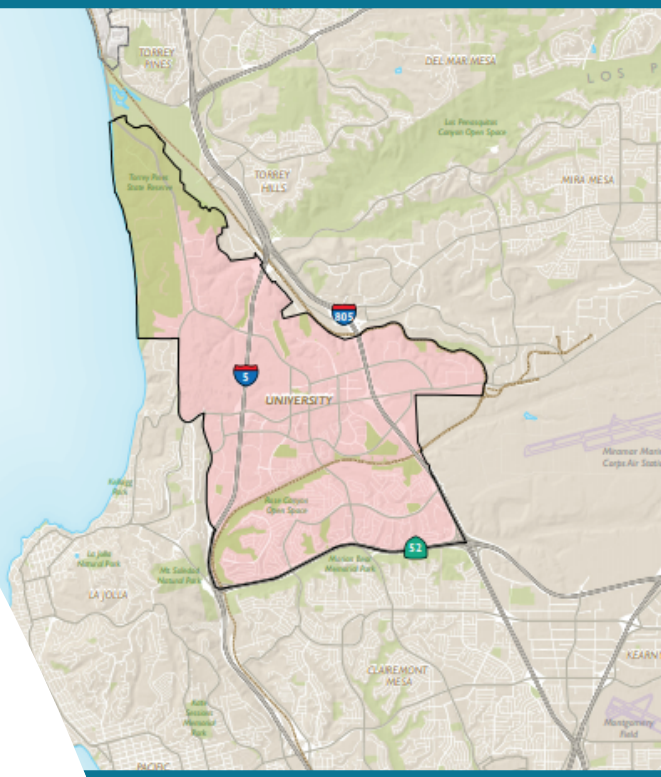
Final *Air Quality* Analysis
For the University Community Plan Update
San Diego, California



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Abbreviations and Acronyms

AAQS	Ambient Air Quality Standards
CAA	California Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
City	City of San Diego
CO	Carbon Monoxide
CPA	Community Planning Area
CPU	Community Plan Update
DPM	Diesel Particulate Matter
GHG	Greenhouse Gases
H_2S	Hydrogen Sulfide
HAPs	Hazardous Air Pollutants
I-15	Interstate 15
I-805	Interstate 805
MCAS	Marine Corps Air Station
m^3	Cubic Meters
mg	Milligram
µg	Microgram
NAAQS	National Ambient Air Quality Standards
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_3	Ozone
Pb	Lead
PM	Particulate Matter
PM_{10}	Particulate Matter 10 micrometers or less in diameter
$PM_{2.5}$	Particulate Matter 2.5 micrometers or less in diameter
ppb	Parts Per Billion
ppm	Parts Per Million
RAQS	Regional Air Quality Strategy
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
TACs	Toxic Air Contaminants
UCSD	University of California San Diego
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

1 Introduction

The purpose of this report is to document the existing air quality conditions and the proposed methodology for evaluating air quality impacts related to the University Community Plan Update (CPU).

The City of San Diego's (City) General Plan was adopted in 2008 and provides a comprehensive planning strategy and policy framework to shape long-term growth and development in the City. The University CPU supports the General Plan by providing localized goals and policies for the University Community Planning Area (CPA).

Air quality within the community is affected by the population, vehicle usage trends and land usage. The content and implementation of laws, rules, regulations and policies promulgated by Federal, State and local agencies address and mitigate air emissions from a variety of sources. The main categories of air emission sources are stationary and mobile. Stationary sources include furnaces to heat buildings, gasoline stations, power plants, dry cleaners, manufacturing and other commercial and industrial equipment. Mobile sources include gas and diesel-powered motor vehicles, lawn care equipment, construction equipment, buses, trains and aircraft. Air emissions may increase or decrease throughout time, depending on current and future activity. Plans developed and implemented by the California Air Resources Board (CARB) and the San Diego Air Pollution Control District (SDAPCD) protect air quality within the region.

Analyzing increases or decreases in potential air emissions from future activities is known as an air quality impact analysis. The air quality impact analysis would evaluate the current conditions of the project and the project's air quality basin, or the meteorological region where air quality is expected to be similar due to shared air masses, wind and the terrain. The State of California has 15 air basins that are used to manage the state on a regional basis. The University community is located within the San Diego Air Basin (SDAB). The future project emissions estimates would be compared against established thresholds to determine if the proposed project would result in impactful contribution to reduction of the air quality within the SDAB. The thresholds consider established ambient air quality standards (AAQS) guidelines, policies and plans established by local, State and Federal entities. The SDAPCD and City are key local agencies and the source of many of the guidelines, policies and plans.

The air quality impact analysis would attempt to quantitatively evaluate emissions from both the construction phase and operational phase of any additional development. The construction phase is the part of the project where short-term emissions are created due to demolition and construction activities. The operation phase is when the project has been completed and air emissions are resulting from the operation of installed equipment, the business or industry of the project (i.e. a dry cleaner) and traffic increases from additional workers, visitors, or residents. Operational emissions are often long-term and continue for the life of the project. Operational emissions are further evaluated for both regional impacts as well as local effects experienced by sensitive receptors near the project site. These estimated emissions would be compared to thresholds of significance, or then the project(s) might significantly impact regional air quality. Ultimately the goal is to establish CPU compatibility with adopted air quality plans for the area.

This report will focus only on the existing air quality of the University CPU area and the procedures to be utilized to assess air quality impacts. No proposed projects are evaluated at this time.

2 Project Description

2.1 Project Location

The University CPA is located in the north portion of the city and includes University City, the Eastgate Mall area, and parts of La Jolla Village and Torrey Pines.

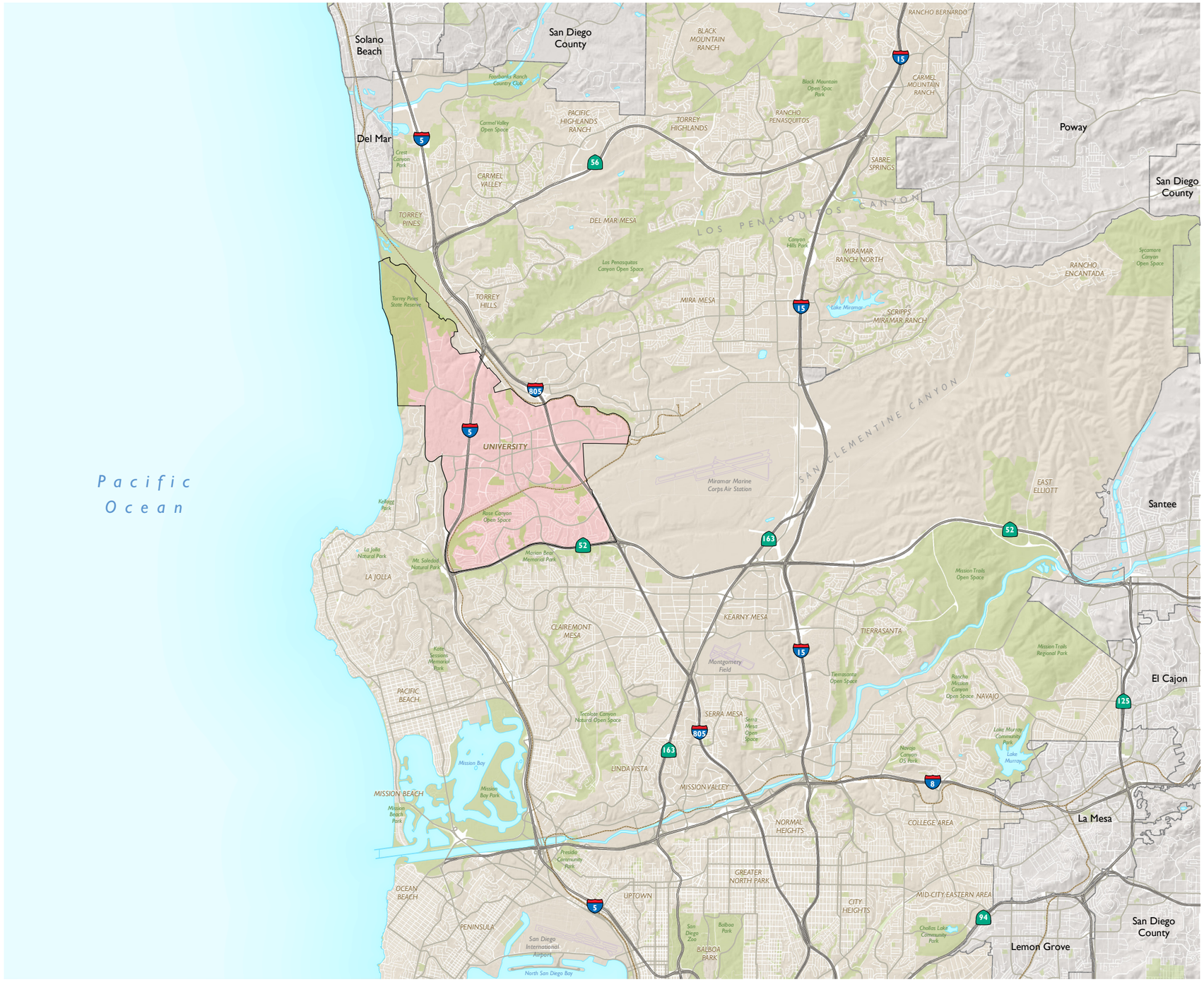
The area encompasses the University of California San Diego, Torrey Pines City Park, and Eastgate Mall. At 8,676 acres, the planning area is roughly triangular shaped with California Highway CA-52 defining the southern boundary, the east side of the planning area bordering Interstate 805, Marine Corps Air Station (MCAS) Miramar, and roughly following the North County Transit District San Diego Subdivision MT1 and MT2 lines with the northern point of the triangle ends at the Pacific Ocean. The planning area turns south, and the ocean makes up about three miles of the boundary and turns inland, and the remainder of the west boundary is North Torrey Pines Road to Gilman Drive to Interstate 5 back to the intersection of Interstate 5 and California Highway CA-52. Five other CPUs border the University CPU, from the north clockwise: Torrey Pines, Mira Mesa, Military Facilities (MCAS Miramar), Clairemont Mesa, and La Jolla.

Figure 1 shows the regional location of the CPA and Figure 2 shows an aerial view of the CPA.

2.2 Project Description Details

The total population of University is approximately 69,400 residents. University occupies only 4 percent of San Diego's land area, yet companies within University provide about 12.3 percent of private jobs within San Diego. The 3,300 businesses that exist in University employ about 92,000 people. About 70 percent of jobs in University are within the Educational Services; Professional, Scientific, and Tech Services; Healthcare and Social Assistance; Finance and Insurance; and Accommodation and Food Service sectors. The Study Area contains two State-controlled properties – University of California San Diego and Torrey Pines State Reserve – which lie outside the zoning jurisdiction of the City (see Figure 1).

The purpose of the University CPU is to update the current Community Plan by analyzing current land use, development, and environmental characteristics; evaluating changes in demographics that may affect land use needs; understanding demand for housing, public facility, and commercial development; determining key issues of concern and providing vision and objectives for the CPU; evaluating the "fit" of current Community Plan policies to achieve community goals and regulatory requirements; and ensuring that all policies and recommendations remain in harmony with the City's General Plan, Climate Action Plan (CAP), and State mandates (City of San Diego 2018).



UNIVERSITY COMMUNITY PLAN UPDATE

- University Community Plan Boundary
- City of San Diego
- Parks and Open Space
- Water Features
- Municipal Boundaries
- Freeways
- Major Roads
- Railroads

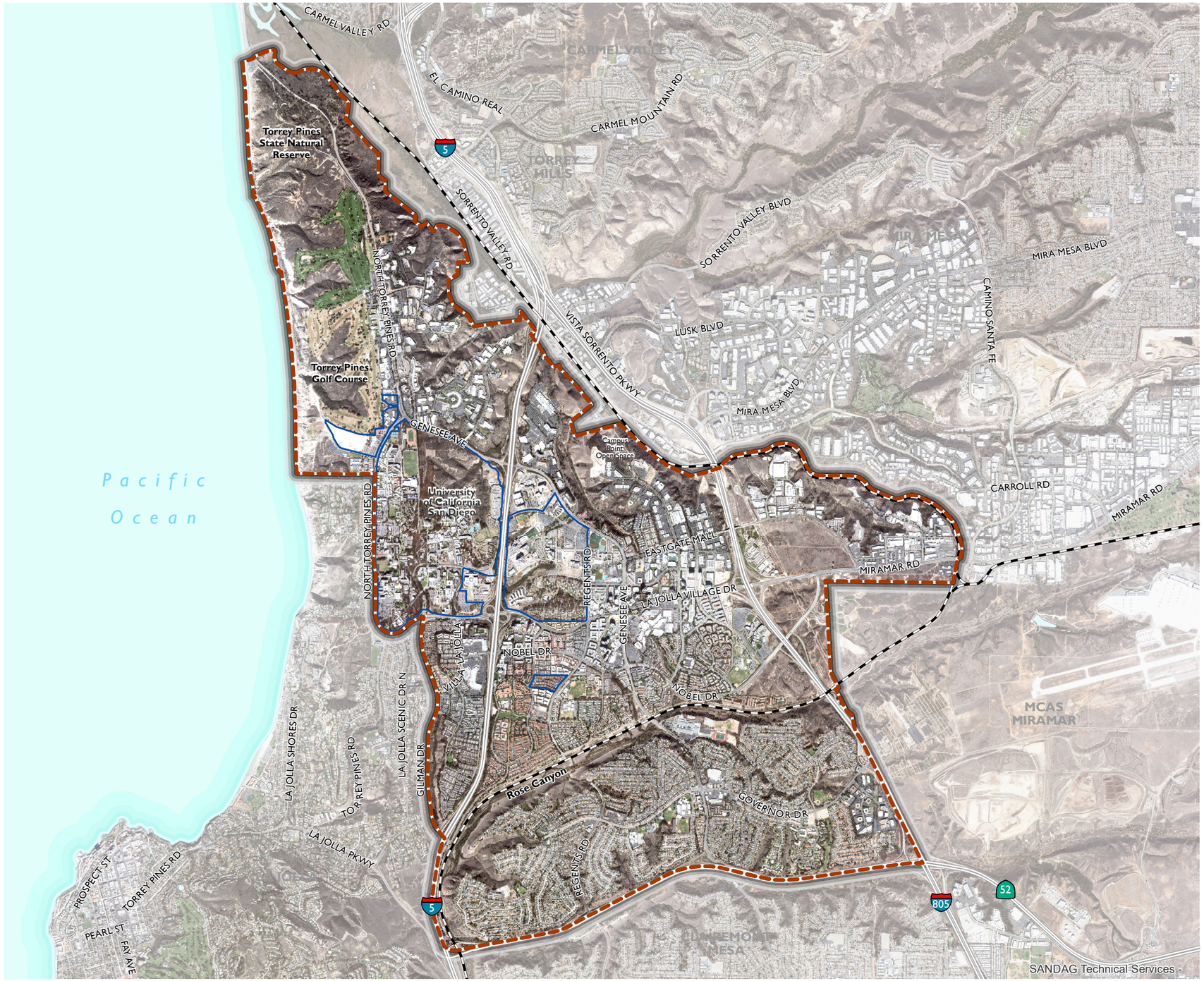
N

0 1.25 2.5 5

Miles

Source: City of San Diego, 2018; SANDAG, 2018; Dyett & Bhatia, 2018.

Figure 1 Regional Location



Source: City of San Diego, 2018; SANDAG, 2018; Dyett & Bhatia, 2018.

Figure 2 University Community Planning Area

3 Regulatory Framework

Air quality is defined by the ambient air concentrations of specific pollutants identified by the United States Environmental Protection Agency (USEPA), the CARB and the SDAPCD. Each agency regulates air quality by a set of laws, regulations and rules. Air quality laws, regulations and rules consist of volumes of requirements intended to lessen harmful air pollution in our communities. The most pertinent laws, regulations and rules for the CPU process are summarized below.

3.1 Federal

Under the Clean Air Act (CAA), the USEPA has established National Ambient Air Quality Standards (NAAQS) (40 Code of Federal Regulations Part 50) for criteria pollutants. An air quality standard defines the maximum amount of a pollutant averaged over a specified period that can be present in outdoor air without harmful effects on people or the environment. The NAAQS are a written standard where the concentration must be below a specific concentration for a specific averaging time. The averaging time is a designated time period that the concentration is measured over. Table 1 lists the NAAQS, including standards and averaging time. Each air basin in the country is evaluated against the NAAQS and is designated one of three possible attainment statuses for each criteria pollutant: nonattainment, attainment, or unclassified. Nonattainment means the air basin exceeds the standard and must make progress to lower the concentration of the specific pollutant(s). Attainment means the criteria pollutant is below the standard. Unclassified means not enough data is known. Federal regulations also require the development and implementation of State Implementation Plans (SIPs). These are plans that document how each area will work to reach and maintain attainment status for the NAAQS in which they are currently out of attainment with. A maintenance plan may also be required for areas that have been redesignated from nonattainment after air quality improvements.

Hazardous air pollutants (HAPs) are air pollutants known to cause cancer and other serious health impacts. The CAA requires the USEPA to regulate HAPs from categories of industrial facilities. Most HAPs originate from human-made sources including mobile sources, stationary sources and indoor sources (like building material and cleaning solvents). HAPs are addressed through stationary permitting review and the Urban Air Toxics Program. California has an extensive state program (USEPA 2018).

Federal regulations also include volumes of requirements for air emission control technology and emission limits for specific sources and industries. Any emission source within the University CPA would be required to follow all federal regulations.

3.2 California Air Resources Board

In 1959 California enacted legislation requiring the state Department of Public Health to establish air quality standards and necessary controls for motor vehicle emissions. California law continues to mandate California ambient air quality standards (CAAQS), which are often more stringent than national standards. The CAAQS predate the NAAQS set by the USEPA, which was created in 1970 and issued its first NAAQS in 1971.

CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. State law makes CARB the lead agency for all purposes related to the federally required SIP. SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls. Many of California's SIPs rely on the same core set of control strategies, including

emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products (CARB 2009). The local air quality control district works with CARB to manage and maintain regional air quality control plans. These plans are implemented through state and local rules and regulations.

Several key programs outlined by California legislative mandates regulate toxic air contaminants (TACs). They include the Toxics Air Contaminant Identification and Control Program, the Air Toxics Hot Spots Information and Assessment Act, the Children's Environmental Health Protection Act and the Community Air Protection Program. The Health and Safety Code (§39655(a)) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) is a TAC. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health. In addition, substances which have been listed as federal HAPs pursuant to section 7412 of Title 42 of the United States Code are TACs under the air toxics program pursuant to section 39657 (b) of the California Health and Safety Code.

In addition to these programs, the local air pollution control district enforces air pollution regulations designed to reduce emissions from businesses and industries in the state (CARB 2020a). A primary target of TAC has been diesel particulate matter (DPM) and an exceptionally complex set of strategies and regulations aimed to reduce the health effect from DPM. CARB published a handbook that is particularly meaningful for the CPU process titled the "Air Quality and Land Use Handbook, A Community Health Perspective" (CARB 2005).

The CARB also regulates greenhouse gases (GHG) through a series of programs including but not limited to a cap-and-trade style program. Most of these programs affect large emitters (powerplants, etc.) or the manufacturers of goods (i.e. vehicle manufacturers). Other programs are integrated into the local rules and regulations implemented by the local air pollution control district.

The California Environmental Quality Act (CEQA) requires local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects and to reduce those environmental impacts to the extent feasible. The laws and rules governing the CEQA process are contained in the CEQA statute Public Resources Code Section 21000 and following, the CEQA Guidelines in California Code of Regulations Title 14, Section 150000 and following, published court decisions interpreting CEQA and locally adopted CEQA Procedures (State of California 2020). Section 15125(d) requires discussion of any inconsistencies between the project and applicable general plans and regional plans [for air quality], including the applicable attainment or maintenance plan or SIP. CEQA also requires analysis and identification of sensitive receptors for air quality impacts (i.e. schools, day cares and medical facilities) that may be unjustly impacted by air emissions where localized carbon monoxide (CO) is a concern, and addressing odors.

3.3 San Diego Air Pollution Control District

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the plan for attainment and maintenance of the AAQSs in the SDAB. The most recent

version of the Regional Air Quality Strategy (RAQS) was adopted by the SDAPCD in 2016. The RAQS, in combination with those from all other California nonattainment areas with air quality problems, is submitted to the CARB, which develops the California SIP. The RAQS relies on information from CARB and SANDAG, including mobile and stationary source emissions and projected growth in the County, to project future emissions and then determine what strategies are necessary for the reduction of emissions through regulatory controls.

The SCAPCD also enforces local rules for air emissions sources that align with the requirements of the SIPs and other goals for air quality improvement in San Diego County. SDAPCD are some of the most prescriptive rules for air quality management in the nation and include permitting requirements for nearly every type of stationary air pollutant source. These permitting requirements and detailed rules are designed to allow for development but limit unrestricted air emissions from one region without considering aggregate emissions. These rules include requirements for a monitoring network. Recent Assembly Bill 617 from 2017 resulted in a CARB establishment of the Community Air Protection Program to focus on reduction of exposure to air pollutants in the most affected communities in the states. However, this program focuses on portside communities in San Diego and does not include University CPA currently.

SDAPCD Rule 51 is a specifically important rule to community development. Rule 51 prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Essentially these are odor complaints. Odor complaints from a "considerable" number of persons or businesses in the area will be considered a significant, adverse odor impact. Odors must be considered under CEQA.

Table 1 Ambient Air Quality Standards (AAQS)

Pollutant	Averaging Time	California		National Standards[a]		
		Standards [b,c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [d]
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	- [h]	Same as Primary Standard	- [h]
	8-hour	0.070 ppm (137 µg/m^3)		0.070 ppm		Ultraviolet Photometry
Carbon Monoxide	1-hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry	35 ppm	-	Non-Dispersive Infrared Photometry
	8-hour	9 ppm (10 mg/m^3)		9 ppm		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	53 ppb	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-hour	0.18 ppm (339 µg/m^3)		100 ppb		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	-	-	Ultraviolet Fluorescence; Spectro-
	24-hour	0.04 ppm (105 µg/m^3)		-	-	

Table 1 Ambient Air Quality Standards (AAQS)

Pollutant	Averaging Time	California		National Standards[a]		
		Standards [b,c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [d]
	3-hour	-		-	0.5 ppm	photometry (Pararosaniline Method)
	1-hour	0.25 ppm (655 µg/m^3)		75 ppb	-	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	Gravimetric or Beta Attenuation	- [h]	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	24-hour	50 µg/m^3		150 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15.0 µg/m^3	Inertial Separation and Gravimetric Analysis
	24-hour	-	-	35 µg/m^3	Same as Primary	
Lead [i]	30-day Average	1.5 µg/m^3	Atomic Absorption	-	-	-
	Calendar Quarter	-		-	-	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	-		0.15 µg/m^3	Same as Primary Standard	
Visibility Reducing Particles	8-hour	[g]	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: CARB 2016, USEPA 2016

Notes:

[a] National standards (other than ozone, PM and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

Table 1 Ambient Air Quality Standards (AAQS)						
Pollutant	**Averaging Time**	**California**		**National Standards[a]**		
		Standards [b,c]	**Method [d]**	**Primary [c,e]**	**Secondary [c,f]**	**Method [d]**

[b] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[c] Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[g] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
[h] The 1-hour ozone NAAQS was revoked on June 15, 2005 and the annual PM_{10} NAAQS was revoked in 2006.
[i] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.
[j] USEPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. EPA issued attainment status designations for the 35 $\mu g/m^3$ standard on December 22, 2008. EPA has designated the Bay Area as nonattainment for the 35 $\mu g/m^3$ $PM_{2.5}$ standard. The EPA designation will be effective 90 days after publication of the regulation in the Federal Register.
Legend: AQS = Ambient Air Quality Standards; O_3 = Ozone; NO_2 = Nitrogen Dioxide; SO_2 = Sulfur Dioxide; ppm = parts per million; µg = microgram; m^3 = cubic meters; ppb = parts per billion; PM_{10} = Particulate Matter 10 micrometers or less in diameter; $PM_{2.5}$ = Particulate Matter 2.5 micrometers or less in diameter.

4 Air Pollutants of Concern

Air pollutants most concerning to human health and the health of the environment have three major categories: criteria pollutants, toxic air pollutants and odors.

4.1 Attainment Status

The USEPA and CARB designate air basins for their attainment status (see Section 3.1 and 3.2). As shown in Table 2, SDAB currently meets all NAAQS for all criteria pollutants except ozone and meets the CAAQS for all criteria pollutants except ozone, PM_{10} and $PM_{2.5}$. The SDAB currently also falls under a federal maintenance plan for CO because it was redesignated from nonattainment.

Table 2 SDAB Attainment Status		
Criteria Pollutant	**Federal Designation**	**State Designation**
Ozone (8-hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	Attainment*	Nonattainment
Carbon Monoxide	Attainment [Maintenance Plan due to prior Nonattainment]	Attainment
PM_{10}	Unclassifiable**	Nonattainment

Table 2 SDAB Attainment Status		
$PM_{2.5}$	Attainment	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassifiable
Visibility	No Federal Standard	Unclassifiable

Source: CARB 2016, USEPA 2015, USEPA 2020, SDAPCD 2016, SCAPCD 2020

Notes: The federal 1-hour standard for Ozone (1-Hour) was no longer in effect as of June 15, 2005. This standard is revoked but is referenced in many State Implementation Plans.

** Unclassifiable is when available data does not support a designation of attainment or nonattainment at the time of designation.

Legend: PM_{10}= Particulate Matter 10 micrometers or less in diameter; $PM_{2.5}$= Particulate Matter 2.5 micrometers or less in diameter.

4.2 Criteria Air Pollutants

Federal and state laws regulate air pollutants as described in Section 3. Table 2 indicates that SDAB is in nonattainment for specific criteria pollutants, namely Ozone. Criteria pollutants have specific health effects. The following are the specific descriptions as provided by the USEPA and California Resources Board (WHO 2020, CARB 2020b).

Ozone (O_3). O_3 is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NO_X), both by products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Carbon Monoxide. CO is a product of fuel combustion and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision. CO at very high concentration results in unconsciousness and eventually death.

Nitrogen Dioxide (NO_2). NO_2 is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitric oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness. Nitrogen dioxide is often represented in air quality discussions as the more generic listing of NO_x. Diesel engines are a primary source of NO_x.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory

diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.

Sulfur dioxide. Sulfur dioxide (SO_2) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead (Pb) in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phaseout of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.

Sulfates. Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility and because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide. Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at high levels results in acute respiratory distress or even death. In 1984, a CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride. Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage.

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings and small droplets of liquid. These particles vary greatly in shape, size and chemical composition and can be made up of many different materials such as metals, soot, soil, dust and salt. These particles in the atmosphere would obstruct the range of visibility. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze.

4.3 Toxic Air Contaminant (TAC)

Diesel exhaust, especially DPM is a common TAC that is an air pollutant of concern for the CPA.

Diesel exhaust is considered a complex mixture of thousands of gases and fine particles emitted by a diesel-fueled internal combustion engine. Almost all the diesel exhaust particulate mass is in the fine particle range of 10 microns or less in diameter. Because of this small size, particles can be inhaled and eventually trapped into bronchial and alveolar regions of the lung. Health effects of diesel exhaust include classification as a respiratory irritant, aggravate asthma and increase risk in the likelihood of cancer (CARB 1998).

Other substances identified as TACs that may be present are benzene (from gasoline stations) and environmental tobacco smoke (from the use of cigarettes and cigars).

The list of TACs, inclusive of the list of HAPs, is extensive and complete description of each is out of the scope of this document. However, most TACs not discussed above are the result of an industrial process or stationary equipment which is evaluated on an individual basis prior to construction. Existing businesses in University would have their stationary emissions reviewed by the SDAPCD and evaluated for TACs prior to permits to construct. Emissions of TACs would be controlled using control technology.

4.4 Odors

Odors are defined specifically by the SDAPCD as emissions which cause injury, detriment, nuisance, or annoyance to the public health or damage the property. Odor sources are commonly wastewater treatment plants, chemical manufacturers, fertilizer plants and similar. While odors from animal husbandry can be offensive, they are generally exempt from regulation. Sources of odors of concern within the CPA are not plentiful based on a review of existing conditions. The North City Water Reclamation Plant, a wastewater treatment facility, is located in the eastern portion of the University CPA east of I-805 but north of Miramar Road.

5 Existing Conditions

5.1 Geographic Setting

University CPA is in the SDAB between zero and six miles east of the Pacific Ocean. The Torrey Pines State Natural Preserve portion of the CPA is coastal. The CPA is partially located between two major highways. University is a combination of coastal mesas and canyons common in northern San Diego. Generally, the area is not positioned against any mountains that would restrict airflow.

The topology of the SDAB is unique and varied and drives pollutant levels. To the west are beached and the Pacific Ocean, to the south is Tijuana, Mexico and the Baja California Peninsula, to the near east are the mountains, to the far east is the desert (the Salton Sea Air Basin) and to the north is the South Coast Air Basin (the greater Los Angeles-Riverside-San Bernardino area). The SDAB is not classified as a contributor to high levels of air pollutants, but is instead classified as a transient recipient, or an Air Basin that receives pollutants transported from other air basins. When winds are from the north, transport pollutants like O_3, NO_x and VOCs are transported from the South Coast Air Basin. Winds from the south transport many of the same pollutants from Tijuana, Mexico (SDAPCD 2018).

5.2 Climate

The climate of San Diego is classified as Mediterranean, but in fact is incredibly diverse because of the topology. Temperature, humidity, precipitation and wind all effect local air quality. The Pacific High dominates the climate and results in mild, dry summers and mild, wet winters. San Diego has on average 201 days above 70 degrees Fahrenheit annually. Relative humidity is higher in the morning and lower in the afternoon but is around 69 percent on average. Rainfall is usually between 9 – 13 inches but is dependent on El Niño and La Niña patterns. An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. San Diego receives less than normal rainfall during La Niña years.

The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases the O_3 levels. University likely experiences this inversion layer effect. In the winter, San Diego often experiences a shallow inversion layer which tends to increase CO and $PM_{2.5}$ concentration levels due to the increased use of residential wood burning.

In the fall months, the SDAB is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. They blow the air basin's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego O_3 concentrations. A strong Santa Ana also primes the vegetation for firestorm conditions (NOAA 2019, SCAPCD 2018, 2019).

5.3 Land Use and Development

Existing University land use is indicative of the activities on site, which can affect the air quality within the region. Currently, University CPA is auto-centric and people depend on personal automobiles to reach dwelling units, services and employment within the CPA.

Different land uses have different potentials for both stationary emissions and mobile emissions. Industrial land usage may have a higher incidence of toxic air pollutant emissions due to the presence of manufacturing or industrial sized building heating and cooling equipment. The graph below shows the existing land use. A map showing Land Use is shown on Figure 4.

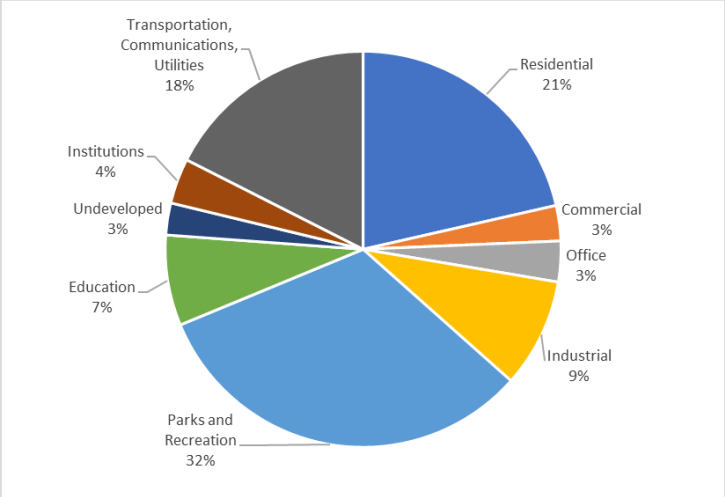


Figure 3 University Land Use
(City of San Diego 2018)

Density of land use is an important indicator of existing sources of air pollution. Residential unit density of University is 6.8, which is relatively low compared to more built-up areas of the City, as single-family homes are the predominant housing type in the community. Most single-family homes are south of Rose Canyon and most multi-family housing is north of Rose Canyon. Commercial density is similar to nearby communities when measured by the floor area ratio, the buildings total floor area and the total footprint of the building. Commercial density is highest along La Jolla Village Drive.

Light industrial land usage primarily is clustered in the central and northern portions of the CPA. University CPA is home to about 12.3 percent of private jobs within San Diego. A strong presence of jobs in the following industry sectors are within the University CPA:

- Aerospace, Navigation, and Maritime Technologies
- Biomedical Devices and Products
- Biotechnology and Pharmaceuticals, one of the fastest growing sectors
- Entertainment and Hospitality
- Information and Communications Technology
- Publishing and Marketing (City of San Diego 2018)

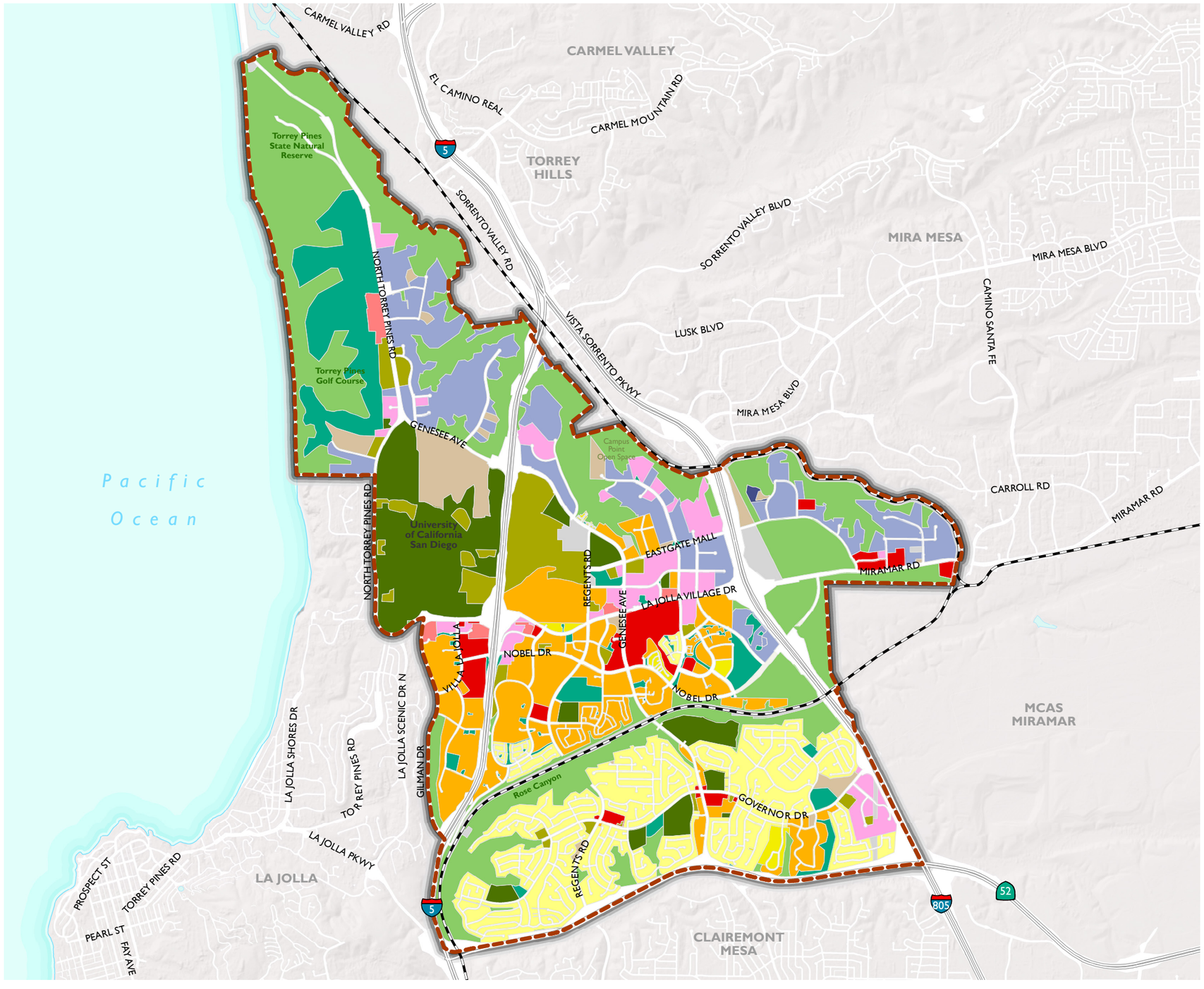
The above sectors all have some air emissions but are not likely to be major permitted sources like heavy manufacturing, painting, or fossil-fueled power generation. Hospitals and biomedical research may have incinerators or similar technology in use. Standby emergency power generation via diesel-powered engines are likely a permitted air emission source for many of these industries.

University is also home to University of California – San Diego (UCSD). UCSD is both a major employer and institution attended by thousands of students annually. UCSD is within the boundaries of the University CPA but lies outside of the zoning jurisdiction of the City. UCSD activities do however influence land use and development within the CPA. University also has multiple elementary, junior high and senior high schools located within the southern portion of CPA. Generally, the land uses are kept in similar areas, with the industrial in designated areas as opposed to being interspersed with residential and educational facilities.

Nearly 93 percent of workers commute to University for employment. Out of the 7 percent of people who live and work in University, most live in the area north of Rose Canyon and south of La Jolla Village Drive. About one-quarter of UCSD employees appear to live in University or nearby communities. Transit availability in the area is high and has significant levels of ridership that are nearly two times that of the City of San Diego average (City of San Diego 2018). Therefore, a major source of air pollution in the CPA are the vehicles, except bicycles, utilized for the commute.

Other land uses and features in or near the CPA that affect the air quality within the CPA are:

- The presence of MCAS Miramar to the east and the aircraft activity related to the base.
- The proximity of three major multi-lane regional freeways. Over 40% of GHG emissions in San Diego are from vehicle usage (CARB 2020b, SCAPCD 2019, 2016).
- Multilane primary roads within the CPA that accumulate traffic from smaller roads and connect to major roads such as the interstate. Many of those employed in University do not live in University. Several roadway segments within University experiences congestion in at least one peak period of the commute (morning or evening). The north-south link of Genesee Avenue and the east-west links of La Jolla Village Drive and Eastgate Mall experience the most congestion. Figure 5 shows these areas of congestion (City of San Diego 2018).



UNIVERSITY COMMUNITY PLAN UPDATE

Residential
- Single Family Detached
- Single Family Attached
- Multiple Family

Commercial
- Retail, Regional, Wholesale Commercial
- Visitor Commercial
- Office Commercial

Industrial
- Light Industry
- Extractive Industry

Parks and Recreation
- Open Space Park
- Recreation

Public Facilities and Institutions
- Education
- Institutions
- Transportation, Communications, Utilities

Undeveloped
- Vacant/Undeveloped
- Freeway
- Railroad
- Community Plan Boundary

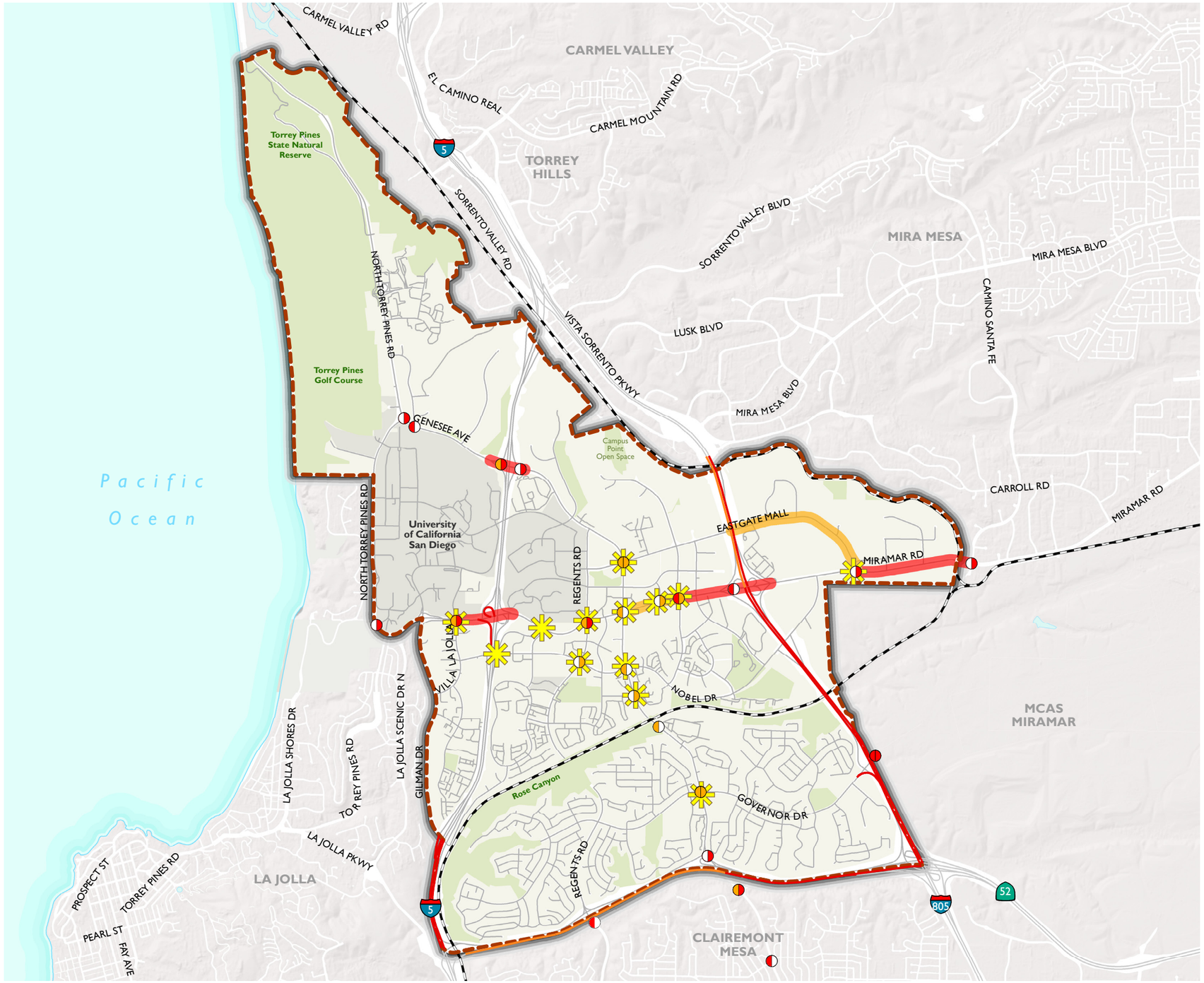
N

0 0.5 1 2

Miles

Source: City of San Diego, 2018; SANDAG, 2018; Dyett & Bhatia, 2018.

Figure 4 Existing Land Use



UNIVERSITY COMMUNITY PLAN UPDATE

Congested Intersections

- AM LOS
- PM LOS
- LOS E
- LOS F

Congested Freeways

- Freeway LOS E
- Freeway LOS F

Congested Roadways

- LOS E
- LOS F
- 15 or more Vehicular Collisions
- Railroad
- UCSD Campus
- City Parks and Open Space
- Community Plan Boundary

LOS = Level of Service

N

0 0.5 1 2

Miles

Source: City of San Diego, 2018; SANDAG, 2018; Dyett & Bhatia, 2018.

Figure 5 Vehicle Needs Congested Intersections

5.4 Sensitive Receptors

Sensitive receptors include but are not limited to residences, schools, hospitals, resident care facilities and daycare centers. University has many of these receptors:

- Residences are located throughout the CPA. Areas of current residential usage are shown in Figure 4.
- Schools are located primarily in the southern portion of the CPA. There is a total of six public schools and three private schools.
- Multiple hospitals are in the CPA including the campus of Jacobs Medical Center, Scripps Green Hospital, Veterans Affairs San Diego Healthcare System Hospital and Scripps Memorial Hospital.
- Only one assisted living center was identified along Gold Coast Drive, near Mason Elementary School.
- Several day care centers are located throughout the CPA, near elementary schools and other residences. There are a few day care centers located near the UCSD interspersed with the industrial and commercial areas.

These sensitive receptors would need to be evaluated during any future CEQA analyses.

5.5 Existing Air Quality

Air quality within any specific point in University CPA is a function of the kinds, amounts and dispersion rates of pollutants being emitted into the air locally and throughout the basin. Dispersion is affected by wind speed and direction, including wind disruptions by topography or buildings. Inversions can also disrupt the upward dispersion of pollutants, which is what happens during an inversion. The amount of pollutants emitted locally has a major effect as well as regional and neighbors to the north and south.

Air quality is monitored by specialized air quality monitoring stations which are monitored and maintained by the CARB and the SDAPCD. The monitoring stations measure ambient air pollutant concentrations. University does not have an air quality monitoring station within the CPA boundaries. The closest monitoring station with published historical data is Kearny Villa Road, which is approximately 3 miles east (inland) of University. It is located at 6125A Kearny Villa Road.

The air quality in University, especially at a specific location, will vary from the monitoring stations. However, the monitoring stations give a good insight into the local region air quality. Table 3 presents the most recent data over the past three years from the monitoring stations as summaries of exceedances of standards and the highest pollutant levels recorded for 2016 to 2018, which is the newest published data. These concentrations represent the existing or baseline conditions, for the project area. Ozone has exceeded the AAQS within the past three years, but $PM_{2.5}$ and PM_{10} have not.

Table 3 Air Quality Measurements Recorded at the San Diego – Kearny Villa Road Monitoring Station

Pollutant/Standard	2016	2017	2018
San Diego – Kearny Villa Road			
Ozone			
Days State 1-hour Standard Exceeded (0.09 ppm)	0	2	1
Days State 8-hour Standard Exceeded (0.07 ppm)	3	6	5
Days Federal 8-hour Standard Exceeded (0.07 ppm)	3	6	5

Table 3 Air Quality Measurements Recorded at the San Diego – Kearny Villa Road Monitoring Station			
Pollutant/Standard	2016	2017	2018
Max. 1-hr (ppm)	0.087	0.097	0.102
Max 8-hr (ppm)	0.075	0.084	0.077
Nitrogen Dioxide			
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0
Max 1-hr (ppm)	0.053	0.054	0.045
Annual Average (ppm)	0.009	0.009	0.009
Particulate Matter less than 10 microns in diameter			
Days State 24-hour Standard Exceeded (50 µg/m^3)	0	0	0
Days Federal 24-hour Standard Exceeded (150 µg/m^3)	*	0	0
State Max Daily (µg/m^3)	35.0	47.0	38.0
State Annual Average (µg/m^3)	17.1	17.6	18.4
Exceed CAAQS Annual Arithmetic Mean (20 µg/m^3)	No	No	No
Federal Max Daily (µg/m^3)	36.0	46.0	38.0
Federal Annual Average (µg/m^3)	17.1	17.6	18.4
Particulate Matter less than 2.5 microns in diameter			
Days Federal 24-hour Standard Exceeded (35 µg/m^3)	0	0	0
Max Daily (µg/m^3)	20.3	27.5	32.2
State Annual Average (µg/m^3)	7.7	8.0	8.3
Federal Annual Average (µg/m^3)	7.5	7.9	8.3
Exceed CAAQS/NAAQS Primary Annual Arithmetic Mean (12 µg/m^3)	No	No	No
Exceed NAAQS Secondary Annual Arithmetic Mean (15 µg/m^3)	No	No	No

Source: CARB 2020c, SDAPCD 2019b
Notes: Insufficient (or no) data available to determine the value.
Legend: ppm = parts per million; µg = microgram; m^3 = cubic meters; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards

6 Thresholds of Significance

Thresholds used to evaluate the potential impacts to air quality are based on the "City Significance Determination Thresholds," which reference Appendix G.III of the CEQA guidelines. The first evaluation is to ask if a project would have a potential significant environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan (the San Diego RAQS or SIP).
2. Violate any air quality standard (NAAQS or CAAQS) or contribute substantially to an existing air quality violation, such as resulting in a cumulatively considerable net increase for a pollutant or precursor pollutant for a pollutant the SDAB is in nonattainment for (Ozone and its precursors).
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Create an objectionable odor that offends a substantial number of people.
5. Exceed 100 pounds per day of Particulate Matter (PM).
6. Substantially alter the air movement in the area of the project.

For some of the above six questions, there are significance thresholds, i.e. at what value does something indicate a significant impact or significant emissions substantial enough to cause impact. Many of these significance thresholds are based on published regulatory thresholds; however regulatory thresholds are not the only threshold for significance. Each project undergoing CEQA consideration must consider both regulatory thresholds and substantial evidence supported in a fair argument that a significant impact would occur. The presence of nearby sensitive receptors would call for potentially more restrictive guidelines.

A project may have a significant environmental impact if it could:

a. Conflict with or obstruct implementation of the applicable air quality plan.
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation. SDAPCD Rule 1501 implements thresholds.
c. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).
d. Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates.
e. Create objectionable odors to a substantial number of people.
f. Release substantial quantities of air contaminants beyond the boundaries or premises upon which the stationary source emitting the contaminants is located. Projects that include stationary sources with impacts that may be significant under these general thresholds may also need an Air Quality Impact Assessment to be prepared in accordance with SDAPCD Rule 20.2. This is part of the permitting process.

Thresholds a – d can utilize mostly published regulatory thresholds. Threshold d may require special field surveys or visits to do an analysis for sensitive receptors.

To determine if a project would exceed thresholds of significance, a quantitative analysis would be completed that compares the proposed construction and operational emissions resulting from the project(s) would exceed quantitative emissions thresholds as shown in Table 4. Table 4 combines the SDAPCD regulatory thresholds, best management practices from other CEQA evaluations and other air pollution control district thresholds for significance into a comprehensive table. The South Coast Air Quality Management District's screening threshold of 55 pounds per day or 10 tons per year is being applied to this analysis as a significance threshold for $PM_{2.5}$. Additionally, sensitive receptor qualitative and quantitative thresholds are documented.

One threshold evaluated for sensitive receptors is the localized CO concentration, which primarily is a result of motor vehicle activity at signalized intersections (see Figure 5 for the busiest intersections in University). Specific atmospheric conditions (a calm stable day) and sufficient vehicles sitting at idle can result in CO concentrations above safe levels.

Table 4 Thresholds of Significance

Construction Emissions	
Pollutant	**Total Emissions (Pounds per Day)**
PM_{10}	100

Table 4 Thresholds of Significance			
Pollutant		**Total Emissions (Pounds per Day)**	
$PM_{2.5}$		55	
NO_x		250	
SO_x		250	
CO		550	
VOC		75	
Operational Emissions			
Pollutant	**Emissions – Pounds per Hour**	**Emissions – Pounds per Day**	**Emissions – Tons per Year**
PM_{10}	--	100	15
$PM_{2.5}$	--	55	10
NO_x	25	250	40
SO_x	25	250	40
CO	100	550	100
VOC	--	75	13.7
Lead and Lead Compounds	--	3.2	0.6
Toxic Air Contaminant Emissions			
Health Concern		**Threshold**	
Excess Cancer Risk		1 in 1 million (no control technologies) 10 in 1 million (if using best available control technologies for toxics that are approved by the SDAPCD)	
Non-Cancer Hazard		1.0	
Sensitive Receptors – Localized Concerns			
Pollutant	**Threshold Description**		
CO	31,600 vehicles per hour (after which additional CO "Hotspot" analyses required) based on recommendations from the Sacramento Metropolitan Air Quality Management District from 2011.		
PM	Project needs to be determined if it is a project of local air quality concern (by CalTrans) (CalTrans 2017).		
Criteria or TAC	If stationary emissions source is within ½ mile of sensitive receptor, additional analyses are possibly needed. Also see TAC Health Concerns.		

Source: SDAPCD Administrative Rules, CARB 2005, Caltrans 2017, State of California 2020

Legend: PM_{10} = Particulate Matter 10 micrometers or less in diameter; $PM_{2.5}$ = Particulate Matter 2.5 micrometers or less in diameter; NO_x = Nitrogen Dioxide; SOx = Sulfur Oxide; CO = Carbon Monoxide; VOC = Volatile Organic Compound; SDAPCD = San Diego Air Pollution Control District; PM = particulate matter; TAC = toxic air contaminant

If these thresholds of significance numbers are exceeded by the projected CPU build-out projects, the SDAPCD requires an additional air quality analysis to determine if a significant air quality impact would occur. If the estimated emissions for the CPU build-out are under these thresholds, the project is considered to be consistent with regional air quality plans as long as all construction and operations follow all other air quality regulations (such as idling restrictions, state heavy equipment emissions

standards, state motor vehicle emissions requirements, requirements for best available control technologies, and attaining pre-construction permits). No further analysis would be required for projects under the thresholds for significance.

The CPU build-out estimated emissions and development plans would also have to be compared both quantitively and qualitatively to the SDAPCD RAQS and its description of expected community plans. Inconsistencies between the CPU plans and the community plans already identified within the RAQS would be considered a potentially significant impact on regional air quality (i.e. if the CPU plans greater density than the RAQS has already been evaluated).

7 Assessment Methodology

Emissions from the proposed action include emissions during the construction phase and the longer-term emissions during the operational phase. Air quality impacts from proposed construction activities would mainly be from the combustion of diesel and gasoline construction equipment in both on-road and off-road trucks and equipment and dust from earth-moving activities (PM_{10} and $PM_{2.5}$). Construction emissions will be short-term and primarily occur within the boundaries of the site. Operational emissions will be primarily from the combustion of diesel fuel to operate the generators and emissions from the diesel fuel tank. The increase in emissions from the proposed action over the existing emissions will be calculated and compared against the thresholds discussed to determine if the proposed action indicates a significant impact on air quality for the various types of air emissions.

7.1 Construction Emissions

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks and material-hauling trucks; and
- Construction-related power consumption.

Air pollutants generated by the construction of projects within the CPU area would vary depending upon the number of projects occurring simultaneously and the size of each individual project.

Construction criteria air pollutant emissions can be modeled using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 software, a modeling platform recommended by the CARB and accepted by the SDAPCD. CalEEMod is created with city planning in mind and allows for a flexible approach and detailed interface into proposed projects. CalEEMod is supported with extensive manuals and documentation.

7.2 Operational Emissions

Operational emissions are long-term emissions and include mobile, area and stationary sources. Sources of operational emissions within the CPA include but are not limited to:

- Traffic generated by new employees, service providers, or residents to the project.
- Changes in traffic patterns such as those introduced using smart technology or changes in flow due to public transportation.
- Area source emissions from the use of natural gas for heating, fireplaces and cooking.

- Stationary sources from biosciences, microbreweries and other light and heavy manufacturing.
- Mobile sources from buses and trains utilized for public transit.

Operation criteria air pollutant emissions can also be modeled using the CalEEMod Version 2016.3.2 software.

7.3 Sensitive Receptors

One of the primary assessment methodologies proposed for Sensitive Receptors is the concept of localized CO concern. If vehicles expected at an intersection exceed the threshold in Table 4, an analysis called "Hot Spot Analysis" is recommended.

Guidance and methodology for performing a hot spots analysis is by CARB through the Hotspots Analysis and Reporting Program (HARP), which is a software suite that addresses the programmatic requirements of the Air Toxics "Hot Spots" Program (Assembly Bill 2588). HARP includes the information presented in the 2015 Air Toxics Hotspots Program Guidance Manual for Preparation of Health Risk Assessments. HARP would be utilized to conduct health risk assessment for the CEQA process if the threshold is exceeded (CARB 2020d).

8 Summary

This report documents the existing conditions for air quality in University, provides the regulatory framework to be considered, reviews the pollutants of concern and their effects, establishes the thresholds at which proposed projects would be considered a significant impact on air quality and addresses the assessment methodology to be used for the impact assessment.

Overall air quality in University is impaired and is reflected in the nonattainment statuses of the SDAB. This means that pollutant levels of ozone, PM2.5 and PM10 exceed the levels the State has set quality standards to meet. Adherences to regional air quality management plans are key to minimizing air quality impacts. Any future development will be assessed quantitatively with California-specific community planning air emissions models to evaluate the impact on air quality and the most sensitive receptors. Specific numerical thresholds will be used to assess impact and guide decisions for University's future development.

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