County Transportation Authority. The City's shuttle system has the potential to further decrease VMT in the City by encouraging employees not living in the IBC to commute to work using mass transit.	**Irvine (Local)**

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Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		Energy Efficient Traffic Lights. New traffic signals installed within the Irvine Business Complex will have light emitting diodes. The City is implementing a program to convert all traffic lights in the City to traffic light emitting diodes. ***Waste Reduction.*** The City adopted a Zero Waste program in 2007 to approach waste management. The City recovers approximately 66 percent of its waste for recycling and composting, which exceeds the state's AB 939 waste diversion goals. Furthermore, waste haulers establish rate schedules according to bin size and frequency of collection. Commercial customers that subscribe to smaller bins (e.g., 2 cubic-yard bins) are routinely charged less by haulers. This pricing structure encourages waste reduction and recycling, and tends to minimize hauler pickups.	
		Senate Bill 375. Senate Bill (SB) 375 requires the reduction of GHG emissions from light trucks and automobiles through land use and transportation efforts that will reduce vehicle miles traveled (VMT). In essence, SB 375's goal is to control GHGs by curbing urban sprawl and through better land use planning. SB 375 essentially becomes the land use contribution to the GHG reduction requirements of AB 32, California's global warming bill enacted in 2006.	**SCAG (Regional)**
		California Renewable Portfolio Standard. CARB's Renewable Portfolio Standard (RPS) is a foundational element of the State's emissions reduction plan. In 2002, Senate Bill 1078 established the California RPS program, requiring 20 percent renewable energy by 2017. In 2006, Senate Bill 107 advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II. On September 15, 2009, Governor Arnold Schwarzenegger signed Executive Order S-21-09 directing CARB to adopt regulations increasing RPS to 33 percent by 2020. These mandates apply directly to investor-owned utilities, in this case Southern California Edison (SCE). In 2015, Senate Bill 350 accelerated the target to a 50 percent RPS by 2030. In 2018, Senate Bill 100 further increased RPS to 60 percent by 2030. Senate Bill 100 further established a goal that renewable energy sources and zero-carbon sources supply 100 percent of all retail sales of electricity to end-use customers and state agencies by December 31, 2045. . ***California Low Carbon Fuel Standard.*** On January 18, 2007, Governor Arnold Schwarzenegger issued Executive Order S-1-07 requiring the establishment of a Low Carbon Fuel Standard (LCFS) for transportation fuels. This statewide goal requires that California's transportation fuels reduce their carbon intensity by at least 10 percent by 2020. Regulatory proceedings and implementation of the LCFS have been directed to CARB. The LCFS has been identified by CARB as a discrete early action item in the Scoping Plan. CARB expects the LCFS to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the Scoping Plan work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493 (Pavley), the Scoping Plan has modified the aggregate reduction expected from the LCFS to 9.1 percent. ***Executive Order B-16-2012.*** State agencies, including CARB, the California Energy Commission, and others, established benchmarks to accommodate zero-emissions vehicles in major metropolitan areas. This executive order also established a GHG emissions target of 80 percent below 1990 levels for the transportation sector. ***California Assembly Bill 1493 – Pavley Standards.*** On July 22, 2002, Governor Gray Davis signed Assembly Bill 1493 requiring CARB to develop and adopt regulations designed to reduce greenhouse gases emitted by new passenger vehicles and light-duty trucks beginning with the 2009 model year through 2016. California is able to implement the Pavley Standards through a waiver from the USEPA. The standards set within the Pavley regulations are expected to reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016.	**State**
		Federal Corporate Average Fuel Economy (CAFE) Standards. The 2007 Energy Bill creates new federal requirements for increases in fleetwide fuel economy for passenger vehicles and light trucks. The federal legislation requires 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. Analysis by CARB suggests that this will require an annual improvement of approximately 3.4 percent between 2008 and 2020.	**Federal**

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Hazards and Hazardous Materials	**Standard Conditions**	***City Standard Condition 2.19 (Open Space Fuel Modification).*** Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by the Orange County Fire Authority (OCFA). The requirements set forth in this condition do not apply to developed, irrigated park land required or provided as part of the project design for this project. ***City Standard Condition 3.8 (Used Motor Oil Collection).*** Prior to the issuance of building permits for a project that incorporates vehicle service bays, the applicant shall submit, and the Director of Community Development shall have approved, a plan to implement an on-site used oil (motor oil) collection program in accordance with state/local statutes and regulations. ***City Standard Condition 3.9 (Used Motor Oil Signage).*** Prior to the issuance of building permits for a gas station without service bays, the applicant shall submit, and the Director Community Development shall have approved, a plan for the design and location of an advisory sign regarding the recycling of used motor oil. The sign shall advise the public that used motor oil is a household hazardous waste that should be disposed of properly and shall specify the locations and schedule of the regional collection facilities, including at least one collection facility in the City of Irvine. ***City Standard Condition 3.14 (HOA/Fuel Modification).*** Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the CC&Rs that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable Orange County Fire Authority requirements. For fuel modification zones adjacent to lands designated as Open Space changes in plant materials shall also be reviewed by the Director of Community Services.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 4 (Public Safety), Division 9 (Emergency Services).*** The purposes of this division are to provide for the preparation and carrying out of plans for the protection of persons and property within this City in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of this City with all other public agencies, corporations, organizations, and affected private persons.. ***Irvine Municipal Code, Title 4 (Public Safety), Division 17 (Hazardous Materials).*** This division outlines the system of disclosure that is required to provide that information essential to firefighters, health officials, planners, elected officials, and other emergency service personnel in meeting their responsibilities for the health and welfare of the community in such a fashion that trade secrecy is not abridged. This division also implements the community's right and need for basic information on the use and disposal of hazardous materials in the City and provide for an orderly system for the provision of such information. ***Irvine Municipal Code, Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code).*** As outlined in Section 5.10-114 (Hazardous Conditions), of the Grading Code, hazardous conditions exist when the state of any natural ground, natural slopes, excavation, fill or drainage device, any of which exist on public or private property, is a menace to life or limb, or a danger to public safety, or endangers or adversely affects the safety, usability or stability of adjacent property, structures, or public or private facilities. This section outlines the authority given to the Chief Building Official for examining or causing to be examined every condition reported as hazardous as set forth in subsection A of this section. This section also outlines the provisions that may be undertaken in case of any such hazard. ***Irvine Zoning Ordinance, Chapter 2-13 (Hazardous Waste Facility Procedure).*** This chapter of the Zoning Ordinance establishes uniform standards, land use regulations and a permit process for controlling the location, design, maintenance and safety of off-site hazardous waste facilities. This chapter also outlines the environmental review process for such facilities, including the requirement for an analysis of all anticipated air quality impacts associated with the project and proposed mitigation to ensure no degradation of air quality in the area. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.2 (Compatibility with Surrounding Land Uses) of Chapter 5-8 states that applicants for new residential and/or residential mixed use is required to submit data as determined by the Director of Community Development to evaluate compatibility uses with respect to issues including but not limited to noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, soil/groundwater contamination, and John Wayne Airport compatibility. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.4 (Air Quality Standards) of Chapter 5-8 outlines the required standards for residential and residential mixed-use projects, including: • Use, service and maintenance of construction equipment, including the use of Tier 3 or higher emissions standards for off-road construction equipment and restrictions on non-essential idling. • Preparation of a dust control plan for ground-disturbing activities, which would include measures for fugitive dust control under Rule 403 of the South Coast Air Quality Management District.	**Irvine (Local)**

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		• Limitations and restrictions on coatings and solvents that contain volatile organic compounds. • Requirement for the installation of Minimum Efficiency Reporting Value (MERV) filters of MERV 14 or better in the intake of residential ventilation systems for residences located within 500 feet of Interstate 405. • Requirement for the submittal of a Health Risk Assessment (HRA) for residential or residential mixed-use projects located within the distances to industrial uses outlined in Section 5-8-4.A.4. • Requirement for the submittal of a HRA for residential or residential mixed-use projects located within 1,000 feet of an industrial facility that emits toxic air contaminants. • Requirement for the submittal of an odor assessment for all residential projects located within 1,000 feet on an industrial facility that emits substantial odors. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses.	
	Other Regulations	***Hazardous Materials Disclosure Programs.*** The Unified Program is implemented at the local government level by Certified Unified Program Agencies (CUPAs). The CUPA with responsibility for the Irvine area is the Orange County Health Care Agency (OCHCA). The Hazardous Materials Division of OCHCA is designated by the State Secretary for Environmental Protection as the CUPA for Orange County. The CUPA is charged with the responsibility of conducting compliance inspections for regulated facilities in Orange County. Inspections and business plans are managed by the Orange County Fire Authority (OCFA) on behalf of CUPA. ***California Accidental Release Prevention Program.*** The California Accidental Release Prevention Program (CalARP) became effective on January 1, 1997, in response to Senate Bill 1889. The CalARP aims to be proactive and therefore requires businesses to prepare Risk Management Plans (RMPs), which are detailed engineering analyses of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. This requirement is coupled with the requirements for preparation of Hazardous Materials Business Plans under the Unified Program, implemented by the CUPA. ***Underground Storage Tanks.*** If any underground storage tanks (USTs) are encountered during site grading and excavation activities, they shall be removed in accordance with the existing standards and regulations of, and oversight by, the Orange County Health Care Agency (OCHCA), based on compliance authority granted through the California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations. The process for UST removal is detailed in the OCHCA's "Underground Storage Tanks: The Basics." Soil samples from areas where storage tanks have been removed or where soil contamination is suspected shall be analyzed for hydrocarbons including gasoline and diesel in accordance with procedures set forth by OCHCA. If hydrocarbons are identified in the soil, the appropriate response/remedial measures will be implemented as directed by OCHCA with support review from the RWQCB until all specified requirements are satisfied and a Tank Closure Letter is issued. Any aboveground storage tank (AST) in existence at the commencement of site development shall be removed in accordance with all applicable regulations under the oversight of Orange County Fire Authority. Compliance requirements relative to the removal/closure of storage tanks are set forth through the California Health and Safety Code, Sections 25280 through 25299. ***Rule 29 of the Code of Federal Regulations (CFR) Part 1926.*** Federal law requires compliance with Rule 29 of the Code of Federal Regulations (CFR) Part 1926. Prior to site demolition activities, building materials shall be carefully assessed for the presence of lead-based paint, and its removal, where necessary, must comply with state and federal regulations, including Occupational Safety and Health Administration (OSHA) 29 CFR Part 1926. The OSHA rule establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Furthermore, the requirements of California Code of Regulations, Title 17, Division 1, Chapter 8, identify procedures that must be followed for accreditation, certification, and work practices for lead-based paint and lead hazards. Section 36100 thereof specifically sets forth requirements for lead-based paint abatement in public and residential buildings. ***Asbestos-Containing Materials.*** Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403, which specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials.	**OCHCA (Local)**

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		Title 22, Division 4.5 of the California Code of Regulations. During site decommissioning and demolition activities, hazardous wastes must be managed in accordance with the requirements of Title 22, Division 4.5 of the California Code of Regulations. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and emergency accidental discharges during transportation. ***Title 8 of the California Code of Regulations, Section 1529.*** During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code. ***Soil and/or Groundwater Contamination.*** Evidence of soil and/or groundwater contamination (e.g., chemical odors, staining) unrelated to above/underground storage tank releases may be encountered during site development. The appropriate agency (e.g., OCHCA, DTSC, or the Regional Water Quality Board) shall be notified if these conditions are encountered during construction or grading activities. With their oversight, an environmental site assessment would be completed and a determination shall be made as to whether a cleanup is required. Cleanup activities would be consistent with all applicable state and local rules, regulations, and laws. A cleanup would not be considered complete until confirmatory samples of soil and/or groundwater reveal levels of contamination below the standards established by the oversight agency. Alternatively, a risk assessment may be prepared for the site to determine that there are no human or environmental risks associated with leaving contamination below specific levels in place. Construction in the impacted area shall not proceed until a "no further action" clearance letter or similar determination is issued by the oversight agency, or until a land use covenant is implemented.	
		Airport Environs Land Use Plan for John Wayne Airport. The Airport Environs Land Use Plan (AELUP) for John Wayne Airport is a 20-year land use compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and ensure its continued operation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The California Department of Transportation's California Airport Land Use Planning Handbook provides guidelines for preparing airport compatibility plans. The handbook is a technical resource providing guidelines, in part, to define Aircraft Noise standards and criteria, accident potential zones, building height zones, and designated planning areas.	**Orange County Airport Land Use Commission (Local)**
		South Coast AQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities. This rule specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.	**South Coast AQMD (Regional)**
		Hazardous Materials Release Notification. Many state statutes require emergency notification of a hazardous chemical release. These statutes include: • Health and Safety Codes Sections 25270.7, 25270.8, and 25507 • Vehicle Code Section 23112.5 • Public Utilities Code Section 7673 (PUC General Orders #22-B, 161) • Government Code Sections 51018, 8670.25.5 (a) • Water Codes Sections 13271, 13272 • Labor Code Section 6409.1(b)10 ***Hazardous Materials Business Plans.*** Both the federal government (Code of Federal Regulations) and the State of California (Health and Safety Code) require businesses that handle more than a specified amount ("reporting quantity") of hazardous material or extremely hazardous material to submit a Hazardous Material Business Plan to their CUPAs. ***Title 8 of the California Code of Regulations, Section 1532.1.*** During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.	**State**
		Federal Air Regulations, Part 77. The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Their role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation and thus derogate the safety of the National Airspace System. The regulations contained in Federal Air Regulations (FAR) Part 77 are designed to ensure that no hazards are allowed to exist that would endanger the public. The FAA, through FAR Part 77, established a method of identifying surfaces that should be free from obstructions in order to maintain sufficient airspace around airports. FAR Part 77, in effect, identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. In addition, Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions	**FAA (Federal)**

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		in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.	
Hydrology & Water Quality	**Standard Conditions**	***City Standard Condition 2.7 (Groundwater Survey).*** Prior to the issuance of precise grading permits, the applicant shall submit to the Chief Building Official a groundwater survey of the entire site. The analysis shall be prepared by a licensed geotechnical engineer versed in groundwater analysis and shall include the following information and analysis: a. Potential for perched groundwater intrusion into the shallow groundwater zone upon build-out. b. Analysis for relief of groundwater buildup and properties of soil materials on-site. c. Impact of groundwater potential on building and structural foundations. d. Proposed mitigation to avoid potential for groundwater intrusion within five feet of the bottom of the footings. ***City Standard Condition 2.11 (Special Flood Hazard Area).*** Prior to the issuance of a precise grading permit for any lot or parcel wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following: a. The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or b. Preliminary Elevation Certificates (North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or c. For non-residential construction only, a preliminary Floodproofing Certificate based on construction documents to the Chief Building Official. ***City Standard Condition 2.12 (Water Quality–Notice of Intent).*** Prior to the issuance of preliminary or precise grading permits for a project that will result in soil disturbance of one (1) or more acres of land, the applicant shall provide the Chief Building Official with evidence that a Notice of Intent (NOI) has been filed with the State Water Resources Control Board. Such evidence shall consist of a copy of the NOI stamped by the State Water Resources Control Board or the Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed. ***City Standard Condition 2.13 (Water Quality Management Plan).*** Prior to the issuance of preliminary or precise grading permits, the applicant shall submit to the Chief Building Official for review and approval, a Water Quality Management Plan (WQMP). The WQMP shall identify the Best Management Practices (BMPs) and the full capture system that will be used on the site to control predictable pollutant runoff, and to meet Statewide Trash Provisions requirements. ***City Standard Condition 3.3 (Disclosure Statements).*** Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included. a. Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport. b. Reference to Emergency Preparedness information available on the City of Irvine website at www.cityofirvine.org/office-emergency-management. c. Map of Special Flood Hazard Area information for areas subject to inundation. d. Notice that initial occupancy and any subsequent change in use or occupancy of any non-residential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended. e. Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police. f. Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements. g. Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations. h. Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations. i. Notice that residential buildings such as single-family homes, condominiums and apartments are prohibited from being used as short-term rentals (aka vacation rentals). A rental arrangement for a term of less than 31 days is considered “short-term”. For more detailed information contact the Community Development Department. ***City Standard Condition 3.4 (Special Flood Hazard Area).*** Prior to the issuance of a building permit for any structure wholly or partially located within the floodplain (FP 2 District) of the Special Flood Hazard Area (SFHA), the applicant shall submit one of the following: a. The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or b. Preliminary Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official;	**Irvine (Local)**

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		or c. For non-residential construction only, a preliminary Floodproofing Certificate for each building or structure based on construction documents showing floodproofing measures complying with adopted codes and standards and approved by the Chief Building Official. ***City Standard Condition 4.5 (Special Flood Hazard Area).*** Prior to authorization to use, occupy, and/or operate, for any structure wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following: a. The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or b. Final Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each structure based on finished floor construction to the Chief Building Official; or c. For non-residential construction only, a final Floodproofing Certificate for each building or structure based on completed construction.	
	Municipal/Zoning Code	***Municipal Code, Title 6 (Public Works), Division 4 (Utilities), Chapter 3 (Sewage Disposal).*** The City of Irvine's Grading Code establishes rules and regulations to control excavation, grading. ***Municipal Code, Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code).*** The City of Irvine's Grading Code establishes rules and regulations to control excavation, grading, and earthwork construction (including fills and embankments), and establishes administrative requirements for issuance of permits, approval of plans, and inspection of grading construction in accordance with the requirements for grading and excavation contained in the UBC as adopted and modified by City ordinance. The Grading Code also contains water quality requirements and guidelines for the preparation of erosion control plans. For example, Section 6-4-315 (Required) states that a person shall not discharge or deposit or cause or suffer to be deposited or discharged any industrial waste into or upon any area in the City, or into any underground or surface waters in the City where such industrial waste is or may be deposited upon or may be carried through or over any area of the City except in conformity with the provisions of this chapter and unless he or she shall have first secured, in the manner hereinafter provided, a permit so to do from the Director. ***Municipal Code, Title 6 (Public Works), Division 8 (Pollution), Chapter 3 (Stormwater/Urban Runoff).*** This division outlines the provisions for the control of stormwater/urban runoff from new development and significant redevelopment, such as the requirement for submittal of a Water Quality Management Plan.	**Irvine (Local)**
	Other Regulations	***City of Irvine Grading Manual.*** The City of Irvine Grading Manual (Grading Manual) is a compilation of rules, procedures and interpretations necessary to carry out the provisions of the City of Irvine Grading Code. The purpose of the Grading Manual is to assist users of the Grading Code by supplementing it with detailed information regarding rules, interpretations, standard specifications, procedures, requirements, forms and other information applicable to control excavation, grading and earthwork construction in the City of Irvine. The Grading Manual also contains water quality requirements. For example, Section 9.4 (Disposal) of the Grading Manual states that All drainage generated within development, which includes surface water and all drainage facilities, shall drain independently within a system of disposal approved by the City. Drainage shall be designed to carry water to the nearest practical street, storm drain, or natural watercourse. Erosion of ground in the area of discharge, including a return of flow to a natural sheet flow condition, shall be prevented by installation of nonerosive down-drains, riprap, energy dissipators or other approved devices. ***Engineering Standard Plans.*** The City's Engineering Standard Plans provide detailed requirements (e.g., dimensions, location) and illustrations for the design and construction of among other things gutters, catch basins, desilting basins, and storm drains.	**Irvine (Local)**
		General Construction Permit. The General Construction Permit (GCP), issued by the State Water Resources Control Board (SWRCB) as Order 99-08-DWQ, NPDES Permit No. CAS000002, regulates stormwater and non-storm water discharges associated with construction or demolition activities including, but not limited to clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre. The GCP requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which must list Best Management Practices (BMPs) that the discharger will use to protect stormwater runoff and erosion control and the placement of those BMPs. The GCP, SWRCB Order No. 99-08-DWQ was updated in September 2009 as Order No. 2009-0009-DWQ, and took effect July 1, 2010. In addition to the requirements of the existing GCP, Order No. 2009-0009-DWQ contains additional requirements for construction sites based on the sites risk of discharging construction-related pollutants, as well as additional monitoring and reporting requirements. The updated permit also includes provisions for meeting specific numerical effluent limits (NELs) and Action Levels (ALs) for pollutants based on the site's risk level.	**SARWQCB (Regional)**
Land Use and Planning	**Standard Conditions**	There are no standard conditions applicable.	**N/A**
	Municipal/Zoning Code	***Irvine Zoning Ordinance.*** The City of Irvine Zoning Ordinance establishes zone-specific development regulations, including height limits, setback requirements, parking ratios, signs, and other development standards. The development regulations and standards are generally outlined in Division 3 (General Development Standards and Land Use Regulations), Division 4 (Parking), Division 5 (Overlay Districts), Division 7 (Signs), Division 8 (Conservation and Open Space Phased Dedication Districts), and Division 9 (Planning Areas).	**Irvine (Local)**

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		Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District). Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses.	
	Other Regulations	***Airport Environs Land Use Plan for John Wayne Airport.*** The Airport Environs Land Use Plan (AELUP) for John Wayne Airport is a 20-year land use compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and ensure its continued operation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The California Department of Transportation's California Airport Land Use Planning Handbook provides guidelines for preparing airport compatibility plans. The handbook is a technical resource providing guidelines, in part, to define Aircraft Noise standards and criteria, accident potential zones, building height zones, and designated planning areas.	**Orange County Airport Land Use Commission (Local)**
		University of California, Irvine 2007 Long Range Development Plan (LRDP) and subsequent amendments. The UCI LRDP is a comprehensive policy and land use plan that guides the growth of the campus. It identifies the physical development needed to achieve the academic needs and goals of the campus while demonstrating responsible conservation of limited resources. The 2007 LRDP provides a framework of policies and guidelines to shape land use and physical development at UCI through 2025–26. The plan is designed to support key academic and student life goals, identifies development objectives, delineates campus land uses, and estimates the new building space needed to support projected program expansion through the planning horizon year. The LRDP is neither an enrollment plan nor an implementation plan; rather, it provides a framework of policies and guidelines to influence future decisions on land use, enrollment, housing, parking, academic facilities, and urban and landscape design. The 2007 LRDP is also accompanied by an EIR, prepared in accordance with CEQA and University of California guidelines for implementation of CEQA.	**University of California Irvine (Local)**
		Southern California Association of Governments Orange County and the City of Irvine are at the western edge of a six-county metropolitan region composed of Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial Counties. The Southern California Association of Governments (SCAG) serves as the federally recognized metropolitan planning organization (MPO) for this southern California region. Orange County and its jurisdictions constitute the Orange County Subregion in the SCAG region. This subregion is governed by the Orange County Council of Governments. SCAG has developed plans to achieve specific regional objectives. The plans most applicable to a proposed project are discussed below. *Regional Comprehensive Plan* The 2008 Regional Comprehensive Plan (RCP) is a major advisory plan prepared by SCAG that addresses important regional issues like housing, traffic/transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The RCP presents a vision of how southern California can balance resource conservation, economic vitality, and quality of life. The RCP identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. It also includes goals and outcomes to measure progress toward a more sustainable region. Additionally, the RCP also outlines advisory and voluntary goals and policies that a development project should consider and demonstrate consistency with. *Regional Transportation Plan /Sustainable Communities Strategy* SCAG maintains a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) mandated by Federal and State law. It strives to provide a regional investment framework to address the region's transportation, sustainability, and related challenges, and looks to strategies that preserve and enhance the existing transportation system and integrate land use into transportation planning. The RTP/SCS also outlines goals that a development project should consider and demonstrate consistency with.	**SCAG (Regional)**
Mineral Resources	**Standard Conditions**	There are no standard conditions applicable.	**N/A**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General).*** Sec. 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products.	**Irvine (Local)**
	Other Regulations	No other regulations are applicable.	**N/A**

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Noise	**Standard Conditions**	***City Standard Condition 3.3 (Disclosure Statements).*** Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included. a. Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport. b. Reference to Emergency Preparedness information available on the City of Irvine website at www.cityofirvine.org/office-emergency-management. c. Map of Special Flood Hazard Area information for areas subject to inundation. d. Notice that initial occupancy and any subsequent change in use or occupancy of any non-residential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended. e. Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police. f. Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements. g. Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations. h. Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations. i. Notice that residential buildings such as single-family homes, condominiums and apartments are prohibited from being used as short-term rentals (aka vacation rentals). A rental arrangement for a term of less than 31 days is considered “short-term”. For more detailed information contact the Community Development Department. ***City Standard Condition 3.5 (Final Acoustical Report).*** Prior to the issuance of building permits for each structure or tenant improvement, other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall demonstrate that the development will be sound attenuated against present and projected noise levels including stationary, roadway, aircraft, helicopter, and railroad noise to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). The report shall be accompanied by a list identifying the sheet(s) of the building plans that include required sound attenuation measures.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 6 (Public Works), Division 8 (Pollution), Chapter 2 (Noise).*** Chapter 2, also known as the City’s Noise Ordinance, outlines the regulations necessary to control unnecessary, excessive and annoying noise in the City. The provisions of this chapter are applicable to nontransportation-related stationary noise sources. It outlines the noise level measurement criteria; establishes the noise zones and the maximum permitted exterior and interior noise standards in each zone; and discloses special noise provisions for construction, truck delivery and maintenance activities. For example, as outlined in Section 6-8-205 of the Noise Ordinance, no construction shall be permitted outside of the hours of 7:00 AM to 7:00 PM Monday through Friday and 9:00 AM to 6:00 PM Saturdays, unless a temporary waiver is granted by the Chief Building Official or authorized representative. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.2 (Compatibility with Surrounding Land Uses) of Chapter 5-8 states that applicants for new residential and/or residential mixed use is required to submit data as determined by the Director of Community Development to evaluate compatibility uses with respect to issues including but not limited to noise, odors, truck traffic and deliveries, hazardous materials handling/storage, air emissions, soil/groundwater contamination, and John Wayne Airport compatibility. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.3 (Residential Disclosures) of Chapter 5-8 states that all discretionary applications for residential or residential mixed use are required to include a condition of approval for disclosure to residents clearly outlining the issues associated with living in a mixed-use environment, including language regarding the proximity to John Wayne Airport, as follows: *Notice of Airport in Vicinity*. This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (i.e., noise, vibration, odors). ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.A.5 (Noise Standards) of Chapter 5-8 outlines general construction- and operational-related noise standards, including:	**Irvine (Local)**

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		• Requirement for project applicants to incorporate construction-related measures regarding equipment and staging areas on the cover sheet of grading plans to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved. • Requirements for the evaluation of vibration impacts from projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive receptors. • Requirement for the submittal of evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses.	
	Other Regulations	***Airport Environs Land Use Plan for John Wayne Airport.*** The Airport Environs Land Use Plan (AELUP) for John Wayne Airport is a 20-year land use compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and ensure its continued operation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The California Department of Transportation's California Airport Land Use Planning Handbook provides guidelines for preparing airport compatibility plans. The handbook is a technical resource providing guidelines, in part, to define Aircraft Noise standards and criteria, accident potential zones, building height zones, and designated planning areas.	**Orange County Airport Land Use Commission (Local)**
		Vibration Standards. The City of Irvine does not have specific limits or thresholds for vibration. The human reaction to various levels of vibration is highly subjective. The Federal Transportation Administration (FTA) provides criteria for acceptable levels of groundborne vibration for various types of land uses that are sensitive to vibration based on the relative perception of a vibration event. ***General Plan Noise Element*** *Policy F-1(b):* Prohibit residential development within the 65 CNEL or aircraft noise contours. Policy F-1(c): Ensure that all proposed development projects are compatible with the existing and projected noise level by using the Land Use Noise Compatibility Matrix (Table F-2). Policy F-1(d): Require noise studies to be prepared in accordance with the City's environmental review procedure for all project that are not clearly compatible with the future noise level at the site. Policy F-1(e): Require noise studies to use the future motor vehicle noise reduction of 1.9 dBA in identifying future noise levels of streets. Policy F-1(f): Require noise studies to identify all the mitigation measures necessary to reduce the noise levels to me the CNEL standard (Table F-1) and Single Event Noise Standard. Policy F-1(g): Require compliance with Single Even Noise Standard for noise-sensitive land uses within the 60 CNEL of aircraft and railroad noise contours. Policy F-1(h): Require conditional use permits for noise-sensitive land uses such hospitals, libraries, churches, and schools to mitigate noise-related impacts.	**FTA (Federal)**

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Population and Housing	**Standard Conditions**	There are no standard conditions applicable.	**N/A**
	Municipal/Zoning Code	***Irvine Zoning Ordinance, Chapter 2-3 (Affordable Housing Implementation Procedure).*** The City's Inclusionary Housing Ordinance, as contained in Chapter 2-3 of the Zoning Ordinance, should be considered in the analysis of a proposed project that consists of 50 residential units or more, as it requires a minimum of 15 percent of the total units that are constructed to be affordable units. The breakdown of income categories for the 15 percent, along with other requirements and guidelines, are outlined in detail in Chapter 2-3.	**Irvine (Local)**
	Other Regulations	***Compliance with the City's Housing Element.*** Compliance with the City's Housing Element policies, which provide a strategic blueprint to ensure the siting of new very low, low, and moderate income housing units in future development projects to help the City continue to meet its state fair share housing requirements. Refer to the Land Use and Planning Topic for a description of the applicable SCAG RCP, RTP and Compass Growth Vision plans.	**Irvine (Local)**
Public Services	**Standard Conditions**	***City Standard Condition 3.6.*** Prior to the issuance of building permits, the applicant shall demonstrate they have met the Irvine Uniform Security Code requirements for lighting by providing the below listed items for a complete review by the Police Department. Failure to provide a complete lighting package will result in the delay of satisfaction of this condition. a. Electrical plan showing light fixture locations, type of light fixture, height of light fixture, lighting ratio, and point-by-point photometric lighting analysis overlaid on the tree landscape plan with a legend. The photometric plan should only show those fixtures used to meet the Irvine Uniform Security Code requirements. b. Site plan demonstrating that landscaping shall not be planted so as to obscure required light levels per the Irvine Uniform Security Code. c. Site plans that are full-scale and legible. ***City Standard Condition 3.17 (Emergency Access Plan).*** Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Said plan shall be incorporated into the plan set approved for building permits. ***City Standard Condition 3.20 (Construction Site Security Plan).*** Prior to the issuance of the first building permit, a Construction Site Security Plan, per the Irvine Uniform Security Code, Section 5-9-521, shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits. ***City Standard Condition 3.27 (Construction Phasing Plan).*** Prior to the issuance of building permits, the applicant shall submit a proposed Construction Phasing Pan for review and approval by the Chief Building Official. The following is the list of specific items that should be provided in Construction Phasing Plan. • An Exhibit showing o Separation zones between Construction areas and Public areas, as required to maintain occupied areas safe based on projected construction schedules and absorption rates. o Laydown areas. o Carpool parking areas. o Delivery procedures and approved delivery areas. o OCFA no parking zones. o If the project is part of a master development then information about all the other projects shall also be included in the exhibit for detailed safety evaluation. In addition, the master developer shall identify one individual responsible for the oversight of the entire project including implementation of all the phasing requirements. Should the phasing plan change during construction, a revised phasing shall be submitted to the Chief Building Official for review and approval prior to MEPS inspection. Construction Site Security requirements shall be in place at all the times during construction. This condition shall not apply to single-phase projects. ***City Standard Condition 4.9 (Emergency Access Inspection).*** Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan. ***City Standard Condition 4.12 (Phased Occupancy of Multi-Building Residential Development)***. Phased occupancy of any portion of this multi-building development project is subject to approval by Building and Safety and the Orange County Fire Authority. Such phasing shall provide a clear and effective separation between the areas open to building users and occupants and construction areas including staging and access. Additionally all fire-life-safety, security, accessibility features, parking and other applicable planning standards and conditions serving those	**Irvine (Local)**

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		portions of the development to be occupied shall be installed, approved and accepted by the City and/or Orange County Fire Authority. Such features must remain in place and fully functional throughout the remaining project build-out.	
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations), Chapter 5 (Uniform Security Code).*** The project applicant shall comply with all applicable requirements of the Uniform Security Code. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** As outlined in Section 5-8-4.D (Additional Requirements) of Chapter 5-8, in the event that a City-wide library impact fee is adopted and in force at the time of discretionary project approval, the project applicant shall pay this fee prior to the issuance of building permits.	**Irvine (Local)**
	Other Regulations	***Senate Bill 50.*** Senate Bill 50 (SB 50, also known as Proposition 1A, codified in California Government Code Section 65995) was enacted in 1988 to address how schools are financed and how development projects may be assessed for associated school impacts. ***California Government Code Section 65995.*** Pursuant to California Government Code Section 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Alternatively, the applicant may enter into a school finance agreement with the school district(s) to address mitigation to school impacts in lieu of payment of developer fees. The agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and the affected school district(s) do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees. ***General Plan Public Facilities and Services Element.*** Tables G-1 and G-2 outline general guidelines and standards for the provision of public facilities and services, including: police services, fire services, school facilities, library services, child care and senior centers, community center/youth center, and swimming pools.	**Irvine (Local)**
		Orange County Fire Authority Codes. Every project applicant shall comply with all applicable Orange County Fire Authority codes, ordinances, and standard conditions regarding fire prevention and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems.	**OCFA (Local)**
Recreation	**Standard Conditions**	***City Standard Condition 1.10 (Easement for Public Trail).*** Prior to the release of a final map by the City, an irrevocable offer of dedication for nonexclusive easements for public use of any public trail(s) shall be shown on the final map. Improvements, recordation, and dedication of public trails shall be subject to the approval of the Director of Community Services. At the discretion of the City Engineer and with consultation with the Director of Community Services, the easements may be recorded after the final map. ***City Standard Condition 1.11 (Open Space Irrevocable Offer).*** Prior to the release of a final map by the City for land that encompasses or lies within an Open Space Implementation Action Program District as shown on the City's General Plan and Zoning Ordinance or will be dedicated as public open space, the applicant shall submit an irrevocable offer of dedication for the preservation open space lot and/or easement, as required by the City's Phased Dedication and Compensating Development Opportunities Program. The irrevocable offer of dedication and/or easement shall be in the form approved by the City Attorney and prepared to the satisfaction of the Director of Community Development, the City Engineer, and the Director of Community Services. The offer shall be recorded concurrently with recordation of the final map. ***City Standard Condition 1.12 (Public Park Dedication).*** Prior to the release of the final map that includes public park land, the applicant shall submit all documents ready for recording of such dedication to the City Engineer and the Director of Community Services for review and approval. At the discretion of the City Engineer, the dedication of public park land may be recorded with the final map. ***City Standard Condition 2.15 (Private Trail Reservation).*** Prior to the issuance of the first grading permit on land required as a private trail, the applicant shall submit and the Directors of Community Development and Community Services shall have approved an instrument reserving such required park land in perpetuity. ***City Standard Condition 2.16 (Public Trail Dedication).*** Prior to the issuance of the first precise grading permit that includes public trails, the applicant shall submit all documents necessary to record nonexclusive easements for public use of such trails in a form or forms approved by the City Attorney and prepared to the satisfaction of the City Engineer, Director of Community Services, and Director of Community Development. The City Engineer may permit the public trail dedication to be recorded separately from the final map. ***City Standard Condition 2.17 (Public Park Dedication).*** Prior to the issuance of the first precise grading permit for a lot that is to be dedicated as a public park, the applicant shall submit all documents necessary to record the public parkland dedication in a form or forms approved by the City Attorney and prepared to the satisfaction of the City Engineer, Director of Community Services, and Director of Community Development.	**Irvine (Local)**

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		City Standard Condition 2.18 (Park Construction Phasing). Prior to the issuance of the first residential precise grading permit (with the exception of model homes), the applicant shall submit a park construction and phasing schedule to the Director of Community Development and obtain approval of the schedule from the Director of Community Services. The park construction and phasing schedule shall include the following information: a. Number and types of residential units to be built and estimated population count. b. Lot numbers and size of each public and private park. c. Improvements to be built within each park. d. A phasing plan specifying when each park will commence and complete construction. ***City Standard Condition 3.11 (Park Design Consistency).*** Prior to the issuance of a building permit for any park, the applicant shall demonstrate that all related construction plans are consistent with approved Park Design _____-PPD. ***City Standard Condition 3.12 (Private Park Reservation).*** Prior to the issuance of building permits on land required as a private park by local and/or state development standards, the applicant shall submit and the Directors of Community Development and Community Services shall have approved an instrument reserving such required park land in perpetuity.	
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 5 (Subdivisions), Chapter 10 (Dedications; Reservations).*** As outlined in Section 5-5-1004 (Park Dedication) of Chapter 10**,** as a condition of approval of a tentative map, the subdivider shall dedicate land, and/or improvements/amenities, and/or pay a fee for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision. ***C. Park Dedication Standards.*** All standards for park dedication shall comply with the Quimby Act (State of California Government Code section 66477), the California Subdivision Map Act and the City of Irvine General Plan Parks and Recreation Element. The developer of residential subdivisions shall dedicate park land and/or fees in lieu, at the rate of five acres per 1,000 population, apportioned as follows: • Two acres – Community parks • Three acres – Neighborhood parks ***E.2 Disposition of Land or Fees.*** All park fees shall be paid directly to the City cashier prior to issuance of any residential building permits for the building site or sites from which fees are to be derived. These fees are to be used only for the purpose of developing new or rehabilitating existing park or recreational facilities to serve the subdivision.	**Irvine (Local)**
	Other Regulations	No other regulations are applicable.	**N/A**
Transportation	**Standard Conditions**	***City Standard Condition 1.5 (Shared Access Agreement).*** Prior to the release of a final map by the City, the applicant shall submit to the City for review by the City Attorney the required shared access agreement. The City Engineer and the Director of Community Development shall have approved, appropriate documents (e.g., shared access agreement, CC&Rs, etc.) which ensure that utilities, access, parking, landscape areas, and drainage (including private catch basins) will be commonly shared and maintained. ***City Standard Condition 3.17 (Emergency Access Plan).*** Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers per the Irvine Uniform Security Code requirements. Said plan shall be incorporated into the plan set approved for building permits. ***City Standard Condition 4.9 (Emergency Access Inspection).*** Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan. ***City Standard Condition 6.4 (Privacy Gates–Vehicle Stacking).*** If the Director of Transportation determines that the operation of the residential privacy gates approved with this application is negatively affecting the flow of traffic on an adjacent public roadway, the property owner or homeowners association may be required to submit a plan to the Director of Community Development that identifies specific measures to resolve these problems. The plan shall be submitted within 30 days of notification by the Transportation Department and shall be reviewed and approved by the Director of Community Development in consultation with the Director of Transportation. The property owner or homeowners association shall be required, at its sole expense, to implement any modifications required by the plan within 30 days of written notice from the Director of Community Development to implement such measures, or in such time frame as directed by the Director of Community Development in consultation with the Director of Transportation.	**Irvine (Local)**

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	Municipal/Zoning Code	***Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 6 (Trip Reduction Facilities).*** This chapter is intended to meet the requirements of California Government Code Section 65089.3(b)(3), which requires development of a trip reduction and travel demand element to the Congestion Management Plan, and California Government Code Section 65089.3(b), which requires adoption and implementation of a trip reduction and travel demand ordinance. Developers of commercial, industrial and mixed-use projects are required to provide the trip reduction support measures set forth in Section 6-3-605, as applicable, within each such development. Measure include: A. A percentage of parking spaces, located as close as is practical to the entrance(s) of the use they are intended to serve, shall be reserved for use of carpool vehicles. B. Secure, adequate and convenient storage shall be provided for bicycles pursuant to the zoning code of the City. C. Bus bays, bus stops and bus shelters shall be provided adjacent to roads and streets traversing or bounding the development, as requested by the City and pursuant to proposed or existing bus stop locations identified by Orange County Transit District or its successor agency (i.e. Orange County Transportation Authority). D. A transportation information center shall be provided within each building generating 100 or more employees based on the chart below. E. A shower and locker room facility for each sex shall be provided in each building generating 400 or more employees based on the above employee generation factors. F. Sidewalks or other paved pathways following direct and safe routes from the external pedestrian circulation system to each building in the development shall be provided. ***Irvine Municipal Code, Title 6 (Public Works), Division 3 (Transportation), Chapter 7 (North Irvine Transportation Mitigation Program).*** The North Irvine Transportation Mitigation Program (NITM Program) is established for the purpose of providing funding for the coordinated and phased installation of required traffic and transportation improvements required under CEQA documents previously certified or adopted by the City in connection with land use entitlements for City Planning Areas 1/2, 5, 6, 8, 9, 40 and 30/51. The requirements regarding the preparation of traffic studies, reports, and analyses set forth in this chapter shall supersede the requirements regarding the preparation of traffic studies, reports, and analyses set forth in other City ordinances, resolutions, or determinations. This section also outlines the required NITM fees. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** Section 5-8-4.C (Airport Restrictions) of Chapter 5-8 outlines the provisions for development within the jurisdiction of the Airport Land Use Commission, including: building height limitations in accordance with the Orange County Environs Land use Plan standards and Federal Aviation Administration Part 77 Imaginary Surfaces for John Wayne Airport; the prohibition of residential land uses within Safety Zone 3; and sound attenuation standards for residential and park uses. ***Irvine Zoning Ordinance, Chapter 9-36 (Planning Area 36-Irvine Business Complex).*** As outlined in Section 9-36-14 (IBC Traffic Improvement Fee Program) of Chapter 9-36, the intent of the IBC Traffic Improvement Fee Program is to provide partial funding for implementation of the area-wide circulation mitigation program identified in the Final Program EIR for the Irvine IBC Vision Plan. Section 9-36-14 requires all development projects within the IBC for which building permits are issued after the effective date of the 2010 IBC zoning ordinance to comply with the requirements of the 2010 IBC Traffic Improvement Fee Program, including the payment of fees prior to the issuance of building permits as established by this section for the construction of area-wide traffic improvements, or if selected by the project applicant, construction of area-wide improvements in lieu of payment of fees.	**Irvine (Local)**
	Other Regulations	***IBC Development Fee Program.*** A Development Fee program was established to fund area-wide circulation improvements within the IBC area. The improvements are required due to potential circulation impacts associated with buildout of the IBC area. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are used strictly for circulation improvements right-of-way acquisition and transportation monitoring measures in the IBC area. Fees are calculated by multiplying the proposed square footage, dwelling unit or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees payable at the time the building permit is issued. ***Irvine Sustainability Community Initiative.*** The Irvine Sustainability Community Initiative (Initiative Ordinance 10-11), adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy and sustainability. For example, the City would continue to develop and implement participation in alternative transportation modes, including but not limited to alternate fuel, reduced emission or zero emission vehicles, mass transit services, carpooling, bicycling and walking. ***Comprehensive Signal Retiming and Coordination Program.*** The City of Irvine is involved in a number of Intelligent Transportation System (ITS) activities in cooperation with the Federal Highway Administration, State of California Department of Transportation (Caltrans) and leading research organizations such as the University of California Transportation Studies at UC, Irvine. In addition, the City Traffic Engineers are working on the following projects to further minimize travel delay: • Installing additional cameras to monitor and adjust signal timing from the traffic management center (TMC) • Installing additional video detection systems to detect bicycles and vehicles • Submitting grants for additional funds to upgrade equipment and update signal synchronization plans	**Irvine (Local)**

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		• Working with adjacent agencies to provide signal synchronization across jurisdictional boundaries • Researching and testing adaptive traffic control systems • Use of data analytics to monitor and improve traffic signal performance ***City of Irvine Engineering Standard Plans.*** The City's Engineering Standard Plans provide detailed requirements (e.g., dimensions, location) and illustrations for the design and construction of among other things roadways, driveways, curbs, raised medians, and sight distance. ***City of Irvine Street Design Manual.*** All grading and improvement projects, whether public or private, are required to be designed in accordance with the City of Irvine Design Manual (Design Manual). Information contained in the Design Manual includes detailed procedures for street design plan submittal, design criteria for City-approved projects, and the City of Irvine Engineering standard Plans. Copies of the Design Manual may be obtained from the City Clerk's Records Center.	
		Airport Environs Land Use Plan for John Wayne Airport. The Airport Environs Land Use Plan (AELUP) for John Wayne Airport is a 20-year land use compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and ensure its continued operation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The California Department of Transportation's California Airport Land Use Planning Handbook provides guidelines for preparing airport compatibility plans. The handbook is a technical resource providing guidelines, in part, to define Aircraft Noise standards and criteria, accident potential zones, building height zones, and designated planning areas.	**Orange County Airport Land Use Commission (Local)**
		Federal Air Regulations, Part 77. The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Their role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation and thus derogate the safety of the National Airspace System. The regulations contained in Federal Air Regulations (FAR) Part 77 are designed to ensure that no hazards are allowed to exist that would endanger the public. The FAA, through FAR Part 77, established a method of identifying surfaces that should be free from obstructions in order to maintain sufficient airspace around airports. FAR Part 77, in effect, identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. In addition, Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.	**FAA (Federal)**
Tribal Cultural Resources	**Standard Conditions**	***City Standard Condition 2.5 (Archeologist/Paleontologist).*** Prior to the issuance of the first preliminary or precise grading permit for a project that is located on land that includes potentially significant archaeological and/or paleontological sites, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters from an archaeologist and/or a paleontologist. The letters shall state that the applicant has retained these individuals, and that the consultant(s) will be on call during all grading and other significant ground disturbing activities. Determination of the need for these consultants shall be based on the environmental analysis for the project. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange (OC Public Works/OC Planning). The archaeologist and/or paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site. Should any cultural/scientific resources be discovered during grading, no further grading shall occur in the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. This condition and the approved recommendations shall be incorporated on the cover sheet of the grading plan under the general heading: "Conditions of Approval."	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General).*** Sec. 3-4-132 (Protection of Natural, Cultural, Structural and Archaeological Resources) of Chapter 1 prohibits any person from possessing, destroying, injuring, defacing, removing, digging or disturbing from its natural state any of the following: plants, wildlife, artifacts, minerals, landscape structures, improvements, wood, and natural products.	**Irvine (Local)**
	Other Regulations	***Assembly Bill 52.*** Assembly Bill (AB) 52 specifies that a project that causes a substantial adverse change in the significance of a tribal cultural resources may have a significant effect on the environment. AB 52 requires that a lead agency consult with California Native American tribes that are traditionally and culturally affiliated with geographic areas and that request notification. AB 52 applies to projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration on or after July 1, 2015. This bill also required the separate consideration of tribal cultural resources in the CEQA thresholds. ***Senate Bill 18.*** California Senate Bill (SB) 18 (Burton, D-San Francisco) helps tribes and jurisdictions define resources and sacred areas and incorporates protection of these places into the General Plan process. It is the first law in the nation to mandate tribal consultation at the local level. SB 18 consultation applies to the adoption and amendment of General Plans proposed on or after March 1, 2005. SB 18 consultation is a "government to government" interaction between tribal representatives and representatives of the local jurisdiction.	**OPR (State)**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
Utilities and Service Systems	**Standard Conditions**	***City Standard Condition 2.24 (Solid Waste Recycling).*** Prior to the issuance of grading permits for a project that involves the demolition of an asphalt or concrete parking lot on site, the applicant shall submit a waste management plan demonstrating compliance with the requirements of Title 6, Division 7 of the City of Irvine Municipal Code relating to recycling and diversion of demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City-authorized waste haulers. ***City Standard Condition 3.7 (Solid Waste Recycling).*** Prior to the issuance of building permits for a project that involves new construction or that involves the demolition or renovation of existing buildings on site, the applicant shall comply with requirements of Title 6, Division 7 of the City of Irvine Municipal Code relating to recycling and diversion of construction and demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City-authorized waste haulers.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 7 (Sustainability in Landscaping).*** The purpose of this division is to provide policies, standards, procedures, and guidelines to achieve long-term levels of sustainability in landscapes. Sustainability is a concept which emphasizes the environmental impacts and benefits of landscapes. In most instances, a sustainable landscape is one which provides positive levels of carbon storage and oxygen productivity after all demands for energy, water, soil improvement and maintenance activities to support have been accounted for. This division is intended to promote actions that conserve, recycle, and reuse the resources which are invested in landscapes. ***Irvine Zoning Ordinance, Chapter 3-23 (Solid Waste Collection Standards).*** This chapter of the Zoning Ordinance outlines the solid waste collection standards that apply to all residential and nonresidential developments. This chapter includes standards for collecting and loading recyclable materials in development projects as specified below pursuant to the California Solid Waste Refuse and Recycling Access Act of 1991 (Assembly Bill 1327). ***Irvine Zoning Ordinance, Chapter 3-31 (Solar Energy System Standards).*** This chapter encourages investment in solar energy systems on all parcels in the City, both residential and nonresidential, while providing guidelines for the installation of those systems that are consistent with the architectural and building standards of the City. All solar energy systems shall comply with all applicable provisions of the City of Irvine Codes and the standards of this chapter. ***Irvine Zoning Ordinance, Chapter 5-8 (Irvine Business Complex Residential Mixed-Use Overlay District).*** As outlined in Section 5-8-4.A.7 (Green-Point Rated Development) of Chapter 5-8, applicants for new residential development in the IBC are required to submit evidence to the satisfaction of the Director of Community Development that proposed buildings have been designed and constructed to be Green-Point Rated. ***Irvine Zoning Ordinance, Chapter 9-36 (Planning Area 36-Irvine Business Complex).*** Section 9-36-20 (Environmental Standards) of Chapter 9-36 outlines the environmental standards that are applicable to new development projects in the IBC. Provisions include: • Requirement that construction contractors provide alternative transportation mode incentives, such as bus passes, and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. • Submittal of evidence that the project uses recycled materials for at least 20 percent of construction materials. • Submittal of evidence that toilets, urinals, sinks, showers, and other water fixtures installed onsite are ultra-low-flow fixtures that exceed the Uniform Building Code. • Submittal of evidence that the projects landscape irrigation system is an automated, high-efficient irrigation system that reduces water waste. • Requirement to use reclaimed water on all master landscaped areas. • Requirement for the provision of onsite recycling facilities on all new developments as required by the Director of Public Works. • Submittal of evidence for new non-residential developments that proposed buildings are designed and constructed to achieve the “Designed to Earn the Energy Star” rating. ***Irvine Zoning Ordinance, Chapter 9-36 (Planning Area 36-Irvine Business Complex).*** The intent of Section 9-36-15 (IBC Neighborhood Infrastructure Improvement Fee Program) of Chapter 9-36 is to provide funding for implementation of the area-wide neighborhood infrastructure improvements identified in the 2010 IBC Vision Plan. As outlined in Section 9-36-15, new development in the IBC that necessitates construction of these infrastructure improvements is required to pay its fair share of the cost for the infrastructure improvements prior to the issuance of building permits.	**Irvine (Local)**
	Other Regulations	***Building and Energy Efficiency Standards (CCR Title 24).*** Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for these structures shall be required to demonstrate that the project meets the current Building and Energy Efficiency Standards, as adopted and amended by the City of	**Irvine (Local)**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		Irvine. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Plans submitted for building permits shall include written notes demonstrating compliance with the current energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows. ***Title 24 Code Cycles: Net-Zero Buildings (Residential & Non-Residential).*** The California Public Utilities Commission adopted its Long-Term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24). ***City of Irvine Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance.*** The C&D ordinance requires that 1) all residential projects of more than one unit, 2) nonresidential developments on 5,000 square feet or larger, and 3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated. ***Energy Efficient Traffic Lights.*** New traffic signals installed within the Irvine Business Complex will have light emitting diodes. The City is implementing a program to convert all traffic lights in the City to traffic light emitting diodes. ***Waste Reduction.*** The City adopted a Zero Waste program in 2007 to approach waste management. The City recovers approximately 66 percent of its waste for recycling and composting, which exceeds the state's AB 939 waste diversion goals. Furthermore, waste haulers establish rate schedules according to bin size and frequency of collection. Commercial customers that subscribe to smaller bins (e.g., 2 cubic-yard bins) are routinely charged less by haulers. This pricing structure encourages waste reduction and recycling, and tends to minimize hauler pickups. ***Irvine Sustainability Community Initiative.*** The Irvine Sustainability Community Initiative (Initiative Ordinance 10-11), adopted by the voters of the City as Initiative Measure S on November 2, 2010, and certified by the City Council on December 14, 2010, became effective December 24, 2010. The ordinance was adopted to ratify and implement policies in support of renewable energy and environmental programs for a sustainable community. It outlines the City's direction for continuing to develop and implement programs geared towards green building, renewable energy and sustainability. For example, the City would continue to develop and implement recycling, zero waste or other innovative onsite business programs to divert waste from landfills and also continue to develop and implement the use of native, California-friendly and drought-tolerant landscaping. ***Engineering Standard Plans.*** The City's Engineering Standard Plans provide detailed requirements (e.g., dimensions, location) and illustrations for the design and construction of among other things storm drains.	
		Requirement to Use Recycled Water. Irvine Ranch Water District (IRWD) will identify customers in a zone identified in the Plan ("the Plan" collectively refers to the Water Resources Master Plan, Sewer Master Plan, Natural Treatment System Master Plan, and addenda thereto) as an area capable of receiving service from the IRWD's recycled water system, and will determine the feasibility of providing recycled water service to these customers. IRWD will also review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible, applicants for new water service shall be required to install on-site facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations. IRWD may also require existing customers to retrofit existing on-site water service facilities to accommodate recycled water service. If IRWD does not require the use of recycled water service, the customer may obtain recycled water service upon request but only if IRWD has determined that recycled water service to the customer is feasible and authorizes such use. ***Connection Fees.*** Future project applicants in the IBC shall enter into agreement or agreements as necessary with IRWD to establish the appropriate financial fair share costs to be borne by the project proponent. Fair share costs may include, but are not limited to, those associated with the preparation of studies and infrastructure expansion necessary to analyze and serve the project. ***Fire Flow Analysis.*** In accordance with IRWD requirements, each redevelopment project in the IBC must provide a fire flow analysis. If the analysis identifies any deficiencies, the developer will be responsible for any water system improvements associated with the development project required to rectify the deficiencies and meet IRWD fire flow requirements.	**IRWD (Local)**
		California Water Code Section 10912 and California Government Code Section 66473.7. If a proposed development is considered a project as defined by California Water Code Section 10912 and/or a subdivision as defined by California Government Code Section 66473.7, then a water supply assessment shall be prepared and included in the analysis and appendices of the environmental document being prepared for the project.	**Irvine (Local) & IRWD**

Irvine CEQA Manual
Applicable Plans, Policies, and Programs

Topic	*Type*	*Plans, Policies and Programs*	*Implementing Agency (Local, Regional, State, and Federal)*
		Senate Bill 610 (SB 610). SB 610, which was enacted in 2001 and became effective on January 1, 2002, requires cities and counties to request specific information on water supplies from the Public Water System (PWS) that would serve any project that is subject to CEQA. This information is to be included with the environmental review documents prepared pursuant to CEQA. ***Senate Bill 221 (SB 221).*** SB 221, which was enacted in 2001 and became effective on January 1, 2002, requires the PWS to provide written verification of sufficient water supply prior to the approval of a new subdivision.	**(Local)**
Wildfire	**Standard Conditions**	***City Standard Condition 2.19 (Open Space Fuel Modification).*** Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by the Orange County Fire Authority (OCFA). The requirements set forth in this condition do not apply to developed, irrigated park land required or provided as part of the project design for this project. ***City Standard Condition 3.14 (HOA/Fuel Modification).*** Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the CC&Rs that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable Orange County Fire Authority requirements. For fuel modification zones adjacent to lands designated as Open Space changes in plant materials shall also be reviewed by the Director of Community Services. ***City Standard Condition 4.9 (Emergency Access Inspection).*** Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches and Click2Enter devices as depicted on the approved plan.	**Irvine (Local)**
	Municipal/Zoning Code	***Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations).*** The City of Irvine adopts and amends the California's building, residential, and fire codes, and amended the state code with local considerations. Refer to Chapter 1 and Chapter 4 of Division 9 (Building Regulations).	**Irvine (Local)**
	Other Regulations	***Stafford Disaster Relief and Emergency Assistance Act.*** It created the system in place today by which a president makes disaster or emergency declarations, which triggers financial and physical assistance through FEMA.	**Federal**
		PRC Section 4201-4204 and Govt. Code Section 51175-89. Requires CAL FIRE to map areas of significant fire hazards and identifies fire hazard severity zones within the state. Fire hazard severity zones are identified as very high, high, and medium. Local agencies are required to designate very high fire hazard severity zones within their jurisdiction. ***PRC Section 4125-4137***. Establishes a process for the State to identify lands that are State Responsibility Areas (SRAs) and procedures associated with such areas. ***California Fire Plan.*** The plan is a roadmap for reducing the risk of wildfire through planning and prevention. The plan is a joint effort between the State Board of Forestry and Fire Protection and CAL FIRE.	**State**
		County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan. This plan promotes "sound public policy designed to protect residents, critical facilities, infrastructure, key resources, private property, and the environment from natural hazards in County unincorporated area, fire hazards in the Fire Authority service area, and County and Fire Authority owned facilities." ***Orange County Fire Authority.*** The OCFA provides a series of fire prevention guidelines, which can be retrieved here: https://www.ocfa.org/AboutUs/Departments/CommunityRiskReductionDirectory/PlanningAndDevelopment.aspx	**Regional**
		City of Irvine Local Hazard Mitigation Plan. The City is in the process of preparing its Local Hazard Mitigation Plan to address response to natural disasters and hazardous situations. The Plan will provide a comprehensive assessment of threats that the City faces (both natural and man-made), assess current conditions, and coordinate a strategy to lessen the vulnerability and severity of future disasters and hazardous situations.	**Local**

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Appendices

D EXAMPLE MITIGATION MEASURES

Crafting Mitigation Measures

If, after complying with all existing regulations and standards, a project still has significant environmental effects, the lead agency must come up with ways to mitigate them. Mitigation must be enforceable, but there are limitations on the authority to impose it. A measure may be accomplished in several ways, but if implementing it would create its own impact, that must be analyzed as well, though not in the same detail as project impacts. Mitigation must:

- **Avoid** the impact altogether
- **Minimize** impacts by limiting the project in some way
- **Restore, repair, or rehabilitate** the affected environment
- **Reduce or eliminate over time** through preservation and maintenance
- **Compensate** by replacing or providing substitutes (CEQA Guidelines Section 15370)

Mitigation measures must have a basic link, or essential nexus," between the mitigation and the impact. Additionally, mitigation has to be "roughly proportional" to the impact. That is, mitigation imposed must roughly match both the nature and size of the impact. Effective mitigation measure measures identify:

- **Why** this mitigation measure? What is its objective?
- **What** does it entail, specifically? What are contingent measures if monitoring reveals that the original measure doesn't meet success standards?
- **Who** will be responsible for implementing it (agency, organization, or individual)?
- **Where** will the specific mitigation be carried out?
- **When** will it be implemented? And how long will it take?

Mitigation measures should be direct and unambiguous and use direct language that compels action, and say precisely what needs to be accomplished:

Adequate		*Questionable*		*Inadequate*
• Avoid • Minimize • Restore/Repair/Rehabilitate • Reduce over time • Compensate	vs.	• Provide funding for • Hire staff • Monitor or report • Comply with existing regulations or ordinances • Preserve already existing natural area	vs.	• Consult/Consult with • Submit for review • Study further • Inform • Encourage/Discourage • Facilitate • Strive to

Aesthetics

Example Prior to the issuance of grading and/or building permits, the Project Applicant shall provide evidence to the City that the contractor specifications require any temporary nighttime lighting installed during construction for security or any other purpose be downward-facing and hooded or shielded to prevent light from spilling outside the staging area and from directly broadcasting security light into the sky or onto adjacent residential properties. Compliance with this measure shall be verified by the City's Building and Safety Department during inspections of the construction site.

Air Quality (see also Greenhouse Gas Emissions)

Construction

Example Applicants for new developments shall require that the construction contractor utilize off-road construction equipment that conforms to Tier 4 of the United States Environmental Protection Agency, or higher emissions standards for construction equipment over 50 horsepower that are commercially available. The construction contractor shall be made aware of this requirement prior to the start of construction activities. The use of such equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site.

Example Applicants for new developments shall require that the construction contractor to properly service and maintain construction equipment in accordance with the manufacturer's recommendations. Nonessential idling of construction equipment shall be restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.

Example Applicants for new developments shall require that the construction contractor prepare a dust control plan and implement the following measures during ground-disturbing activities in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District Rule 403 to further reduce PM_{10} and $PM_{2.5}$ emissions. To assure compliance, the City shall verify compliance that these measures have been implemented during normal construction site inspections:

- During all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering.

- During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM_{10}-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.

- During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other suitable means.

- During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day.

- During all construction activities, the construction contractor shall limit on-site vehicle speeds on unpaved roads to no more than 15 miles per hour.

- The construction contractor shall apply chemical soil stabilizers to reduce wind erosion.

Example Applicants for new developments shall require that the construction contractor use coatings and solvents with a volatile organic compound (VOC) content lower than required under Rule 1113 (i.e., Super Compliant Paints). All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. The construction contractor shall also use precoated/ natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.

Biological Resources

Example Prior to the issuance of a grading permit for areas within 500 feet of special status vegetation, the Project Applicant shall provide written evidence to the City of Irvine that a qualified Biologist has been retained to observe grading activities and to ensure that adjacent special status vegetation and jurisdictional resources are not impacted. Prior to issuance of any building or demolition permit, the qualified Biologist shall monitor the installation of protective fencing/flagging by the Contractor. Fencing/flagging shall be installed around all special status vegetation and jurisdictional resources to be avoided.

Greenhouse Gas Emissions (see also Air Quality)

Bicycles

Example For multifamily dwellings 3-stories or less, electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures), Title 24, Part 11, California Green Buildings Standards Code. Proper installation of these features shall be verified by the City prior to issuance of a Certificate of Occupancy.

Example For multifamily dwellings 3-stories or less, bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures), Title 24, Part 11, California Green Buildings Standards Code. Proper installation of these features shall be verified by the City prior to issuance of a Certificate of Occupancy.

- Short-term bicycle parking – Permanently anchored bicycle racks shall be provided within 100 feet of the visitor's entrance to the residential building, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity for the multifamily units with a minimum of one two-bike capacity rack.

- Long-term bicycle parking for multifamily buildings – Provide onsite bicycle parking for at least one bicycle per every two dwelling units. Acceptable bike parking facilities shall be conveniently reached from the street.

- Long-term bicycle parking for hotel and motel buildings – Provide one on-site bicycle parking space for every 25,000 square feet, but not less than two. Acceptable parking facilities shall be conveniently reached from the street.

Example For multifamily dwellings 4-stories or more or non-residential buildings, bicycle parking shall be provided as specified in Section A5.106.4 (Nonresidential Voluntary Measures), Title 24, Part 11, California Green Buildings Standards Code. Proper installation of these features shall be verified by the City prior to issuance of a Certificate of Occupancy.

- Short-term bicycle parking – If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.

- Long-term bicycle parking. For new buildings with 10 or more tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street.

Electric Vehicles and/or CNG Vehicles

Example Prior to the issuance of a building permit for multi-family residential developments four stories or higher and non-residential developments, development plans for these structures shall be required to demonstrate that the project achieve the (Tier 1/Tier 2) low-emitting, fuel efficient and carpool/van pool vehicle performance standard as specified under Section A5.106.5.1, of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 (A5.106.5.1.1): Provide 10 percent of total designated parking spaces for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table A5.106.5.1.1.

- Tier 2 (A5.106.5.1.2). Provide 12 percent of total designated parking spaces for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table A5.106.5.1.2.

Example For single-family (attached and detached) residential developments that include garage parking the project shall be required to demonstrate that the project achieves the Tier 1 and Tier 2 energy performance standard for electric vehicle (EV) charging, as specified under Section A4.106.8.1, of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 and Tier 2: For each dwelling unit, a dedicated 208/240-volt branch circuit shall be installed in the raceway required by Section 4.106.4.1. The branch circuit and associated overcurrent protective device shall be rated at 40 amperes minimum. Other electrical components, including a receptacle or blank cover, related to this section shall be installed in accordance with the California Electrical Code.

Example For multi-family residential developments that are three stories or less with 17 or more units, the project shall be required to demonstrate that the project achieves the Tier 1 and Tier 2 electric vehicle (EV) charging performance standard as specified under Section A4.106.8.2, of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 and Tier 2: Where 17 or more multifamily dwelling units are constructed on a building site, 5 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces) capable of supporting future electric vehicle supply equipment. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

Example For multi-family buildings four stories or more and non-residential developments, the project shall be required to demonstrate that the project achieves the (Tier 1/Tier 2) energy performance standard for electric vehicle (EV) charging as specified under Section A5.106.5.3, of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 (A5.106.5.3.1): Table A5.106.5.3.1 shall be used to determine the number of multiple charging spaces required for future installation of electric vehicle supply equipment.

- Tier 2 (A5.106.5.3.1): Table A5.106.5.3.1 and Table A5.106.5.3.2 shall be used to determine the number of single- or multiple charging spaces required for future installation of electric vehicle supply equipment.

Water/Wastewater

Example If recycled water service is determined by the Irvine Water District (IRWD) to be feasible, applicants for new developments shall use reclaimed water in all master landscaped areas. This will include master landscaped commercial, multifamily, common, roadways, and park areas. Master landscapes will also incorporate weather-based controllers and efficient irrigation system designs to reduce overwatering, combined with the application of a California-friendly landscape palette.

APPENDIX D

Energy Efficiency

Example All development projects shall install Energy Star appliances. Installation of Energy-Star appliances shall be verified by the City during plan check.

Example Prior to the issuance of a building permit for a multi-family residential development three stories or less, development plans for these structures shall be required to demonstrate that the project achieve the (Tier 1/Tier 2) energy performance standard as specified under Section A4.203.1.2, Performance Standard of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 (Section A4.203.1.2.1): Buildings complying with the first level of advanced energy efficiency shall have either an Energy Budget that is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 15 percent or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.

- Tier 2 (A4.203.1.2.2): Buildings complying with the second level of advanced energy efficiency shall have either an Energy Budget that is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 30 percent or greater reduction in its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission.

Example Prior to the issuance of a building permit for single-family residential development, development plans for these structures shall be required to demonstrate that the project achieves the Zero Net Energy (ZNE) performance standard as specified under Section A4.203.1.3,of Title 24, Part 11, California Green Buildings Standards Code.

Example Prior to the issuance of a building permit for multi-family residential developments four stories or higher and non-residential developments, development plans for these structures shall be required to demonstrate that the project achieves the (Tier 1/Tier 2) energy performance standard as specified under Section A5.203.1.2, of Title 24, Part 11, California Green Buildings Standards Code:

- Tier 1 (A5.203.1.2.1). Buildings complying with the first level of advanced energy efficiency that include indoor lighting and mechanical systems shall have an Energy budget that is no greater than 90 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, as calculated by compliance software certified by the Energy Commission.

- Tier 2 (A5.203.1.2.2). Buildings complying with the first level of advanced energy efficiency that include indoor lighting and mechanical systems shall have an Energy budget that is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building, as calculated by compliance software certified by the Energy Commission.

Fuel Switching

Example The project applicant shall design and build all residential units to use all electric energy systems (e.g., induction stoves, electric ovens, electric heating, electric water heaters). Use of natural gas shall be prohibited in residential units.

Construction

Example Development projects with over 10,000 square feet of demolition shall be required to demonstrate that the project achieves the (Tier 1/Tier 2) enhanced construction waste diversion requirements as specified under Section A4.408 (Residential) or Section A5.408 (Non-Residential) of Title 24, Part 11, California Green Buildings Standards Code. The construction contractor shall prepare a Waste Management Plan that calculates demolition volumes or weight and specifies materials to be recycled or salvaged. The Waste Management Plan shall be approved/verified by the Director of Public Works and Transportation prior to commencement of demolition activities.

- Residential Tier 1 (A4.408.1) and Non-Residential Tier 1 (A5.408.3.1): Divert to recycle or salvage at least 65 percent of nonhazardous construction and demolition waste generated.
- Residential Tier 2 (A4.408.1): Divert to recycle or salvage at least 75 percent of nonhazardous construction and demolition waste generated.
- Non-Residential Tier 2 (A5.408.3.1.1): Divert to recycle or salvage at least 80 percent of nonhazardous construction and demolition waste generated at the site.

Example Applicants for new developments shall require that the construction contractor provide alternative transportation mode incentives such as bus passes and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. These requirements shall be noted on the grading plan cover sheet.

Hazards and Hazardous Materials

Example Prior to issuance of a demolition permit or grading permit, whichever occurs first, the Project Applicant shall provide documentation to the Director of Community Development that appropriately qualified individuals have been retained to manage the identified materials in accordance with all applicable regulations.

[Expand on Hazardous Materials Specific to the Project]

Noise

Construction

Example Prior to the issuance of each grading permit and building permit, the Project Applicant or its contractor shall submit a construction-related noise mitigation plan to the Director of Community Development for review and approval. The plan must depict the location of construction equipment and how the noise from this equipment shall be mitigated during construction of the project, through the use of such methods as the following:

- Temporary noise attenuation fences.
- Preferential location of equipment.
- Use of current technology and noise suppression equipment.

Example Applicants for individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive receptors shall submit a noise vibration analysis prior to their application being deemed complete by the City. If average construction-related vibration is determined to exceed the Federal Transit Administration vibration-annoyance criteria of 78 VdB during the daytime, additional requirements, such as use of less vibration intensive equipment or construction techniques shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

Example Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

- Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
- Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
- Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.

Airport Noise Compatibility

Example Residential and active recreational areas shall be prohibited in the 65 dBA CNEL noise contour of the John Wayne Airport. In addition, prior to issuance of building permits, the project applicant for any project within the 60 dBA CNEL contour of the John Wayne Airport shall retain an acoustical engineer to prepare an acoustic analysis that identifies required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling) to achieve the 45 dBA CNEL interior noise standard of Title 21 and Title 24 of the California Building Code. In addition to the 24-hour interior noise standard, the acoustic report shall detail compliance with the City's interior noise standard of 55 dBA L_{max} (10) for single-event noise generated by the loudest 10 percent of aircraft overflights at the John Wayne Airport. Parks within the 60 dBA CNEL noise contour shall include signage indicating

their proximity to John Wayne Airport and related airport noise. The acoustic analysis shall be submitted to the Director of Community Development to ensure compliance.

Transportation

Example Prior to the issuance of the first grading permit, the project applicant shall demonstrate on-site connectivity improvements as part of the project design to promote bicycle activity (i.e, bicycle facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets).

Example The project shall participate in a Transportation Demand Management (TDM) program. Prior to the issuance of a grading permit, the project applicant shall submit plans that demonstrate TDM improvements to the satisfaction of the Director of Public Works and Transportation (or assigned staff under the direction of the Director). The following improvements shall be incorporated into the TDM program to the satisfaction of the Director of Public Works and Transportation:

[List proposed improvements].

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Appendices

E IRVINE STANDARD CONDITIONS OF APPROVAL

RESERVED.

Appendices

APPENDIX E

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Appendices

F REGULATORY INFORMATION

Hydrology and Water Quality

General Construction Permit (NPDES No. CAS000002)

The 2009 General Construction Permit (GCP) (Order 2009-0009-DWQ), as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ, has been administratively extended by the State Water Resources Control Board (SWRCB) until a new order is adopted and becomes effective. It must be complied with in order for development projects to demonstrate their compliance with the Clean Water Act regulations. The GCP is implemented at a local level by the Regional Water Quality Control Boards (RWQCB) in California. The City of Irvine is in the Santa Ana RWQCB. Applicable excerpts from the GCP are provided below.

Section 1.B, Activities Covered Under the General Permit

The following activities require documentation of compliance.

- "Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

- Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

- Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to U.S. EPA regulations, such as dairy barns or food processing facilities.

- Construction activity associated with Linear Underground/Overhead Utility Projects (LUPs) including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

- Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[1]

- Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction sites that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the site."

Section XIII, Post-Construction Standards

Development sites must meet these standards by the time the project has been completed.

- "All dischargers shall comply with the following runoff reduction requirements unless they are located within an area subject to post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved Storm Water Management Plan.

    - This provision shall take effect three years from the adoption date of this permit, or later at the discretion of the Executive Officer of the Regional Board.

    - The discharger shall demonstrate compliance with the requirements of this section by submitting with their NOI a map and worksheets in accordance with the instructions in Appendix 2 [of the Construction General Permit]. The discharger shall use non-structural controls unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts.

    - The discharger shall, through the use of non-structural and structural measures as described in Appendix 2 [of the Construction General Permit], replicate the pre-project water balance (for this permit, defined as the volume of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event (or the smallest storm event that generates runoff, whichever is larger). Dischargers shall inform Regional Water Board staff at least 30 days prior to the use of any structural control measure used to comply with this requirement. Volume that cannot be addressed using nonstructural practices shall be captured in structural practices and approved by the Regional Water Board. When seeking Regional Board approval for the use of structural practices, dischargers shall document the infeasibility of using non-structural practices on the project site, or document that there will be fewer water quality impacts through the use of structural practices.

    - For sites whose disturbed area exceeds two acres, the discharger shall preserve the pre-construction drainage density (miles of stream length per square mile of drainage area) for all drainage areas within the area serving a first order stream14 or larger stream and

[1] Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the U.S. EPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

ensure that post-project time of runoff concentration is equal or greater than pre-project time of concentration.

- All dischargers shall implement BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site (Post-construction BMPs)."

Orange County Municipal Stormwater Permit Santa Ana Region (Order No. R8-2009-0030)

The 2009 Orange County Municipal Stormwater Permit as amended by Order No. R8-2010-0062 is currently in effect. It must be complied with in order for new development and significant redevelopment projects to demonstrate their compliance with the Clean Water Act regulations. Permit requirements are implemented through the Drainage Area Management Plan, which includes the Model Water Quality Management Plan (WQMP) and Technical Guidance Document. These documents assist project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects.

Priority Project Categories
1. All significant redevelopment projects, where significant redevelopment is defined as projects that include the addition or replacement of 5,000 square feet or more of impervious surface on a developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in the addition or replacement of less than fifty percent of the impervious surfaces of a previously existing developed site, and the existing development was not subject to WQMP requirements, the numeric sizing criteria discussed below applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in the addition or replacement of more than fifty percent of the impervious surfaces of a previously existing developed site, the numeric sizing criteria applies to the entire development.
2. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions, multi-family attached subdivisions (town homes), condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public or private land, which fall under the planning and building authority of the permittees.
3. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532-7534, 7536-7539).
4. Restaurants where the land area of development is 5,000 square feet or more.
5. All hillside developments on 5,000 square feet or more, which are located on areas with known erosive soil conditions or where the natural slope is twenty-five percent or more.
6. Parking lots of 5,000 square feet or more of impervious surface exposed to storm water. Parking lot is defined as a land area or facility for the temporary storage of motor vehicles.

Priority Project Categories
7. Streets, roads, highways and freeways of 5,000 square feet or more of paved surface shall incorporate USEPA guidance, "Managing Wet Weather with Green Infrastructure: Green Streets" in a manner consistent with the maximum extent practicable standard. This category includes any paved surface used for the transportation of automobiles, trucks, motorcycles and other vehicles and excludes any routine road maintenance activities where the footprint is not changed.
8. Retail gasoline outlets of 5,000 or more square feet with a projected average daily traffic of 100 or more vehicles per day.
9. Emergency and public safety projects in any of the above-listed categories may be excluded if the delay caused due the requirement for a WQMP compromises public safety, public health and/or environmental protection.

Orange County Drainage Area Management Plan

The specific water pollutant control elements of the Orange County Stormwater Program are documented in the Drainage Area Management Plan (DAMP) which is the primary policy, planning and implementation document for municipal NPDES Stormwater Permit compliance. The DAMP was prepared and is periodically updated using a consensus building process that involving public and private sector input and public review through the California Environmental Quality Act (CEQA) process. DAMP Section 7.0 ensures that all new development and significant redevelopment incorporates appropriate Site Design, Source Control and Treatment Control BMPs to address specific water quality issues.

Water Quality Management Plan (WQMP) and Technical Guidance Document

The Model WQMP has been developed to aid development project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects. In general, Priority Projects include development that creates new impervious surface and significant redevelopment that adds or replaces 5,000 or more square feet of impervious area on an already developed site.

The Model WQMP describes the process that project proponents will employ for developing a Project WQMP for individual new development and significant redevelopment projects. A Project WQMP is a plan for minimizing the adverse effects of urbanization on site hydrology, runoff flow rates and pollutant loads. The permit also requires development of Conceptual or Preliminary WQMPs prior to submission of a Project WQMP.

The Technical Guidance Document is intended to provide guidance on how to complete the Conceptual/Preliminary WQMP or Project WQMP. The Municipal Stormwater Permit requires the use of Low Impact Development (LID) as a stormwater management strategy. LID emphasizes conservation and the use of existing site features integrated with distributed stormwater controls that are designed to more closely mimic natural hydrologic patterns of undeveloped sites than traditional stormwater controls. The Model WQMP Technical Guidance Document includes preventative site design practices as well as mitigative LID best management practices.

These documents and additional information can be found on the City's website at:

https://www.cityofirvine.org/environmental-programs/water-quality-regulatory-requirements

Or at:

http://www.ocwatersheds.com/documents

Land Use and Planning

City of Irvine General Plan and Zoning Ordinance

Future development of all land within the City of Irvine is guided by the City of Irvine General Plan (General Plan). The General Plan consists of a series of State-mandated and optional "elements" that direct the City's physical, social, and economic growth, including: Land Use, Irvine Business Complex, Circulation, Housing, Noise, Public Facilities and Services, Integrated Waste Management, Energy, Safety, Parks and Recreation, Conservation and Open Space, Seismic, Cultural Resources, and Growth Management.

The City of Irvine Zoning Ordinance (Zoning Ordinance) establishes zone-specific development regulations, including building height limits, setback requirements, parking ratios, and other development standards, which are designed to promote compatibility. It is through the implementation of the Zoning Ordinance that long-term goals and objectives of the General Plan are implemented. The City establishes zoning regulations according to zoning designations as well as special development requirements for each planning area. The development regulations and standards are generally outlined in Division 3 (General Development Standards and Land Use Regulations), Division 4 (Parking), Division 5 (Overlay Districts), Division 7 (Signs), Division 8 (Conservation and Open Space Phased Dedication Districts), and Division 9 (Planning Areas).

Coastal Zone

The California Coastal Act of 1976 delineates an area along the California coastline for protection of its scenic and environmental resources. A portion of the Irvine Business Complex (IBC) is within Coastal Zone. As described in Chapter 2-7, Coastal Zone: Special Regulations for Development Located in Coastal Zone, of the Zoning Ordinance, a 40-acre parcel at the southern edge of the Irvine Business Complex (IBC), adjacent the Newport Back Bay, lies within the Coastal Zone as defined by the Coastal Act. One of the areas is the developed area bounded by Jamboree Road, MacArthur Boulevard, and Fairchild Road. Two other areas in the coastal zone are open space areas owned and managed by UC Irvine: the San Joaquin Marsh area located below Campus Drive together with the area of upland habitat located between the marsh, the San Diego Creek channel, MacArthur Boulevard, and Fairchild Road. UC Irvine's 2007 Long Range Development Plan (LRDP) identifies this area as open space.

Pursuant to the Coastal Act, the City of Irvine is required to have a Local Coastal Plan (LCP) for the Coastal Zone in its jurisdiction, which also includes the approximately 200 acres of the San Joaquin Marsh at the southern edge of the City, outside the IBC adjacent to the back bay. The City exercised its option to have the State Coastal Commission prepare this plan, which was prepared and certified by the Coastal Commission in 1982. The LCP delegates land use authority to the City through zoning code regulations outlined in Chapter 2-7 of the Zoning Ordinance. The land use plan in the LCP, as amended, allows for a mix of business and industrial uses, along with the potential for high density mixed-use development.

Airport Environs Land Use Plan for John Wayne Airport

The Airport Environs Land Use Plan (AELUP) for John Wayne Airport (JWA) is a 20-year land use compatibility plan for the airport to safeguard the general welfare of the inhabitants within its vicinity and ensure its continued operation. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. The California Department of Transportation's California Airport Land Use Planning Handbook provides guidelines for preparing airport compatibility plans. The handbook is a technical resource providing guidelines, in part, to define aircraft noise standards and criteria, accident potential zones, building height zones, and designated planning areas.

The southwest boundary of the IBC is adjacent to JWA and falls within the AELUP for JWA. The majority of the City is outside of the airport safety zones of JWA; however, portions of the IBC are within the airport safety zones. Additionally, portions of the IBC area are in the 60 and 65 dBA Community Noise Equivalent Level (CNEL) aircraft operation noise contours identified in the AELUP for JWA. Furthermore, the overall IBC area and other portions of the City's southern boundary are in the height restriction zone of JWA. The AELUP for JWA is available on the Orange County airport Web site (www.ocair.com).

University of California Long Range Development Plan

The University of California Irvine (UCI) Long Range Development Plan (LRDP) is a comprehensive policy and land use plan that guides the growth of the school campus. It identifies the physical development needed to achieve the academic needs and goals of the campus while demonstrating responsible conservation of limited resources. UCI's LRDP was last updated in 2007 with subsequent amendments. It is the fourth LRDP for UCI, as previous plans were adopted in 1963, 1970, and 1989. The 2007 LRDP provides a framework of policies and guidelines to shape land use and physical development at UCI through 2025–26. The plan is designed to support key academic and student life goals, identifies development objectives, delineates campus land uses, and estimates the new building space needed to support projected program expansion through the planning horizon year (UCI 2007).

The LRDP is neither an enrollment plan nor an implementation plan; rather, it provides a framework of policies and guidelines to influence future decisions on land use, enrollment, housing, parking, academic facilities, and urban and landscape design. Individual capital projects would be subject to future approval by the University. The 2007 LRDP is also accompanied by an EIR, prepared in accordance with CEQA and University of California guidelines for implementation of CEQA.

The 2007 LRDP encompasses the main campus and its environs. It does not include remote campus sites such as the UCI Medical Center in Orange or the Shellmaker Island boathouse in Newport Beach.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized Metropolitan Planning Organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this

role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the Southern California Air Quality Management District (SCAQMD), the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The SCAG plans most applicable to a proposed project are discussed below.

Regional Comprehensive Plan

The 2008 Regional Comprehensive Plan (RCP) is a major advisory plan prepared by SCAG that addresses important regional issues like housing, traffic/transportation, water, and air quality. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use in preparing local plans and handling local issues of regional significance. The RCP presents a vision of how southern California can balance resource conservation, economic vitality, and quality of life. The RCP identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. It also includes goals and outcomes to measure progress toward a more sustainable region.

Regional Transportation Plan/Sustainable Communities Strategy

On November 7, 2019, SCAG released the Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal), which serves as an update to the 2016-2040 RTP/SCS. The 2020-2045 RTP/SCS focuses on the continued efforts of the previous RTP/SCS plans for an integrated approach in transportation and land uses strategies in development of the SCAG region through horizon year 2045. Connect SoCal forecasts that the SCAG region will meet the GHG per capita reduction targets established for the SCAG region of 8 percent by 2020 and 19 percent by 2035. Additionally, it is also projected that implementation of the plan would reduce VMT per capita for year 2045 by 4.1 percent compared to baseline condition for the year. Rooted in the 2008 and 2012 RTP/SCs plans, the 2020-2045 RTP/SCS includes "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together, and increasing investments in transit and complete streets.

Utilities and Service Systems

Senate Bill 610

California Water Code section 10912.

When a "project" meets the definition of section 10912 of the California Water Code, a water supply assessment must be prepared.

"Project" means any of the following:

1) A proposed residential development of more than 500 dwelling units.

2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

4) A proposed hotel or motel, or both, having more than 500 rooms.

5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

6) A mixed-use project that includes one or more of the projects specified in this subdivision.

7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections (California Department of Water Resources 2003).

Senate Bill 221

SB 221 requires verification of water supply for subdivision developments. It is applied when a project is defined as a subdivision per Government Code § 66473.7(a)(1):

> "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections." See Government Code § 65867.5(c).
>
> The exception is when the project is an infill project or it would be used for low-income or very-low-income housing. SB 221 will not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households (California Department of Water Resources 2003).

More information on both SB 610 and SB 221 is found in the “Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001,” available on the California Department of Water Resources website.

Appendices

G ENVIRONMENTAL INFORMATION FORM & ENVIRONMENTAL CHECKLIST

RESERVED

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Appendices

H COMMON RESPONSIBLE AGENCIES FOR PROJECTS IN IRVINE

The list below represents an inventory of common "Responsible Agencies" for projects in the City of Irvine. The term is one specifically defined by the CEQA Guidelines. Per Section 15381 of the Guidelines:

> "Responsible Agency" means a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project."

While the list below is not exhaustive, and will change over time, it is meant to serve as a starting point for determining which agencies have discretionary approval power over a project for which an environmental analysis is being prepared. A list of common trustee agencies is also included.

Common Responsible Agencies

- Adjacent Cities:
  - City of Costa Mesa
  - City of Laguna Hills
  - City of Laguna Woods
  - City of Lake Forest
  - City of Newport Beach
  - City of Santa Ana
  - City of Tustin
- California Coastal Commission (CCC)
- California Department of Transportation (Caltrans)
- California Public Utilities Commission (CPUC)
- Department of Toxic Substances Control (DTSC)
- Irvine Ranch Water District (IRWD)
- JWA Airport Land Use Commission
- Local School Districts:
  - Irvine Unified School District
  - Saddleback Valley Unified School District
  - Santa Ana Unified School District
  - Tustin Unified School District

- Native American Heritage Commission (NAHC)
- Orange County, Environmental Health Division (Local Enforcement Agency)
- Orange County Fire Authority (OCFA)
- Orange County Public Works (OCPW)
- Orange County Transportation Authority (OCTA)
- Orange County Water District (OCWD)
- Santa Ana Regional Water Quality Control Board (SARWQCB)
- South Coast Air Quality Management District (South Coast AQMD)
- U.S. Army Corps of Engineers (Corps or ACOE)
- U.S. Fish and Wildlife Service (WFS)

Common Trustee Agencies

The list below represents an inventory of common "Trustee Agencies" for projects in the City of Irvine. The term is one specifically defined by the CEQA Guidelines. Per Section 15386 of the Guidelines:

> "Trustee Agency" means a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. Trustee Agencies include:
>
> (a) The California Department of Fish and Wildlife with regard to the fish and wildlife of the state, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department;
>
> (b) The State Lands Commission with regard to state owned "sovereign" lands such as the beds of navigable waters and state school lands;
>
> (c) The State Department of Parks and Recreation with regard to units of the State Park System;
>
> (d) The University of California with regard to sites within the Natural Land and Water Reserves System.

CEQA VMT IMPACT ANALYSIS GUIDELINES

APRIL 2020

Prepared by:

City of Irvine

Department of Public Works and Transportation

APPENDIX I

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Attachment 1: SB 743 Implementation Technical Appendix

INTRODUCTION

Vehicle miles traveled (VMT) impact analysis is required in order to comply with the State's updated California Environmental Quality Act (CEQA) Guidelines and Senate Bill (SB) 743 (Steinberg). On September 27, 2013, Governor Jerry Brown signed SB 743 into law, which requires a shift in the way cities measure environmental impacts. The Office of Planning and Research (OPR) is requiring all cities to measure transportation impacts using VMT as the metric to determine the significance under CEQA. This approach promotes the reduction of greenhouse gas emissions, the development of multimodal transportation networks prioritizing safety and access for all street users, and a diversity of land uses.

State guidelines require that all cities implement VMT as the metric for CEQA impact analysis by July 1, 2020. This document serves as the implementation guide for VMT impact analysis required for land use and transportation projects within the City of Irvine.

The City's methodology for evaluating traffic operations based on level of service (LOS) outside of the CEQA requirements will remain unchanged.

BACKGROUND

The VMT approach was selected by OPR to address traffic impacts with the goal of reducing vehicle emissions by optimizing land use planning through job-housing balancing in localized areas and by enhancing the multimodal transportation system, both of which promote less dependency on vehicles. Prior CEQA laws addressed traffic impacts also with the goal of reducing vehicle emissions but by way of improving Level of Service (LOS) or traffic delay. The LOS is improved by construction of new roadways or additional capacity on roadways, that in turn reduces emissions related to vehicle idling and thereby lowers emissions. The unintended consequence, however, is that the added capacity supports vehicle dependency, thereby increasing vehicle emissions.

VMT captures the daily automobile trips generated by a proposed development, multiplied by the estimated number of miles driven for each trip. In December 2018, OPR issued a Technical Advisory that recommended using VMT per capita for residential projects and VMT per employee for office projects as "efficiency" metrics, rather than the absolute VMT. The VMT per capita for residential projects (or VMT per employee for office projects) is then compared to a threshold of significance to determine whether a project results in a significant impact. The thresholds of significance are determined based on the regional or sub-regional existing VMT rates for similar land uses or some desired reduction thereof.

The rationale for using the per capita and per employee "efficiency" metric is that population growth is unavoidable, and therefore total VMT is expected to increase. However, decreasing VMT on a per-person basis, in combination with other measures to increase vehicle efficiency and reduce fuel carbon content, will result in a measurable decrease in greenhouse gas production.

CEQA VMT IMPACT ANALYSIS FOR LAND USE PROJECTS

Consistent with the framework outlined in the OPR Technical Advisory, the steps taken to satisfy CEQA for land use project evaluation include: (1) first determine which projects require a VMT impact analysis (i.e., screening); (2) calculate the project VMT metric; (3) compare the metric to a threshold to determine whether the project creates significant impacts(s) on the environment; and (4) develop mitigation to reduce or avoid the significant effects. An overview of the process is illustrated in Figure 1 (right column). Each step is described within this document and the attached Technical Appendix provides documentation to support the City's screening process, methodology, thresholds and mitigation measures.

Screening

All discretionary land use projects subject to CEQA will be considered for a VMT impact analysis as part of the environmental review process. A discretionary development application is a development proposal that requires approval by the City Council, Planning Commission, or Zoning Administrator at a public hearing, before grading or building permit applications may be submitted and/or approved.

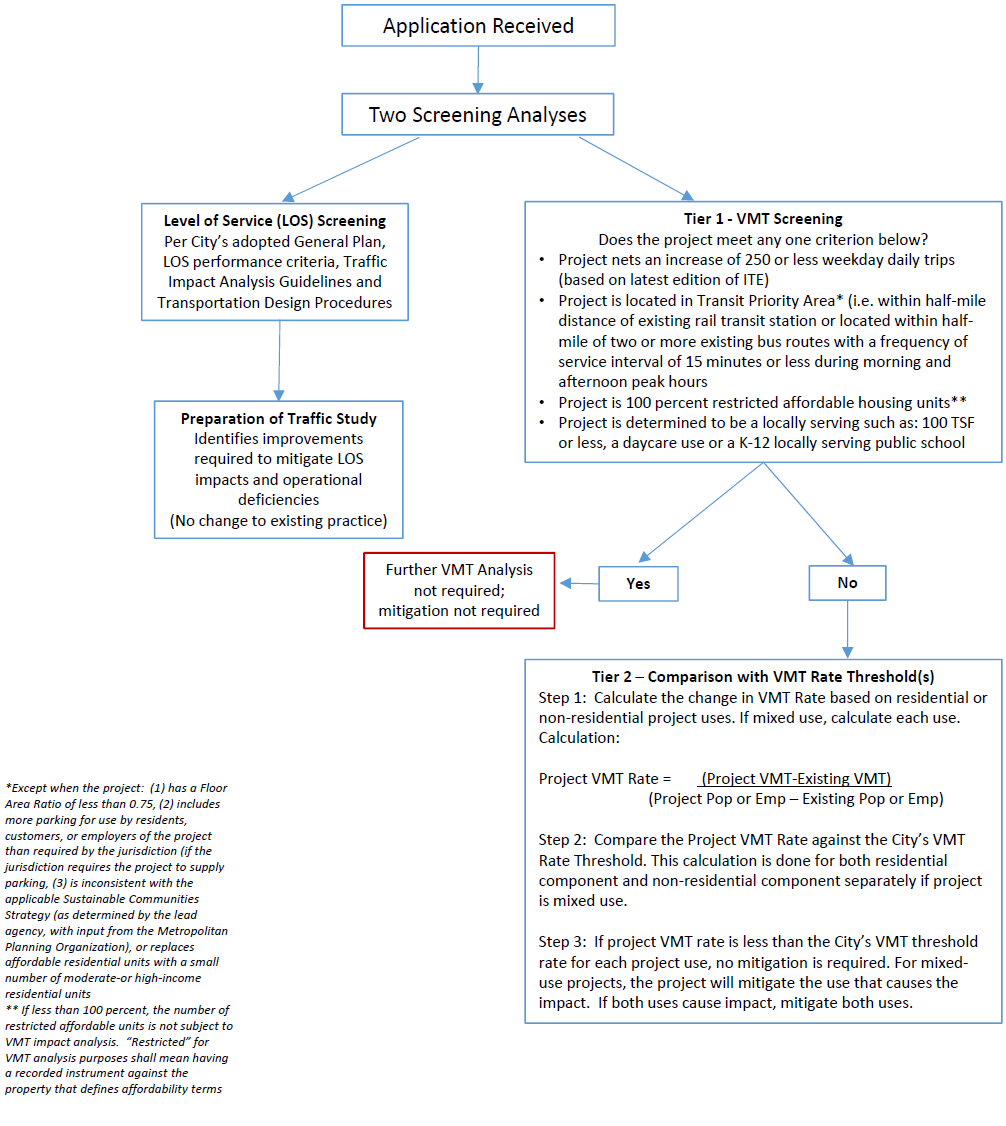
Examples of discretionary development applications include, but are not limited to:

- Master Plans (MP) for development of certain sites and land uses in particular zoning districts;
- Conditional Use Permits (CUP) for development of proposed land uses not permitted by right in a particular zoning district as identified in the Zoning Ordinance; and
- Subdivision, Maps (i.e., tentative tract and/or parcel) for development that divides land into lots for the purpose of sale, leasing, or financing.

If an analysis of environmental impacts related to transportation (i.e., VMT impact analysis) is required for a discretionary project, but the project applicant demonstrates to the satisfaction of the Director of Public Works and Transportation (or assigned staff under the direction of the Director) that the project meets any one of the following four screening criteria, then no further VMT impact analysis is required:

1. The project results in a net increase of 250 or less weekday daily trips (based on latest edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual)
2. The project is located in a Transit Priority Area (i.e., within half-mile distance of existing rail transit station or located within half-mile of two or more existing bus routes with a frequency of service interval of 15 minutes or less during morning and evening peak hours) except when the project:
    a. Has a Floor Area Ratio (FAR) of less than 0.75;
    b. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);

Figure 1
VMT Impact Analysis Methodology Flow Chart for Land Use Projects



**Except when the project: (1) has a Floor Area Ratio of less than 0.75, (2) includes more parking for use by residents, customers, or employers of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking, (3) is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization), or replaces affordable residential units with a small number of moderate-or high-income residential units*
*** If less than 100 percent, the number of restricted affordable units is not subject to VMT impact analysis. "Restricted" for VMT analysis purposes shall mean having a recorded instrument against the property that defines affordability terms*

c. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization; or
d. Replaces affordable residential units with a smaller number of moderate, or high-income residential units.

3. The project is a 100-percent restricted affordable housing units (Note: If less than 100 percent, the number of restricted affordable units is not subject to VMT impact analysis. "Restricted" for VMT analysis purposes shall mean having a recorded instrument against the property that defines affordability terms)
4. The project is locally serving such as 100,000 square feet or less of retail use, a daycare use or a locally serving public school (kindergarten through 12th grade)

Impact Analysis Methodology

All projects that require CEQA analysis must include a VMT Impact Analysis discussion (i.e., Tiers 1 and 2 in Figure 1) within the Special Issues section of a project's traffic study.

For those projects that are not screened out, the project's analysis of resulting VMT rate must be evaluated and compared against the applicable adopted VMT rate threshold, using the City's VMT traffic model (ITAM TransCAD 2018 VMT). The City's VMT traffic model is calibrated and validated to represent baseline existing conditions, and this unique VMT traffic model was used to determine existing VMT rates and will also be used for VMT impact analysis for a project.

For residential development projects, the VMT per capita specific to a project is calculated as the project's contribution toward countywide VMT divided by the project's contribution toward an increase in countywide population. For non-residential projects, the VMT per employee specific to a project is calculated by the project's contribution toward countywide commute and other related VMT (i.e., customer and client) divided by the project's contribution toward an increase in the number of countywide employees.

The steps for VMT impact analysis include:

- For residential projects, the project's Residential VMT per capita rate will be evaluated against the residential VMT per capita threshold:
    - If the project's residential VMT rate is less than or equal to the City's adopted residential VMT rate threshold, then no impact results and no mitigation is required.
    - If the project's residential VMT rate is greater than the City's adopted residential VMT rate threshold, then the project has a VMT impact and mitigation is required.
- For non-residential projects (i.e., office, industrial, retail greater than 100,000 total gross square feet, hotels, hospitals, commercial recreation, university uses), the project's non-residential VMT per employee rate will be evaluated against the non-residential VMT per employee threshold:
    - If the project's non-residential VMT rate is less than or equal to the City's adopted non-residential VMT rate threshold, then no impact results and no mitigation is required.
    - If the project's non-residential VMT rate is greater than the City's adopted non-residential VMT rate threshold, then the project has a VMT impact and mitigation is required.
- For mixed-use projects that include both residential and non-residential uses, all project land uses will be evaluated, except for those specific land uses screened out in Tier 1. Both the residential VMT per capita and non-residential VMT per employee will be evaluated separately. If either residential or non-residential uses cause impacts, such use will be mitigated.

If the project results in a VMT impact, then mitigation is required to reduce the project's VMT rate to the City's adopted VMT rate threshold.

Thresholds of Significance

The City's goal and associated significance criteria is for new projects to generate 15 percent less VMT per capita (or per employee) compared to existing conditions, which is consistent with OPR's Technical Advisory recommendations. City staff will periodically update the VMT thresholds based on the latest calibrated and validated VMT traffic model. Any technical updates to the VMT significance thresholds are subject to the approval of the Transportation Commission at the recommendation of the Director of Public Works and Transportation.

Table 1 identifies the existing residential VMT per capita and the non-residential VMT per employee, as well as the proposed VMT per capita and VMT per employee significance thresholds, using the City VMT traffic model. The residential significance threshold is based on the countywide population VMT divided by the countywide population, while the non-residential significance threshold is based on the countywide commute and other (i.e., customer and client) VMT trips divided by the number of countywide employees.

Table 1
VMT Significance Thresholds for Projects within City of Irvine

Land Use Type	Existing	Significance Threshold* (15 percent reduction)
Residential (VMT per population)	17.5	14.9
Non-residential (VMT per employee)	48.8	41.5

*Any technical updates to the VMT significance thresholds are subject to the approval of the Transportation Commission at the recommendation of the Director of Public Works and Transportation.

If the project VMT rate exceeds the respective threshold, then the project creates a significant impact.

MITIGATION MEASURES

When a project results in a significant VMT impact, it must identify the appropriate (i.e., essential nexus and rough proportionality) mitigation measures to reduce the impact to a level that meets the City's adopted VMT threshold. All feasible mitigation measures must be incorporated into the project to substantially reduce the impact even if the project cannot meet the adopted VMT threshold. The City's VMT Mitigation and Percent Reduction is presented in Table 2.

Table 2

VMT Mitigation and Percentage Reduction

Type	Strategy	VMT Reduction Potential	Irvine Programs	Suggested VMT Reduction Value
Tier 1 - On-Site Infrastructure (100% Applicant Funded)	Provide Bicycle and Pedestrian Network Connectivity and facilities	Mode shift to walking	Meet City Standard Plans for non-vehicular connectivity	2.5%
Tier 2 - On-Site TDM (100% Applicant Funded)	Participation in a TDM Program	Mode shift from single occupancy vehicle	Spectrumotion, IBC	5%
Tier 3 - VMT Mitigation Fee Program	Provide Financing	Mode shift to transit	Provide funding for local shuttles, transit access improvements, non-vehicular infrastructure improvements that promote bicycle and pedestrian connectivity.	TBD

As shown in Table 2, residential and non-residential projects may apply two-and-a-half percent (2.5%) VMT rate reduction for on-site connectivity improvements as part of the project design to promote bicycle activity (i.e., bike facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets). Projects that are participants in a Transportation Demand Management (TDM) program, such as Spectrumotion and comparable TDM programs in Planning Area 51, may apply a five percent (5%) VMT rate reduction in support of the City's goals toward reducing vehicle emissions and VMT.

Projects may propose variations to the VMT Reduction Values identified in Table 2 as well as mitigation measures that are not included in Table 2. The project applicant must demonstrate to the satisfaction of the Director of Public Works and Transportation (or assigned staff under the direction of the Director) that the proposed mitigation measures are supported by substantial evidence documenting their effect on reducing project VMT per capita or VMT per employee.

If the project cannot meet the adopted VMT threshold rate after all feasible mitigations are incorporated, then a Statement of Overriding Considerations must be adopted along with preparation of an Environmental Impact Report in accordance with CEQA Guidelines.

CEQA VMT IMPACT ANALYSIS FOR TRANSPORTATION PROJECTS

According to the OPR Technical Advisory, local agencies should consider the effects of transportation projects on vehicle travel. Projects that lead to additional vehicle travel, called "induced vehicle travel," are required to analyze the growth impacts under CEQA. The Technical Advisory identifies transportation projects that add through lanes on existing or new highways, including general purpose lanes, high occupancy vehicle lanes, peak period lanes, auxiliary lanes, or lanes through grade separated interchanges as projects that would likely lead to a measurable and substantial increase in vehicle travel.

Screening

The following transportation projects would likely not lead to a substantial increase in

vehicle travel and therefore, do not require VMT analysis:

- **Maintenance:** Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- **Roadside Safety:** Roadside safety devices or hardware installation such as median barriers and guardrails
- **Roadway Shoulder:** Roadway shoulder enhancements to provide "breakdown space," which is dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as motor vehicle travel lanes
- **Non-through Lanes:** Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- **Through Lanes:**
  - Addition of roadway capacity on local or collector streets provided that the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit (e.g., protected and separated Class IV bikeway as well as pedestrian refuges, bulb-outs, and elements that shorten pedestrian crossing distances);
  - Addition of a new lane that is permanently restricted to use only by transit vehicles;
  - Addition of a new lane on the approach to an intersection that terminates immediately downstream of the intersection;
  - Reduction in number of through lanes;
  - Grade separation to separate vehicles from rail, transit, pedestrian or bicycles, or to replace a lane in order to separate preferential vehicles (e.g. HOV, HOT, or trucks) from general vehicles; or
  - Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- **Traffic Control Devices:**
  - Installation, removal or reconfiguration of traffic control devices including Transit Signal Priority (TSP) features; or
  - Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow; or
  - Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- **Traffic Circles:** Installation of roundabouts or traffic circles
- **Traffic Calming Devices:** Installation or reconfiguration of traffic calming devices
- **Traffic Wayfinding:** Addition of traffic wayfinding signage
- **Parking:**
  - Removal or relocation of off-street or on-street parking spaces; or
  - Adoption or modification of on-street parking or loading restrictions

(including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)

- **Active Transportation:**
  - Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way; or
  - Addition of Class bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- **Fuel/Charging Infrastructure: Installation of publicly available alternative fuel/charging infrastructure**

Impact Analysis Methodology

Transportation projects that are not screened out are required to prepare a VMT impact analysis. This analysis must evaluate the net change in VMT with and without the project under the existing conditions scenario based on the City's adopted version of the VMT traffic model (ITAM TransCAD 2018 VMT). The difference between with and without project VMT is the VMT attributable to the project. A project that results in a net decrease in the VMT does not result in a significant impact and therefore, does not require mitigation. A project that results in a net increase in VMT may be deemed significant and may require mitigation such as Intelligent Transportation Systems (ITS) that integrate advanced communications technologies into transportation infrastructure and vehicles to advance safety and mobility.

If a land use project is going to implement transportation improvements to address LOS operational deficiencies and those improvements are not screened out, then the improvements must be analyzed as part of the land use project's VMT impact analysis. Those transportation improvements would be included as part of the "with project" scenario for analysis.

CEQA VMT IMPACT ANALYSIS FORMAT

This section describes the key elements of a typical VMT Impact Analysis. In order to provide consistency and facilitate staff review of VMT Impact Analysis, the format identified below must be followed. This VMT Impact Analysis shall be an appendix to the project's traffic study. A summary of the VMT Impact Analysis shall be included under the Special Issues section of the project's traffic study and reference made to the VMT Impact Analysis within the Appendix of the traffic study.

Executive Summary

The Executive Summary of the report shall be a clear, concise description of the level of VMT Impact Analysis required (Tier 1 or 2) and description of the study findings. It shall include a general description of all data, purpose, findings, conclusions, mitigation measures, and recommendations.

Technical publications, calculations, documentation, data reporting, and detailed design should not be included in this section. The Executive Summary should be concise,

complete in itself, and not dependent on supplementary data included by reference.

Introduction and Project Description

The Introduction shall supply the reader with a general description of the project. This description shall include the size of the overall project site including all comprising parcels, general terrain features, all existing/proposed uses and their numbers by type (e.g., units) and sizes (e.g., gross square footage, rooms) (including any project phasing) based on the zoning and general plan categories outlined in the City's Zoning Ordinance and the General Plan.

In addition, the location of the project site shall be described and a vicinity map shall be provided. The map shall include roadways, which afford access to the site and are included in the study area. If multiple project alternatives are proposed, then all alternatives must be defined and discussed in this section.

The study must identify the existing conditions in the vicinity of the project site, including a description of the area to be affected by the development. This is to provide a comparison of the impacts over time on land use and circulation.

The proposed land uses for the project site and any project-related traffic improvements shall be described in this section.

Proposed Project Impacts and Mitigation Measures

The VMT impact analysis for the project is described in this section, including discussion of the use of the City's VMT traffic model (ITAM TransCAD 2018 VMT). VMT impacts caused by the project are identified based on the methodology outlined in Figure 1. A project's VMT impacts shall be mitigated to the adopted VMT rate thresholds adopted in Table 1, and a discussion of the mitigation measures is included in this section.

Conclusions

This section of the analysis shall summarize the analysis results and the proposed mitigation measures. This shall include:

- Land Use project's resultant VMT per capita and/or VMT per employer rate(s) with proposed mitigation measures if applicable
- Transportation project's resultant VMT with proposed mitigation measures if applicable

SB743 Implementation
VMT Technical Appendix
Version 1.4

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1 INTRODUCTION

The purpose of this Technical Appendix is to provide documentation to support the approach and thresholds that the City of Irvine staff is recommending in order to become compliant with Senate Bill (SB) 743 and its requirements. This document is intended to be updated periodically as additional information becomes available regarding the threshold goals, assumptions and methodologies applied, and applicable mitigation measures are updated.

2 BACKGROUND

On September 27, 2013, Governor Jerry Brown signed SB 743 into law. SB 743 tasked the Office of Planning and Research (OPR) with developing alternative methods of measuring transportation impacts pursuant to California Environmental Quality Act (CEQA), other than the current practice of using traffic congestion-based measures, which tend to promote increased vehicle use. On December 30, 2013, OPR released a technical memorandum that identified objectives for developing alternative criteria in support of the State's goals for greenhouse gas reduction by encouraging higher density, mixed-use development in urban areas served by public transit, and more diverse travel options.

In August 2014, OPR proposed to replace roadway capacity and vehicle delay measures often displayed as Levels of Service (LOS) with vehicle miles traveled (VMT), which estimates the total distance people drive by vehicle. This shift in CEQA transportation metric promotes outcomes that reduce reliance on automobile travel, and thus aligns with State goals for reducing emissions, investing in multimodal transportation networks and encouraging higher density in-fill development.

In December 2018, after over five years of stakeholder-driven development through nearly 200 stakeholder meetings, public convening, and other outreach events, the California Natural Resources Agency (Agency) certified and adopted the CEQA Guidelines update package including the guidelines for implementing SB 743. The final text, final statement of reasons, and related materials are posted at https://resources.ca.gov/ceqa. The changes have been approved by the Office of the Administrative Law and are now in effect.

The new CEQA Guidelines (Section 15064.3, Determining the Significance of Transportation Impacts) generally require that VMT-based metrics be used to evaluate transportation impacts beginning July 1, 2020. The CEQA Guidelines give lead agencies discretion to choose the most appropriate methodology to evaluate a project's VMT impacts, however, the methodology must be based on substantial evidence. Importantly, SB 743 "does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority." (Pub. Resources Code § 21099(b)(4).). Thus, it does not preclude the on-going use of congestion measures as a project performance metric for operational analysis for conformance with planning for new development consistent with community values. However, the congestion or operations analysis would not be applicable to determining the significance of transportation impacts under CEQA.

The Agency's Statement of Regulatory Impact Assessment for the updated CEQA Guidelines identified numerous potential direct and indirect benefits of reducing vehicle miles traveled. Realization of those benefits will depend on the degree to which, pursuant to the CEQA Guidelines update, lead agencies use the streamlined approaches for analysis of low-VMT projects, to mitigate high-VMT projects, or to choose lower VMT project alternatives. Lead agencies determine whether any particular mitigation measure is feasible in the context of the project under review. Further, CEQA allows a lead agency to approve a project that has significant environmental impacts so long as it finds that the benefits of the project outweigh those impacts.

New section 15064.3 of the CEQA Guidelines contains several subdivisions, which are described below. In brief, the Guidelines provide that transportation impacts of projects are, in general, best measured by evaluating a project's vehicle miles traveled. Methodologies for evaluating such impacts are already in use for most land use projects, as well as many transit and active transportation projects. Methods for evaluating vehicle miles traveled for highway

capacity projects continue to evolve, however, so these Guidelines recognize a lead agency's discretion to determine the appropriate measure to analyze such projects, provided such analysis is consistent with CEQA and applicable planning requirements.

Subdivision (a): Purpose
Subdivision (a) clarifies that the primary consideration in evaluating a project's transportation impacts for CEQA purposes is the amount and distance that a project might cause people to drive. This captures two measures of transportation impacts: auto trips generated and vehicle miles traveled. These factors were identified by the legislature in SB 743. The last sentence clarifies that automobile delay is not a significant effect on the environment.

Subdivision (b): Criteria for Analyzing Transportation Impacts
While subdivision (a) sets forth general principles related to transportation analysis, subdivision (b) focuses on specific criteria for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology.

Subdivision (b)(1): Land Use Projects
SB 743 directed OPR and the Agency to develop Guidelines "for determining the significance of transportation impacts of projects[.]" (Pub. Resources Code § 21099(b)(1).) Therefore, to provide guidance on determining the significance of impacts, subdivision (b)(1) describes factors that may indicate whether or not the amount of a project's vehicle miles traveled may be significant.

Subdivision (b)(2): Transportation Projects
Subdivision (b)(2) focuses on impacts that result from certain transportation projects. Subdivision (b)(2) clarifies that lead agencies should presume that projects that reduce vehicle miles traveled, such as pedestrian, bicycle and transit projects, will have a less than significant impact. This subdivision further provides that lead agencies have discretion regarding what measure to use to evaluate roadway capacity projects, provided that any such analysis is consistent with the requirements of CEQA and any other applicable requirements (e.g., local planning rules). Importantly, this provision does not prohibit capacity expansion. It also does not relieve agencies of the requirement to analyze any other potential impacts of such projects, including, but not limited to, greenhouse gas emissions and other air pollutants. Finally, recognizing that roadway capacity projects may be analyzed at a programmatic level, subdivision (b)(2) states that lead agencies may be able to tier from a programmatic analysis that adequately addresses the effects of such projects.

Subdivision (b)(3)
This subdivision indicates that if existing methods are not available to estimate VMT for a particular project, a lead agency may analyze the project's VMT qualitatively, by evaluating factors such as availability to transit and proximity to other destinations. It further provides that a qualitative analysis of construction traffic may be appropriate for many projects.

Subdivision (b)(4): Methodology
Lead agencies have the discretion to choose the most appropriate methodology to analyze a project's vehicle miles traveled. Depending on the project, vehicle miles traveled may be best measured on a per person, per-household or other similar unit of measurement. Subdivision (b)(4) also recognizes a role for both models and professional judgment in estimating vehicle miles traveled.

Subdivision (c): Applicability
The provisions of this section shall apply prospectively as described in CEQA Guidelines Section 15007. The new procedures may be used immediately upon the effective date of the Guidelines if lead agencies are ready to begin evaluating vehicle miles traveled, but jurisdictions ultimately have until July 1, 2020 to start analyzing vehicle miles traveled.

3 OPR TECHNICAL ADVISORY

OPR developed a series of technical advisories to provide advice and guidance on evaluating transportation impacts in compliance with SB 743. The most current and relevant document, the Technical Advisory on Evaluating Transportation Impacts (Technical Advisory), was published in December 2018. The Technical Advisory provides non-binding technical advice, and is not a formal administrative regulation, like the CEQA Guidelines. However, it does provide a reasonable framework for lead agencies as they implement CEQA Guidelines.

To date, the jurisdictions that have implemented SB 743 have all followed the broad approach outlined in the Technical Advisory, with slight differences for local conditions. The City is also broadly following the approach set forth in the Technical Advisory. The following section outlines the five main areas in the Technical Advisory and provides discussion of the justification of the City's proposed approach:

1. Screening Criteria
2. VMT Calculation Methodology
3. Thresholds of Significance
4. Mitigation Measures
5. Transportation Projects

3.1 Screening Criteria

The Technical Advisory suggests that lead agencies screen out projects that may not warrant VMT analysis under CEQA based on project size, VMT generation characteristics, transit availability and provision of affordable housing.

OPR Guidance Regarding Small Projects: OPR suggests a small project that would generate 110 trips per day or less generally may be assumed to cause a less-than-significant transportation impact and thus not warrant further CEQA analysis. However, a City may adjust this criteria to better reflect local conditions.

City of Irvine Recommendation: The current Irvine Traffic Study Guidelines require a full traffic study if a project generates a net increase of more than 50 peak hour trips and a limited scope traffic study if the project generates a net increase of between 1 and 49 peak hour trips. Fifty peak hour trips is typically equivalent to roughly 450 to 500 daily trips. Considering both the OPR suggestion and current City procedures, as well as existing conditions in the City and the studies and data discussed below, City staff recommends the use of 250 daily trips as a suitable threshold for small projects. The City of Los Angeles also decided to use the 250 daily trip threshold.

An ITE report on behalf of the San Diego Association of Governments (SANDAG) recommended that the small projects threshold be based on regional standards for transportation analyses that were documented in the Guidelines for Traffic Impact Studies in the San Diego Region (ITE/SANTEC, 2000) and have been in use for over 18 years. Their recommendation was that for projects consistent with the General Plan or Community Plan, VMT impacts could be presumed insignificant for projects generating less than 1,000 ADT. For Projects inconsistent with the General Plan or Community Plan, VMT impacts could be presumed insignificant for projects generating less than 500 ADT (www.SANDAG.org\SB743). Analysis by air quality specialists at LSA Associates also suggests that compared to commonly used GHG emissions thresholds, GHG emissions from a project of less than 500 ADT could typically be considered less than significant, as follows:

"In order to characterize the effect of changes in project-related average daily trips (ADT) to the resulting greenhouse gas (GHG) emissions the air quality model CalEEMod was used. This model was selected because it is provided by the California Air Resources Board to be used state-wide for developing project-level GHG emissions. CalEEMod was used with the built-in default trip lengths and types to show the vehicular GHG emissions from incremental amounts of ADT. The following table shows the resulting annual vehicle miles traveled (VMT) and GHG emissions from the incremental ADT:

Representative VMT and GHG Emissions from CalEEMod

Average Daily Trips (ADT)	*Annual Vehicle Miles Traveled (VMT)*	*GHG Emissions (Metric Tons CO_2e per year)*
200	*683,430*	*258*
300	*1,021,812*	*386*
400	*1,386,416*	*514*
500	*1.703,020*	*643*
600	*2,043,623*	*771*

Source: CalEEMod version 2016.3.2. Example project used: 50 Single-Family Homes in Orange County.
CO_2e = carbon dioxide equivalent
GHG = Greenhouse Gas

A common GHG emissions threshold is 3,000 metric tons of carbon dioxide equivalent[i] (CO_2e) per year (MT CO_2e/yr). The vehicle emissions are typically more than 50 percent of the total project GHG emissions. Thus, a project with 500 ADT would generally have total project emissions that would be less than 1,300 MT CO_2e/yr. As this level of GHG emissions would be less than 3,000 MT CO_2e/yr, the emissions of GHG from a project up to 500 ADT would typically be less than significant.

Carbon dioxide equivalent (CO_2e) is a concept developed to provide one metric that includes the effects of numerous GHGs. The global warming potential (GWP) of each GHG characterizes the ability of each GHG to trap heat in the atmosphere relative to another GHG. The GWPs of all GHGs are combined to derive the CO_2e."
Source: LSA Associates, Jan 15, 2020

OPR Guidance Regarding Redevelopment Projects: Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds developed by the jurisdiction should apply.

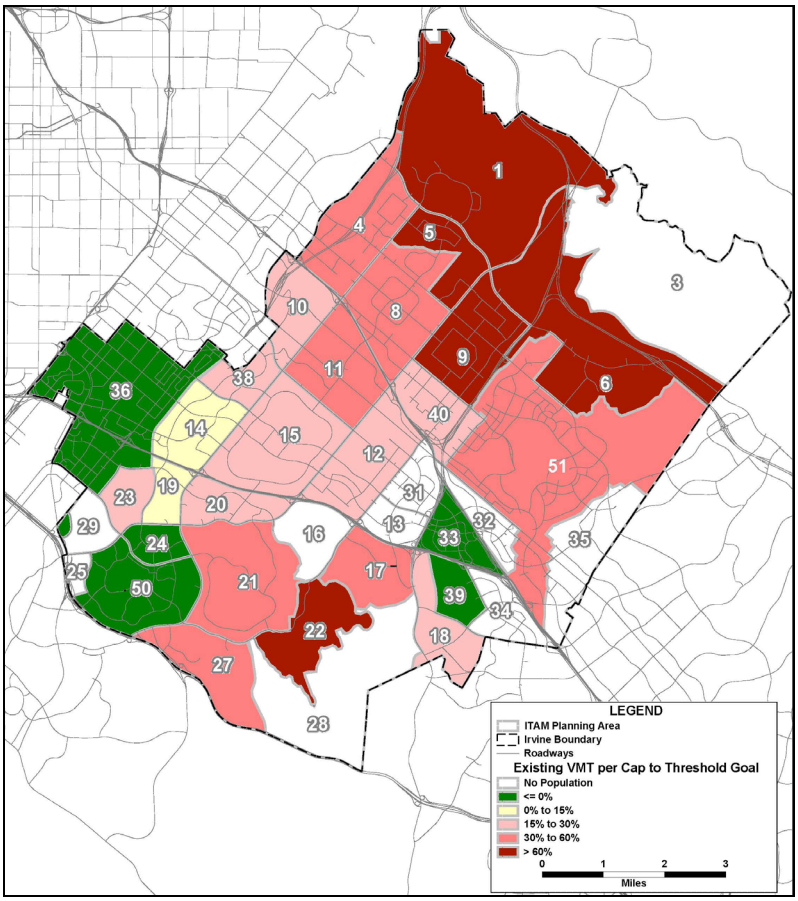
City of Irvine Recommendation: One of the intended goals of SB-743 is to support infill development to encourage active transportation and reduce average trip lengths. In order to encourage such infill development, OPR suggests using a metric that looks at only the net trips generated by the redevelopment project (project trips generated by the new development minus trips generated by the previous development). For redevelopment projects, the City recommends calculation of net project trips generated in accordance with OPR advice. If the net trips generated by the redevelopment is less that the Small Project trip threshold of 250 daily trips (as discussed in the prior section) then no additional analysis is required. If a redevelopment project does not meet this screening criteria, then the redevelopment project is evaluated for impact analysis based on the applicable residential or non-residential VMT rate methodology in accordance with OPR advice, as further discussed in subsequent sections of this document.

OPR Guidance Regarding Map-Based Screening of Projects Within Low VMT Areas: Residential and office (or other land use) projects that are located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT and thus not warrant further CEQA analysis. Maps created with VMT data from a travel demand model can illustrate areas that are currently below threshold VMT.

City of Irvine Recommendation: City staff used ITAM to calculate VMT by Planning Area (PA) and by the smaller Traffic Analysis Zone (TAZ) geography. When staff reviewed the results it was determined that the use of a particular geographic boundary was a somewhat arbitrary criteria for whether a project should be screened out or not. For example, for two identical projects on opposite sides of the same street, one might be screened out because it was in a particular PA or TAZ and another would not be screened out, despite the fact that both projects would likely exhibit the same VMT characteristics. In order to treat all projects consistently, City staff decided not to recommend map-based screening to identify areas of low VMT.

As an example in **Figure 1**, PAs with green and yellow shading represent lower VMT/capita, while PAs with pink and red shading represent higher VMT/capita. There are several locations where a green-shaded PA (lowest VMT) is adjacent to a pink-shaded PA (high VMT). A proposed development might produce similar VMT when placed on one side of a street in a low VMT PA or the other side of the street in a high VMT PA.

Figure 1- VMT per Capita by Planning Area compared to County Average



OPR Guidance Regarding Transit Priority Areas (TPAs): A TPA is an area within a half a mile of a major transit stop or a bus transit corridor with service intervals of no longer than 15 minutes during peak commute hours. A "Major transit stop" means *"a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods."* as defined by Public Resources Code §21064.3.

OPR suggests that projects in TPA's should generally be presumed to have less than significant impacts, but that such presumption might be inappropriate if the proposed development:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Existing TPA's within Irvine are limited to the area around the Irvine train station in Planning Areas 32 and 51 and the area near the Tustin Metrolink station in Planning Area 10. CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies should generally presume that certain projects (including residential, retail and office projects, including mixed use) proposed within a TPA will have a less than significant impact on VMT and thus not warrant further CEQA analysis.

City of Irvine Recommendation: The City recommends screening out any projects that are located within the two existing TPAs as shown in Figure 2 and Figure 3 below. To the extent additional areas within the City qualify as TPA's in the future, projects in such areas would also be screened out. Any such additional TPA's will be identified in this Appendix, as part of anticipated periodic future updates.

Figure 2- Existing TPAs in Irvine Area

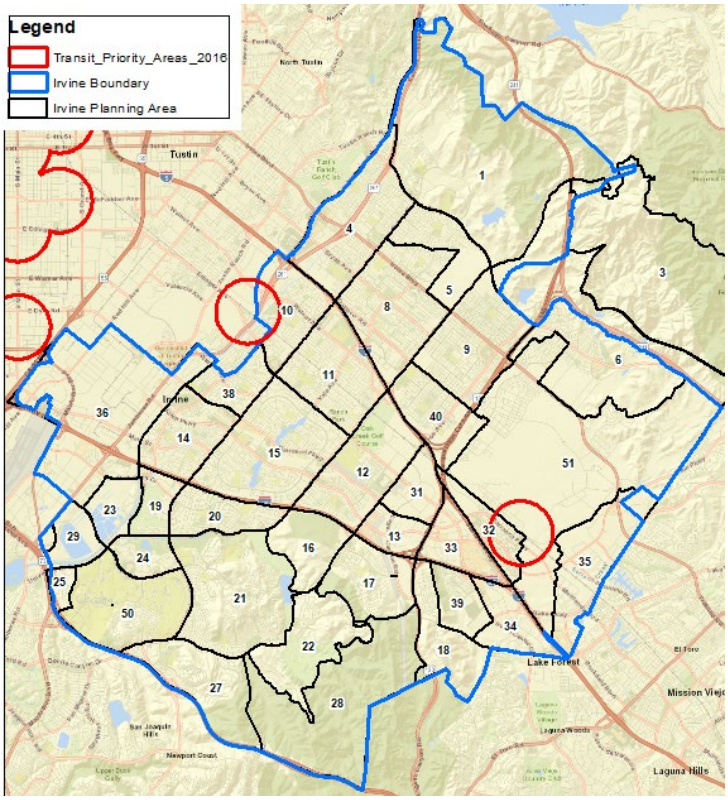


Figure 3– Existing TPAs around Irvine and Tustin Metrolink Stations

OPR Guidance Regarding Retail Projects: Because new retail development typically redistributes shopping trips rather than creates new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts. By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant. While the Technical Advisory suggests that retail uses of less than 50,000 square feet should generally be considered locally-serving, it expressly notes that many cities and counties define local-serving and regional-serving retail in their zoning codes and that lead agencies are in the best position to decide when a project will be local-serving.

City of Irvine Recommendation: The City Council has received comments from residents that Irvine is underserved by existing retail development. City Council has therefore adopted a policy to encourage additional retail uses within the City. While the majority of shopping centers within the City are less than 50,000 square feet in size, analysis of existing shopping centers within the City shows that most larger shopping centers are also neighborhood serving. Even shopping centers in the range between 100,000 and 250,000 square feet typically serve the surrounding neighborhoods and are not believed to attract significant volumes of regional traffic. **Table 1** identifies the existing shopping centers in Irvine, with only four shopping centers currently exceeding 250,000 square feet. However, given the location of the shopping centers within the City, even relatively large shopping centers such as Woodbury (315,469 square feet) seem unlikely to draw significant numbers of regional trips. Two large shopping centers, Irvine Spectrum and Irvine Market Place (combined with Tustin Market Place) might be considered regional draws due to both size and adjacency to freeways.

Table 1 - Retail Centers and Existing Square Footage in Irvine

FROM (SF)	TO (SF)	NUMBER OF CENTERS	DESCRIPTION
1	50,000	76	Multiple small retail establishments
50,000	100,000	7	
100,000	120,000	7	Orchard Hills, Northpark Plaza, Harvard Place, Alton Square, Woodbridge, Spectrum Crossroads, Lakeshore Towers
120,000	150,000	5	Northwood, Oak Creek, Quail Hill, Los Olivos, Irvine Concourse
150,000	250,000	7	Cypress Village, Culver Plaza, Heritage Plaza, Westpark Plaza, Crossroads, Von Karman Plaza, Park Place
250,000	500,000	2	Woodbury, Alton Market Place (Costco)
500,000	750,000	1	Irvine Market Place (738,216 SF excludes adjacent Tustin Market Place)
750,000	1,500,000	1	Irvine Spectrum
	Total	**106**	

Source: Citywide Land Use Database/The Irvine Company

Given the need for additional retail development within the City, as well as the fact that neighborhood shopping centers in Irvine tend to attract traffic from their surrounding villages, staff is recommending that all retail projects under 100,000 square feet be considered locally serving. For projects in excess of 100,000 TSF, the question of whether the use is locally serving will be determined by City staff on a case-by-case basis depending on the size and location of the proposed development.

Additionally other locally serving land uses under 50,000 square feet include daycare centers and public schools. For these types of projects in excess of 50,000 square feet, the question of whether the use is locally serving will be determined by City staff on a case-by-case basis, depending on the size and location of the proposed development.

OPR Guidance Regarding Affordable Housing: OPR guidance indicates that adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if

one is available." In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing, therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of a less-than-significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of a less-than-significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

City of Irvine Recommendation: Affordable housing units will be considered exempt from VMT analysis, consistent with the OPR Technical Advisory.

OPR Guidance Regarding RTP/SCS Consistency: Section 15125, subdivision (d), of the CEQA Guidelines provides that lead agencies should analyze impacts resulting from inconsistencies with regional plans, including regional transportation plans. For this reason, if a project is inconsistent with the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), the lead agency should evaluate whether that inconsistency indicates a significant impact on transportation. Since the City's General Plan land use is integrated in to the RTP/SCS, it is unlikely that an inconsistency would occur, however a project of the scale that would be inconsistent with an RTP/SCS would likely require its own in-depth transportation analysis regardless.

City of Irvine Recommendation: Major projects diverging from the General Plan will require a VMT analysis unless the project is screened out. This is consistent with the OPR Technical Advisory.

OPR Guidance Regarding Goods Movement: Section 3 of the Guidelines for Implementation of the California Environmental Quality Act specifies that VMT to be analyzed is defined as the amount and distance of automobile travel attributable to a project. SB 743 therefore does not require the inclusion of heavy-duty truck trips, utility vehicles or other types of vehicles in the VMT analysis. In the case of trucks, the State's strategy for the goods movement sector is not in VMT reduction, but in advances in technology (zero and near-zero emission control strategies).

City of Irvine Recommendation: VMT analysis will be performed for automobile trips only, which is consistent with State policy.

3.2 VMT Calculation Methodology

Section 15064.3 of the CEQA Guidelines explains that a "lead agency may use models to estimate a project's vehicle miles traveled."

"Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

"For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project."

City of Irvine Recommendation: The City of Irvine maintains an in-house traffic model, the Irvine Transportation Analysis Model (ITAM) which is currently used to forecast traffic volumes and calculate Level of Service (LOS) and impacts associated with new development. The traffic model is based on and is certified consistent with the regional Orange County Transportation Model (OCTAM). The City of Irvine

recently converted ITAM to TransCAD, a transportation modeling software also used by OCTA, and has developed a VMT calculation tool that appends to the traffic model. The OPR Guidelines state that whatever model or tool is used to develop the thresholds of significance must also be used to assess the VMT for an individual project, so as to perform an "apples to apples" comparison.

The City's proposed approach to calculating VMT "attributable to the project" is consistent with Section 15064.3 of the CEQA Guidelines. In this approach, VMT statistics are calculated using trip tables and travel distance "skims" from ITAM for both the No Project and With Project model runs. The net difference in VMT between the With Project run and No Project run is the VMT attributable to the project. This change includes both direct and indirect effects of the project as trips are redistributed throughout the highway network. The number of trips for each Origin-Destination pair are multiplied by the distance of that trip for each travel purpose and time period using congested travel times. The trip tables have the following trip purposes:

- Home-Based Work Direct and Strategic - HBW
- Home-Based Other - HBO
- Home-Based School - HSC
- Home-Based University HBU
- Home-based Shop – HBS[1]
- Home-based Social/Recreational – HBSR[1]
- Other-Based Other - OBO
- Work- Based Other - WBO

[1] Combined with Home-based Other

External trips going to and from counties outside the Southern California Association of Governments (SCAG) region are added after this stage. The available time periods are Peak and Off-peak. This allows calculation of VMT associated with different types of trips. Trips resulting in VMT can be separated into **productions** (P) that represent the home end of a trip, and **attractions** (A) which represent the work end of the trip. For trips that do not start or end at home, productions represent either the trip maker's workplace or the trip origin. VMT is calculated for two types of trips, Residential and Non-residential, separately:

1. Residential VMT = HBW(P) + HBSC(P) + HBU(P) + HBO(P)
2. Non-residential VMT = HBW(A) + HBSC(A) + HBU(A) + HBS(A) + HBSR(A) + HOB(A) + OBO(P and A) + WBO(P and A)

Table 2 shows an illustrative example of VMT calculated from ITAM. In this example, Irvine residents "produce" 3.6 million daily VMT going to and from their place of employment wherever that may be, whereas all the employment centers in Irvine "attract" 6.3 million daily VMT from the employees travelling to and from their job in Irvine from their home (wherever that may be). Both numbers include Irvine residents who also work within Irvine (about 28% of Irvine workers). The home-based work attractions are higher than the productions since Irvine is a very job rich City so that more people work in Irvine than are resident workers. The jobs-to-resident ratio in Irvine is 85% compared to the SCAG average of 41%.

Table 2 - City of Irvine VMT from ITAM

PURPOSE	PRODUCTION	ATTRACTION	TOTAL	% TOTAL VMT
Home-based Work	3,649,681	6,285,143	9,934,825	61%
Home-based School	57,230	42,881	100,111	1%
Home-based Other	1,292,970	1,802,655	3,095,625	19%
Home-based University	162,395	470,825	633,219	4%
Work-based Other	614,832	371,777	986,609	6%
Other-based Other	765,065	768,387	1,533,451	9%
TOTAL	**6,542,173**	**9,741,668**	**16,283,841**	**100%**

=Residential VMT
=Non-residential VMT

ITAM also calculates the associated population and employment of a project through its land use to socioeconomic data conversion module. VMT, population and employment for any given project can be calculated. The approach to testing whether a project has a significant impact is to compare the project VMT metric to the adopted threshold for that metric as shown below (thresholds are discussed in Section 3.3):

- **Residential projects:** The residential methodology captures net VMT associated with the project and divides this change in VMT by the population change countywide resulting from the project. The proposed methodology captures the project's relative effect countywide per capita. This calculated VMT / capita is compared to the residential threshold.
- **Non-residential projects**: The non-residential methodology captures all changes in VMT (commute and other non-residential) associated with the project and divides this change in VMT by the change in the number of employees countywide resulting from the project. Since non-residential uses include uses such as office, medical office, hotels, and other land uses and would generate VMT associated with trips beyond employee trips, the proposed methodology captures the project's relative effect countywide per employee. Based on extensive testing of this methodology and its application in the City of Irvine, this methodology meets the intent of SB 743. This calculated net VMT/employee is compared to the non-residential threshold.
- **Mixed use projects**: Both the residential VMT/capita and non-residential VMT /employee are calculated. Each type of VMT is then compared to its corresponding threshold. This is consistent with OPRs Technical Advisory P17 *"Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail)."*

3.3 Thresholds of Significance

3.3.1 PERCENTAGE REDUCTION FROM EXISTING VMT

A key step in the environmental review process is to determine whether a project may cause a significant effect on the environment. Thresholds of significance can inform not only the decision of whether to prepare an EIR, but also the identification of effects to be analyzed in depth in the EIR, the requirement to make detailed findings on the feasibility of alternatives or mitigation measures to reduce or avoid the significant effects, and when found to be feasible, changes in the project to lessen the adverse environmental impacts.

Section 15064.7 of the CEQA Guidelines defines a threshold as "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (CEQA Guidelines § 15064.7, subd. (a).)

Section 15064 of the CEQA Guidelines provides general criteria to guide agencies in determining the significance of environmental effects of their projects, as required by section 21083 of the Public Resources Code. The Natural Resources Agency updated CEQA Guidelines Section 15064 to expressly clarify that agencies may rely on standards adopted for environmental protection as thresholds of significance. An agency that relies on a threshold of significance should explain how application of the threshold indicates a less than significant effect.

As discussed further below, the OPR Technical Advisory includes recommendations regarding the thresholds of significance to be applied to various types of land use projects. However, individual jurisdictions are free to pursue their own thresholds provided that substantial evidence supporting these thresholds is provided.

Residential Projects: A proposed residential project exceeding a level of fifteen percent below existing VMT per capita may indicate a significant transportation impact. OPR states these thresholds can be applied to either household (i.e., tour-based) VMT or home-based (i.e., trip-based) VMT assessments.

Office [Employment] Projects: OPR recommends that office [employment] projects that would generate vehicle

travel exceeding fifteen percent below existing VMT per employee for the region may indicate a significant transportation impact. OPR uses the term "office" however the likely intent of the advisory was as "employment".

Retail Projects: Because new retail development typically redistributes shopping trips rather than creating new trips, OPR recommends a threshold based on the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) as the best way to analyze a retail project's transportation impacts.

Mixed-Use Projects: OPR states that lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included. In the analysis of each use, a project should take credit for internal capture. Alternatively, a lead agency may consider only the project's dominant use.

Other Land Use Types: OPR states that land use projects, residential, office [employment], and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types. However, most other types of land uses such as public facilities, recreation and parks are generally perceived as community-serving and not independent trip generators on the scale of residences or workplaces.

City of Irvine Recommendation: The City is proposing to use a fifteen percent reduction from existing VMT per capita as the threshold for residential projects and fifteen percent reduction from existing VMT per employee for non-residential projects. As noted above, for mixed use projects the threshold would consist of both the residential VMT per capita and non-residential VMT per employee components, consistent with the OPR Technical Advisory suggestions, which were developed to contribute to State goals in reducing GHG emissions.

Retail projects over 100,000 SF that are not screened out will be reviewed on a case-by-case basis to determine if any VMT analysis is required based on the project location potentially drawing regional trips. A developer of a retail project over 100,000 SF could support their application by providing a market analysis of potential customers and their likely origins as either locally serving or regionally serving. Adjustment to trip generation in ITAM to account for locally serving trips being reallocated between existing shopping centers could then potentially be requested by the applicant.

Retail projects requiring VMT analysis will be measured against the non-residential VMT threshold goal rate rather than a comparison of the net VMT with and without the retail project. Through extensive traffic model testing, the results indicate that new retail uses nearly always result in a theoretical increase in overall VMT. This increase in VMT occurs in the model despite the nature of retail uses that typically redistribute traffic to reduce overall VMT. For this reason, the City is proposing a methodology in which retail uses within a certain locally-serving size do not require VMT impact analysis. However, if the retail use is larger, it must be analyzed for impacts as a non-residential use based on VMT per employee. The City's proposed methodology for non-residential uses accounts for commute VMT as well as non-commute (i.e. customer, client) VMT; therefore, this is the appropriate analysis for new larger retail uses proposed.

3.3.2 GEOGRAPHIC AREAS USED TO CALCULATE VMT THRESHOLDS

The OPR Advisory also provides jurisdictions with discretion in determining the geographical area used to develop thresholds. This suggests that residential thresholds could be developed based on existing conditions at the city or regional level while non-residential thresholds should be determined at the regional level due to the longer length of employment trips compared to other trip purposes. Verbiage in the OPR Technical Advisory p16 suggest that for very large regions (such as the SCAG region) the county might be a better proxy for regional travel: *"In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live".*

Figure 4 shows the geographical areas considered for determining VMT thresholds, including the entire SCAG sub-region, Orange County and the City of Irvine. The City of Irvine could choose to develop thresholds at any of these three geographic areas or alternatively propose some other geographic area. **Table 3** shows the results of testing of average residential VMT per capita and commute and total non-residential VMT per employee for these three geographical areas.

The residential VMT per capita is similar between the three geographies although slightly higher for Irvine residents. Commute trip lengths for jobs located in Irvine are also close to the average for Orange County and the SCAG region. For these two components, the choice of geography used for the threshold is unlikely to significantly affect the results. However, for total non-residential VMT, the City of Irvine has lower than average VMT for the SCAG region, as the SCAG regional average was found to be substantially higher than both the Orange County and City of Irvine averages.

Figure 4 – Geographic Areas Considered for VMT Thresholds

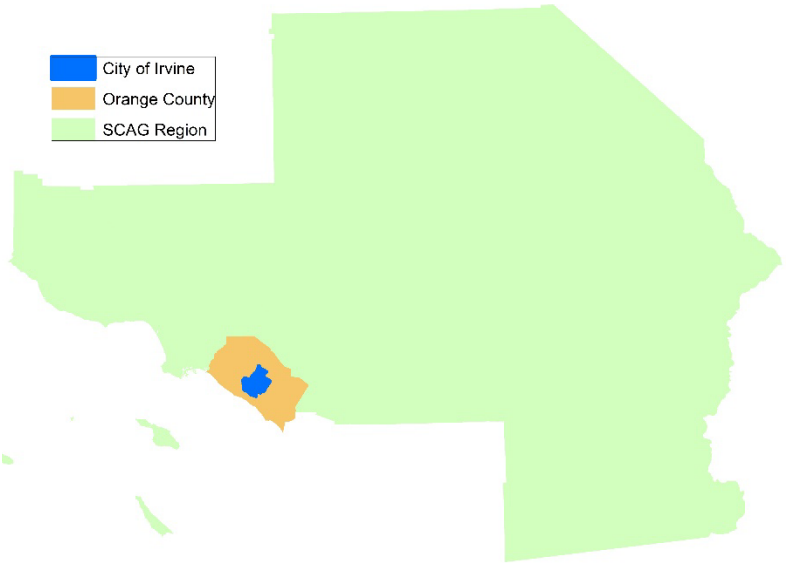


Table 3 – Comparison of VMT Metrics at Alternative Geographic Areas

GEOGRAPHICAL AREA	RESIDENTIAL VMT/CAPITA	NON-RESIDENTIAL VMT/EMPLOYEE
City of Irvine	18.65	42.51
Orange County	17.54	48.85
SCAG Region	17.85	63.15

This difference may be a function of the sparsity of the highway network in OCTAM and ITAM in large swathes within the SCAG region that are distant from Orange County. Additional testing performed on the SCAG regional model where the level of network detail is reasonably uniform throughout the SCAG region also showed the SCAG regional average to be higher than the Orange County average, but not by such a large margin, so the sparse network is only part of the reason. Other reasons likely include better access to other amenities in Irvine compared to the region as a whole.

Consistent with the county's regional OCTAM forecast model, the portions of external trips to and from San Diego county outside of Orange County, are not included in the calculated project VMT nor threshold values. It was determined through extensive analysis, however, that the percentage of VMT between Orange and San Diego counties (in the range of 1.5%) is negligible.

City of Irvine Recommendation: Since the SCAG region is geographically large compared to Orange County and contains numerous areas with very different characteristics to and a low interaction of trips with Irvine, staff considered the SCAG regional average to be a less relevant comparator than the Orange countywide average. **Table 4** shows census data indicating that the majority of Irvine resident workers work within Orange County. The vast majority of other trip types by Irvine residents, such as home to school and home to shop trips, which are typically much shorter than home to work trips, also occur entirely within Orange County.

For residential VMT, while the City of Irvine itself is a fairly large, diverse City and the City average could reasonably be used as the geographic unit for VMT, for consistency reasons and because the residential rates for the city and the county are so similar, staff recommends comparing both residential and non-residential project VMT to the existing Countywide average as the most suitable threshold.

Table 4 – Work Locations of Irvine Residents, Source: US Census

Jobs Counts by Places (Cities, CDPs, etc.) Where Workers are Employed - All Jobs 2017	Count	Share
All Places (Cities, CDPs, etc.)	93,502	100.0%
Irvine city, CA	26,272	28.1%
Santa Ana city, CA	5,473	5.9%
Los Angeles city, CA	5,115	5.5%
Newport Beach city, CA	4,775	5.1%
Costa Mesa city, CA	4,008	4.3%
Orange city, CA	3,275	3.5%
Anaheim city, CA	3,134	3.4%
Tustin city, CA	2,631	2.8%
Lake Forest city, CA	1,830	2.0%
San Diego city, CA	1,659	1.8%
Huntington Beach city, CA	1,562	1.7%
Mission Viejo city, CA	1,367	1.5%
Fountain Valley city, CA	1,155	1.2%
Aliso Viejo city, CA	1,101	1.2%
Long Beach city, CA	1,099	1.2%
Garden Grove city, CA	958	1.0%
El Segundo city, CA	844	0.9%
Laguna Hills city, CA	782	0.8%
Fullerton city, CA	732	0.8%
San Francisco city, CA	672	0.7%
Brea city, CA	602	0.6%
Torrance city, CA	560	0.6%
Riverside city, CA	531	0.6%
Laguna Beach city, CA	518	0.6%
Corona city, CA	481	0.5%
All Other Locations	22,366	23.9%

4 TRANSPORTATION PROJECTS

The methodology for testing transportation projects is different from a residential or office project in that it looks at the total VMT, rather than an efficiency metric such as VMT per capita. For transportation projects that significantly increase roadway capacity, induced travel also needs to be assessed. However, the analysis would only be performed for a subset of capacity increasing projects. According to the Technical Advisory, *"projects that would not likely lead to a **substantial** or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:"*

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure

Staff also carefully considered the addition of a lane through an at-grade intersection, including immediately before and after the intersection, and whether a VMT analysis should be performed. Based on ITAM traffic model testing, it was determined that this type of capacity enhancement and safety improvement would not substantially change total VMT. *A determination was therefore made that addition of a through lane that commences before an intersection and terminates downstream of the intersection is exempt from VMT analysis.*

4.1 Induced Travel

OPR states the requirement to assess induced travel as follows:

*"A transportation project which leads to additional vehicle travel on the roadway network, commonly referred to as "induced vehicle travel," would need to **quantify the amount of additional vehicle travel in order to assess air quality impacts, greenhouse gas emissions impacts, energy impacts, and noise impacts. Transportation projects also are required to examine induced growth impacts under CEQA.** For any project that increases vehicle travel,*

explicit assessment and quantitative reporting of the amount of additional vehicle travel should not be omitted from the document; such information may be useful and necessary for a full understanding of a project's environmental impacts."

"A lead agency that uses the VMT metric to assess the transportation impacts of a transportation project may simply report that change in VMT as the impact."

"While CEQA does not require perfection, it is important to make a reasonably accurate estimate of transportation projects' effects on vehicle travel in order to make reasonably accurate estimates of GHG emissions, air quality emissions, energy impacts, and noise impacts. If a project would likely lead to a measurable and ***substantial increase*** *in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:"*

"Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges*."*

The advisory is silent on whether an additional through lane immediately before and after an intersection would require induced travel analysis. Consistent with ITAM model testing, City staff has taken the view that such a localized improvement would not lead to a substantial increase in travel. Additionally, local and collector streets do not require an analysis of induced travel.

City of Irvine Recommendation: Induced travel analysis should be performed only for projects likely leading to substantial increase in travel. Examples might include:

- Widening of Red Hill Avenue from four to six lanes between MacArthur Boulevard and Main Street
- SR-55 Overcrossing at Alton Parkway
- Extension of Portola Parkway to Lake Forest
- Extension of Marine Way easterly to Barranca Parkway

Available tools for estimating induced travel includes the UC Davis Induced Travel Calculator. The Advisory further notes that adding a new connection, such as the Alton Parkway SR-55 overcrossing, actually has the potential to reduce overall VMT:

"A project which provides new connectivity across a barrier, such as a new bridge across a river, may provide a shortened path between existing origins and destinations, thereby shortening existing trips. In rare cases, this trip-shortening effect might be substantial enough to reduce the amount of vehicle travel resulting from the project below the range found in the elasticities in the academic literature, or even lead a net reduction in vehicle travel overall. In such cases, the trip-shortening effect could be examined explicitly."

The City's proposed transportation project analysis would compare total VMT for No Project and With Project conditions and report total change in VMT in absolute terms and as a percentage of City of Irvine related VMT. VMT impact analysis guideline updates for transportation projects are expected when future OPR Technical Advisory updates are provided based on coordination between OPR and Caltrans.

5 MITIGATION MEASURES

CEQA requires that an environmental impact report identify feasible alternatives and mitigation measures that could avoid or substantially reduce a project's significant environmental impacts (Pub. Resources Code, § 21002.1, subd. (a).) OPR lists potential mitigation measures, many of which require efforts beyond individual projects because "…VMT is largely a regional impact". Regional VMT-reduction programs or an in-lieu fee program based on a programmatic CEQA evaluation are listed as options. OPR's discussion of project alternatives focuses on alternative locations or land uses on a site—which would generally not be an alternative for an individual project applicant and would only be able to be handled at the General Plan, community plan or specific plan level. Potential measures to reduce vehicle miles traveled identified in the OPR guidelines can be grouped into several broad Travel Demand Management (TDM) categories:

Commute Trip Reductions: The commute trip reduction category includes required commute trip reduction programs, vans, vanpools or ride-share. Employer-sponsored vanpools or shuttles can connect employees to a project site by providing new opportunities for access, through more direct routes at lower costs. Ride share programs increase vehicle occupancy by providing ride-matching services. These types of strategies replace single-occupancy vehicle trips with multiple riders in one vehicle. Other options include providing telework options, providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, showers and locker rooms and a guaranteed ride home service to users of non-auto modes.

Shared Mobility: The shared mobility category includes car share, bike share, and school carpool programs. Car share programs allow people to have on-demand access to a vehicle, as needed, which can serve as a supportive strategy that enhances other TDM strategies, such as parking unbundling. Bike share programs allow people to have on-demand access to a bicycle, as needed, to improve access and connectivity. School carpool programs encourage ride-sharing for students.

Bicycle Infrastructure: The bicycle infrastructure category includes implementing or improving on-street bicycle facilities, bike parking, and showers/changing rooms. These measures can support safe and comfortable bicycle travel through improvements in infrastructure, parking, and supportive facilities.

Parking Measures: The parking measures category includes reducing parking, unbundling parking, and pricing parking. Unbundling parking can allow for a separation of parking cost from property cost, allowing those who wish to purchase parking spaces that option. Similarly, parking cash out requires employers to offer employees a "cash-out" option for the monthly value of the free or subsidized parking space.

Transit Improvements: The transit improvements category includes improving access to transit, a reduction in transit headways, neighborhood shuttles and transit subsidies. A reduction in transit headways can make transit service more appealing by reducing overall transit trip time, encouraging transit improvements and encouraging drivers to switch from driving to transit use. Implementation of neighborhood shuttles involves project-operated or sponsored shuttles that can provide new opportunities for access, connections to jobs or activity centers, and transit. Transit subsidies involve the subsidization of transit fare for residents and employees of a project site and can include the provision of transit passes to employees by employers.

Education and Encouragement: The education and encouragement category includes voluntary travel behavior change programs and promotions and marketing. Voluntary travel behavior change programs can utilize two-way mass communication campaigns and travel feedback programs that actively engage participants making travel choices through a program coordinator. Promotions and marketing involves the use of marketing and promotional tools to educate and inform travelers about site specific transportation options and effects of travel choices.

Neighborhood Enhancements: The neighborhood enhancements category includes traffic calming and pedestrian network improvements. Implementation of traffic calming measures throughout and around a project site can encourage people to walk, bike, or take transit through better connections and elimination of barriers. Some of

these TDM mitigation measures may not be appropriate for the City of Irvine, which is currently relatively underserved by transit and contains several relatively low land use density areas. An individual developer or even the City of Irvine has limited influence on OCTA to provide mitigation measures such as increased transit service for a site-specific development.

Several industry efforts have been made to quantify the effectiveness of TDM measures, including the California Air Pollution Control Officers Association's (CAPCOA) 2010 report *Quantifying Greenhouse Gas Mitigation Measures,* which have been used for Climate Action Plans (CAPs). A conservative estimate of the overall effect of a comprehensive TDM program is on the order of a 5 percent VMT reduction, although some estimates are significantly higher. The implementation of feasible and effective mitigations will require a proven nexus to proposed project. Under the current CEQA transportation analysis, the nexus was between site trips and their impact on the operations of the transportation system. This was concentrated nearer the project, so it was relatively simple to develop mitigation measures that directly mitigated the impact in terms of the nexus to the project's activity and the location. Under SB 743, the significant impact would be more intense the farther away a vehicle traveled from the project site.

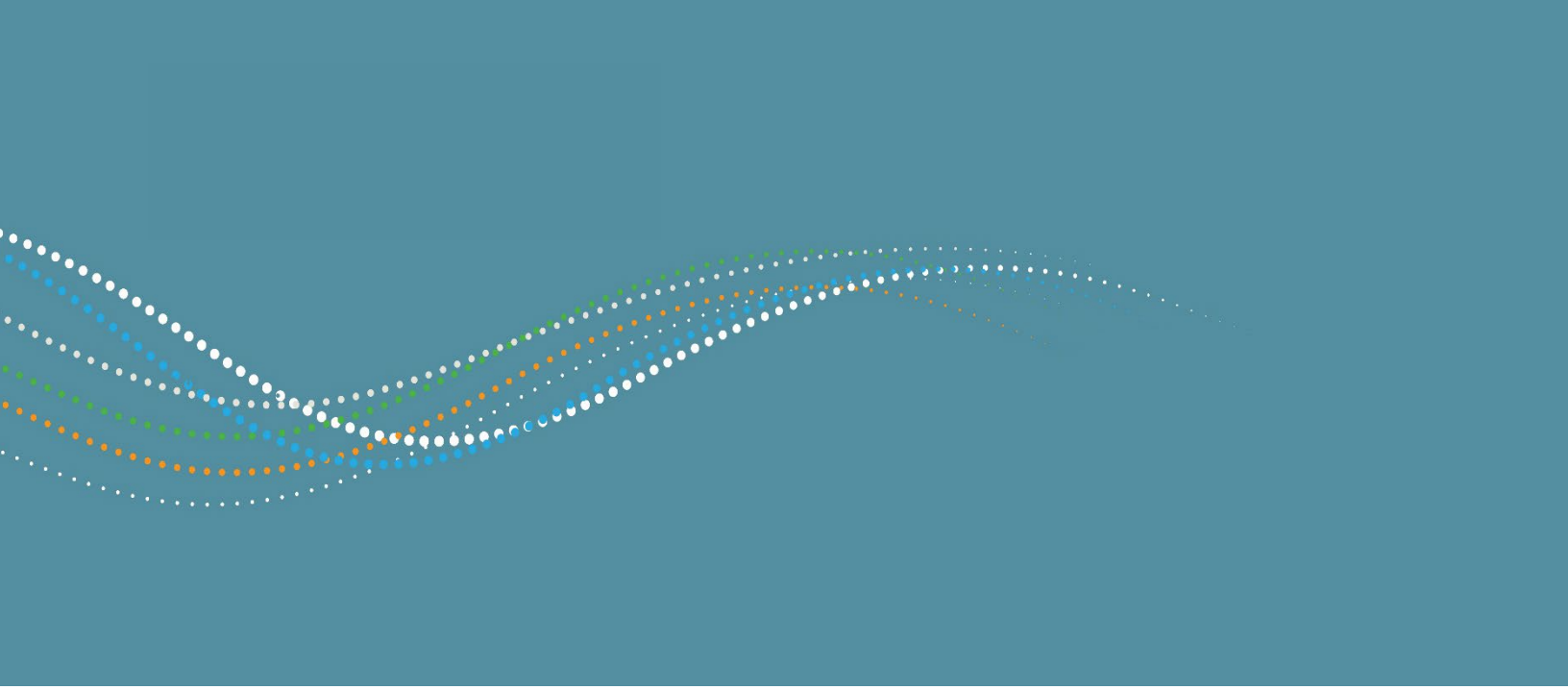
City of Irvine Recommendation: The City will accept the following two potential mitigation measures for future projects:

1. Onsite connectivity reduction of 2.5 percent VMT rate for on-site connectivity improvements as part of the project design to promote bicycle activity (i.e. bike facilities) and pedestrian walkability (i.e., connected sidewalks from building entrances to public streets. The 2.5 percent is based on the ranges provided in CAPCOA and subsequent research [1]*Handy, S. et al. (2014). Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm.* .
2. Reduction of 5 percent if the project develops or is part of a Travel Demand Management (TDM) program. This reduction is consistent with CAPCOA and subsequent research[2] on trip reduction estimates and is supported by observed data from the annual Spectrumotion surveys submitted to the City. [2]*Boarnet, M. et al. (2014). Impacts of Employer-Based Trip Reduction Programs and Vanpools on Passenger Vehicle Use and Greenhouse Gas Emissions - Policy Brief and Technical Background Document. California Air Resources Board. Retrieved from: https://arb.ca.gov/cc/sb375/policies/policies.htm*

A developer, however, is not restricted to these improvements and could provide additional improvements along with supporting documentation substantiating the effectiveness of the mitigation. Staff has considered the possibility of a Citywide VMT fee program to fund VMT-reducing mitigation measures. A CEQA transportation mitigation fee program would differ from the current City fee programs in two ways. First, the improvements would be related to citywide non-single occupancy vehicle mobility. Second, not all development projects would be required to pay fees, only those that result in impacts and require a means for mitigating. There are challenges involved in the implementation of a VMT Mitigation Fee Program including concerns regarding overall costs and the cost-effectiveness of VMT reduction measures, as well as concerns about the economic impact of the fee on future development. As such, supplemental funding through City or OCTA sources may be required. Examples of mitigation included in such a program would be transit service funding or major infrastructure projects like pedestrian bridges over major arterials. The City could elect to prepare a nexus fee study to support a VMT Mitigation Fee Program.

Staff also reviewed the possibility of City contributions to regional VMT programs that might be administered by agencies such as SCAG or OCTA. Although the possibility of such regional fee programs has been widely discussed in public forums there were no specific regional VMT fee programs in place or being developed at the time of review. [3] *Analysis of Vehicle Miles Traveled Banking and Exchange Frameworks, October 2018 Ether Elkind, Ted Lamm and Eric Prather, UC Berkeley.*

A concern from the City's point of view about this type of program is that developments in Irvine could be paying fees for transportation projects located outside of the City that would not necessarily benefit Irvine residents. Staff will revisit the matter should a regional or countywide fee program be developed.



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