Appendix F

Air Quality Technical Study

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Mid-City/Exposition Light Rail Transit Line

Air Quality Assessment Memorandum for the Improvements at Farmdale Avenue and Exposition Boulevard

Prepared by:

ICF Jones & Stokes

811 W. 7th Street, Suite 800

Los Angeles, California 90017

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Acronyms and Abbreviations

$\mu g/m^3$	micrograms per cubic meter
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BRT	bus rapid transit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act

CFR	Code of Federal Regulations
CH_4	methane
CIA	community impact assessment
CO	carbon monoxide
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
Draft EIS/EIR	Mid-City/Westside Transit Corridor Draft Environmental Impact Statement/Environmental Impact Report
Expo	Exposition Construction Authority
Expo LRT	Mid-City/Exposition Light Rail Transit
FEIS/EIR	final environmental impact statement/environmental impact report
FR	Federal Register
GCC	global climate change
GHG	greenhouse gas
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LCFS	low-carbon fuel standard
LRT	light rail transit
Metro	Los Angeles County Metropolitan Transportation Authority
MIS	Major Investment Study
MPO	metropolitan planning organization
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
O_3	ozone
OAL	Office of Administrative Law
Pb	lead
PM10	inhalable particulate matter
PM2.5	fine particulate matter
ppm	parts per million
RCPG	Regional Comprehensive Plan and Guide
ROC	reactive organic compound

ROD	Record of Decision
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	sulfur dioxide
SRA	Source Receptor Area
TACs	toxic air contaminants
USEPA	U.S. Environmental Protection Agency
V/C	vehicle to capacity
VMT	vehicle miles traveled

Mid-City/Exposition Light Rail Transit Project

Air Quality Assessment Memorandum for the Improvements at Farmdale Avenue and Exposition Boulevard

1.0 Summary

ICF Jones & Stokes prepared this air quality report for submission to and consideration by the California Public Utilities Commission (CPUC) and the Federal Transit Administration (FTA). Its purpose is to evaluate the proposed passenger station at the Farmdale Avenue crossing for the Mid-City/Exposition Light Rail Transit (Expo LRT) project (the proposed project) in comparison to the analysis in the previously certified final environmental impact statement/environmental impact report (FEIS/EIR) for the Expo LRT project and assist the agencies in determining whether a further environmental documentation is necessary.

The Farmdale Avenue crossing is the final crossing to be considered by the CPUC for the Expo LRT line, and is the subject of an amended application filed with the CPUC on July 29, 2009. All other crossings requiring CPUC approval have been approved, and the Expo LRT line is currently under construction.

This study examines the Exposition Construction Authority's (Expo's) original plan for an at-grade crossing, as modified in the course of this proceeding, including a new station with near-side platforms east and west of Farmdale Avenue at which all LRT vehicles would come to a full stop on approach to the Farmdale Avenue crossing. In addition, a property at 4523 West Exposition Boulevard would be acquired and all existing structures would be demolished to construct a Los Angeles Unified School District (LAUSD) staff parking lot. A stop-and-proceed procedure may be used until the proposed station is constructed.

This report provides an analysis of potential air quality impacts related to the proposed project for the Farmdale Avenue crossing of the Expo LRT project.

The FEIS/EIR for the Expo LRT project was prepared to evaluate Phase I of the Expo LRT project, including an at-grade crossing proposed at Farmdale Avenue and Exposition Boulevard. This report evaluates whether the proposed project would create significant new impacts that would require further environmental review under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). This report is intended to serve as a supporting technical study for the environmental documentation for the proposed project.

1.1 Background

The FEIS/EIR for the Expo LRT project evaluated Phase I of the project (downtown Los Angeles to Culver City), including an at-grade crossing proposed at Farmdale Avenue and Exposition Boulevard. That FEIS/EIR was certified by the Los Angeles County Metropolitan Transportation Authority (Metro) in 2005. That FEIS/EIR was used as CEQA documentation by CPUC in its December 2007 decision approving all of the at-grade crossings for the Expo LRT project except the proposed at-grade crossings at Farmdale Avenue near Dorsey High School and at Harvard Boulevard near the Foshay Learning Center. The FEIS/EIR was also used as the CEQA documentation by the CPUC in its February 25, 2009 decision approving the construction of the Expo LRT project over the existing pedestrian tunnel crossing at Harvard Boulevard.

Members of the public have raised safety concerns about the proposed Farmdale Avenue at-grade LRT crossing. Of particular concern to LAUSD and local residents is the proximity of Dorsey High School, with a population of more than 2,000 students, to the at-grade crossing. Other issues include potential visual impacts, reduced traffic access, and noise.

This analysis is being prepared for submission to the CPUC in response to the commission's February 25, 2009, decision regarding the proposed at-grade crossing at Farmdale Avenue and in response to subsequent discussions between Expo and LAUSD. In its February 25 decision, the CPUC denied Expo's application for a proposed at-grade crossing at Farmdale Avenue. After considering various options for the Farmdale Avenue crossing, the CPUC found that a pedestrian overcrossing with Farmdale Avenue closed to traffic is a practicable alternative to the at-grade crossing as then proposed. Accordingly, the CPUC left the proceeding open to allow Expo to file an amended application or a new application. The CPUC decision also stated that the CPUC is a responsible agency under CEQA and that the CPUC, as a responsible agency, may act in a lead role when conducting any necessary future environmental review with respect to the Farmdale Avenue crossing if such review involves either a supplemental EIR or an addendum to the existing FEIS/EIR. The decision stated that the CPUC would not act as a responsible agency should a subsequent EIR be required.

Subsequent to the CPUC decision, Expo filed an amended application with the CPUC, suggesting several possible options for the crossing at Farmdale Avenue, including a pedestrian overcrossing with Farmdale Avenue closed, an at-grade crossing subject to a stop-and-proceed requirement for all trains, construction of

an LRT station in conjunction with an at-grade crossing at the intersection of Farmdale Avenue and Exposition Boulevard, and an at-grade crossing subject to an interim stop-and-proceed requirement with later construction of an LRT station. The CPUC held a prehearing conference on the amended application on September 30, 2009, and at the direction of the Administrative Law Judge, the parties initiated a discussion of issues in hopes of achieving a safe solution that would be acceptable to the parties and capable of more expeditiously resolving the proceeding. These discussions indicated that the construction of a near-side LRT station in conjunction with an at-grade crossing at the intersection of Farmdale Avenue and Exposition Boulevard would provide a safe solution that might also facilitate a more expeditious resolution of this proceeding.

Given the foregoing discussion, this analysis is submitted for consideration in evaluating the construction of the proposed project.

1.2 Purpose of This Analysis

The purpose of this study is to compare the effects of the proposed project with the environmental impact analysis set forth in the previously certified FEIS/EIR for the Expo LRT project. As noted in the analysis, the previously certified FEIS/EIR assumed that the Farmdale Avenue crossing would occur at-grade. However, the CPUC, in its February 25, 2009, decision, rejected Expo's application for an at-grade crossing and left the proceeding open to allow Expo to file an amended application. The CPUC found that a pedestrian bridge at Farmdale Avenue, with Farmdale Avenue closed to through traffic, is a practicable alternative to the proposed at-grade crossing. However, that option has been removed from further discussion because of community and stakeholders' concerns regarding the size and mass of the pedestrian overhead structure and the required closure of Farmdale Avenue to traffic crossing the Exposition Boulevard intersection.

This study includes detailed analysis of the construction of an LRT passenger station at the intersection of Exposition Boulevard and Farmdale Avenue and the acquisition and demolition of the property at the northeast corner of the intersection to construct a 26-space parking lot for school staff. In addition, this study evaluates whether implementation of the proposed project would result in new significant impacts or increase the severity of previously identified significant environmental effects under CEQA. CEQA provides, in Public Resources Code Section 21166, that once an EIR has been prepared for a project, no subsequent or supplemental EIR is to be prepared unless one of the following circumstances occurs:

a. Substantial changes are proposed in the project that will require major revisions to the environmental impact report;
b. Substantial changes have occurred with respect to the circumstances under which the project is being undertaken, which will require major revisions to the environmental impact report; or
c. New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, has become available.

CEQA Guidelines Section 15162 further clarifies the requirements for evaluating proposed changes to a project. Generally, the guidelines state that once an EIR has been certified, no further EIRs will be prepared unless there are substantial changes in the project, substantial changes in circumstances, or new information of substantial importance, all of which indicate that there will be either a new, significant adverse environmental impact or a substantially more severe adverse environmental impact than previously identified. Pursuant to Public Resources Code Section 21166 and CEQA Guidelines Section 15162, the purpose of this study is to evaluate whether the potential changes presented in the proposed project set forth above would result in new, significant environmental effects or a substantial increase in the severity of previously identified significant environmental effects.

Pursuant to CEQA Guidelines Sections 15162 through 15164, this study, together with the prior certified FEIS/EIR and other supporting documentation, is proposed to serve as the basis for the CPUC's CEQA review of the proposed change to the Expo LRT project, which would be made if the CPUC approves the proposed project.

This air quality analysis is also intended to serve as a supporting technical document to the CEQA and NEPA documentation prepared for the proposed project.

All analyses have been conducted to comply with the South Coast Air Quality Management District (SCAQMD) requirements for air quality assessments to satisfy CEQA and NEPA requirements. Furthermore, the greenhouse gas (GHG) emissions of the proposed project were evaluated because global climate change (GCC) has arisen as a new issue for CEQA analysis since the FEIS/EIR was certified.

1.3 Summary of Findings and Conclusions

Construction of an LRT Station at the Intersection of Farmdale Avenue and Exposition Boulevard

- Emissions during construction would remain below SCAQMD regional and local mass emissions thresholds, as well as General Conformity thresholds.
- The on-site diesel particulate matter (DPM) emissions that would occur during construction would not result in a significant health risk to adjacent sensitive-receptor locations.
- Emissions during long-term operations would not exceed SCAQMD regional or local mass emissions thresholds.
- Carbon monoxide (CO) emissions during long-term project operations would not create any new or exacerbate any existing CO hot spots.
- The proposed project would be consistent with air quality policies set forth by the SCAQMD and the Southern California Association of Governments (SCAG) as presented in the region's most recent Air Quality Management Plan (AQMP).

- The proposed project would not result in a cumulative air quality impact.
- The proposed project would not result in any significant impacts from GHG emissions. Therefore, it is anticipated that proposed project-related GHG emissions increases would be negligible. Nevertheless, all available mitigation measures to reduce project-related GHG emissions to the greatest extent feasible are prescribed herein. Overall, the proposed Expo LRT project would substantially reduce GHG emissions and assist the state in meeting its goals under AB 32 (the Global Warming Solutions Act) by providing mass transit as an alternative to automobiles.

2.0 Description of the Proposed Project

2.1 Purpose and Need

In 1998, the Regional Council of the Southern California Association of Governments (SCAG) adopted a Regional Transportation Plan (RTP) to establish goals, objectives, and policies for the region's transportation system and establish an implementation plan for transportation investment over the next 20 years. The RTP includes performance indicators with specific objectives, against which transportation investments can be measured. The performance indicators illustrate that travel conditions in the westside area of the City of Los Angeles will worsen by 2020 and that the area will not meet regional objectives for mobility, accessibility, reliability, or safety without the implementation of additional transportation improvements.

Given the RTP forecasts and the data provided in the Major Investment Study (MIS) for the Mid-City/Westside Study Area, several themes emerged with respect to the need for transportation improvements in the study area:

- The need for transit improvements has been established in previous studies.
- The "centers concept" land use policy is transit based.
- The study area contains a major concentration of activity centers and destinations.
- There is an existing concentration of transit-supporting land uses.
- The high study area population and employment densities support transit.
- Local redevelopment plans depend heavily on transit improvements.
- There is a history of transit usage in the study area.
- There is a significant transit-dependent population in the study area.
- The study area is expected to continue to capture a large share of regional population and employment growth.
- Continued growth in the business services sector (including entertainment and media-related businesses) underlies the future development potential in the study area.
- Travel demand justifies transit services.
- Peak-hour congestion on study area roadways underlies the need for transit improvements.
- Existing and future traffic and street conditions justify transit improvements.
- Local policies are oriented toward demand management and transit solutions rather than physical roadway improvements.

After review of the aforementioned themes and public review of the alternatives contained in the Mid-City/Westside Transit Corridor Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR), which was prepared in

June 2001, the Metro Board of Directors adopted a Locally Preferred Alternative (Draft EIS/EIR Alternative 3a), which included a bus rapid transit (BRT) project on Wilshire Boulevard and an LRT project along the Exposition Boulevard right-of-way from downtown Los Angeles to Culver City. The FEIS/EIR for the Mid-City/Expo LRT project from downtown Los Angeles to Culver City was prepared and certified in October 2005.

Following certification of the FEIS/EIR, Metro adopted the locally preferred alternative, which contemplated an at-grade crossing at the intersection of Farmdale Avenue and Exposition Boulevard in the City of Los Angeles.

On February 25, 2009, the CPUC denied Expo's application for a proposed at-grade crossing at Farmdale Avenue. After considering various options for the Farmdale crossing, the CPUC found that a pedestrian overcrossing with Farmdale Avenue closed to traffic is a practicable alternative to the proposed at-grade crossing. The CPUC accordingly left the proceeding open to allow Expo to file an amended application or new application consistent with the CPUC decision. Based upon these findings, this analysis is submitted for the CPUC's consideration in evaluating the construction of an LRT passenger station at Farmdale Avenue.

2.2 Project Location and Study Area

The project study area is located in the midwestern portion of the City of Los Angeles, approximately 7 miles to the southwest of downtown Los Angeles, within the West Adams–Baldwin Hills–Leimert Community Plan area (City of Los Angeles 2001), and encompasses the intersection of Farmdale Avenue and the proposed Expo LRT tracks along Exposition Boulevard and the immediate surrounding area. The Expo LRT project follows the existing Exposition Boulevard, which is a two-lane bi-directional street aligned along an east–west orientation. To the west of its intersection with Farmdale Avenue, Exposition Boulevard runs along the northern side of the Expo LRT project right-of-way. Dorsey High School is located at the southwest corner of the intersection of Farmdale Avenue with Exposition Boulevard. Continuous blocks of low-scale light industrial buildings are located northwest of the intersection along the northern side of Exposition Boulevard.

To the east of the intersection, the Expo LRT right-of-way forms a wide median strip along Exposition Boulevard. To the north of this median, Exposition Boulevard has bi-directional traffic, as does Exposition Boulevard South to the south of the median. This area includes a number of low- to medium-height trees that help define the right-of-way as open space. However, many of these trees were removed subsequent to the 2004 FEIS/EIR to prepare for the construction of the Expo LRT project. To the east of Farmdale Avenue, the primary surrounding land uses are single-family homes. The existing right-of-way is visible from some of the adjacent homes.

Farmdale Avenue is a two-lane bi-directional street that runs along a north–south orientation for approximately 0.5 mile from Vineyard Avenue to Rodeo Road between La Brea Avenue and Crenshaw Boulevard (see Figure 1, Regional Location Map, and Figure 2, Project Vicinity).

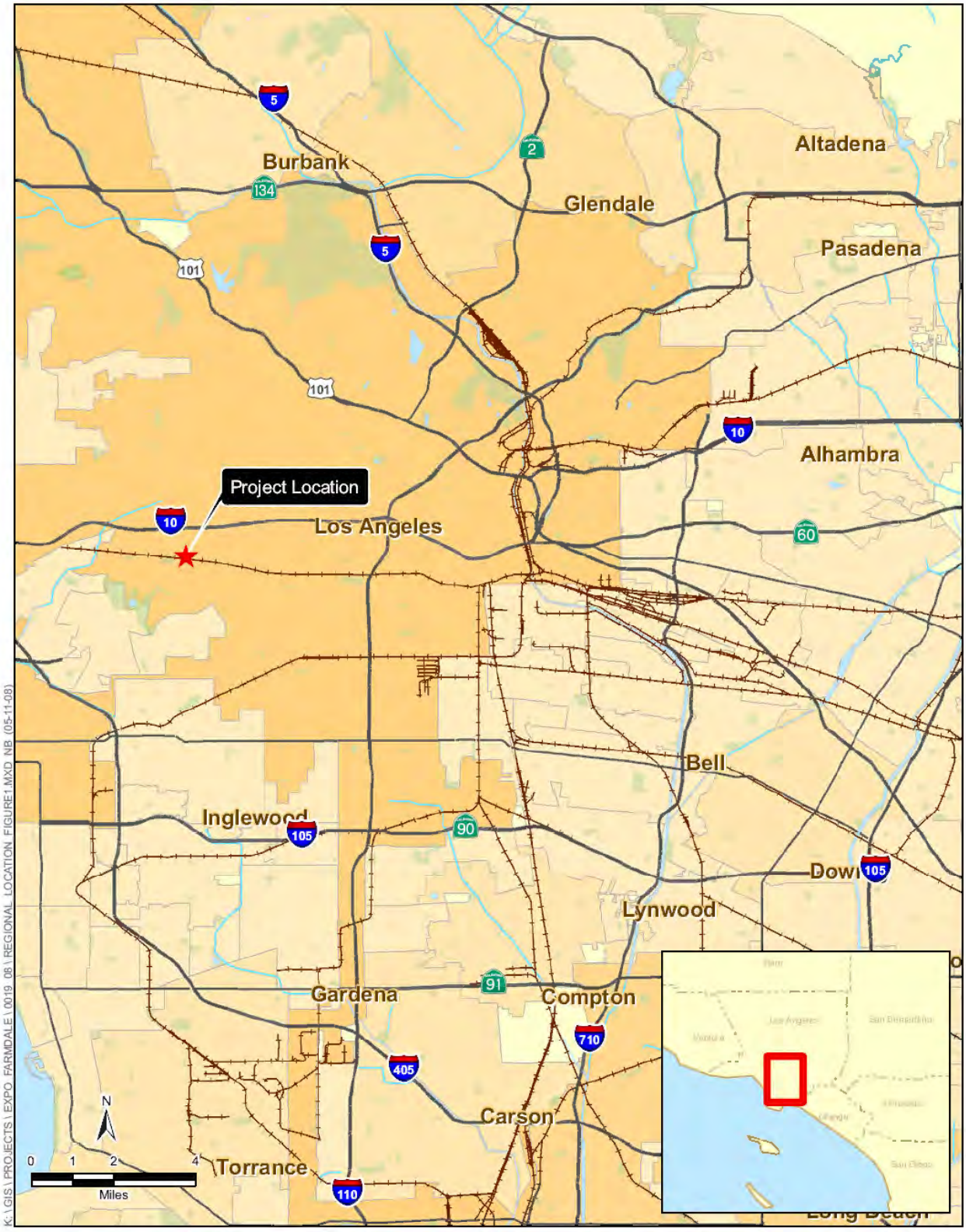
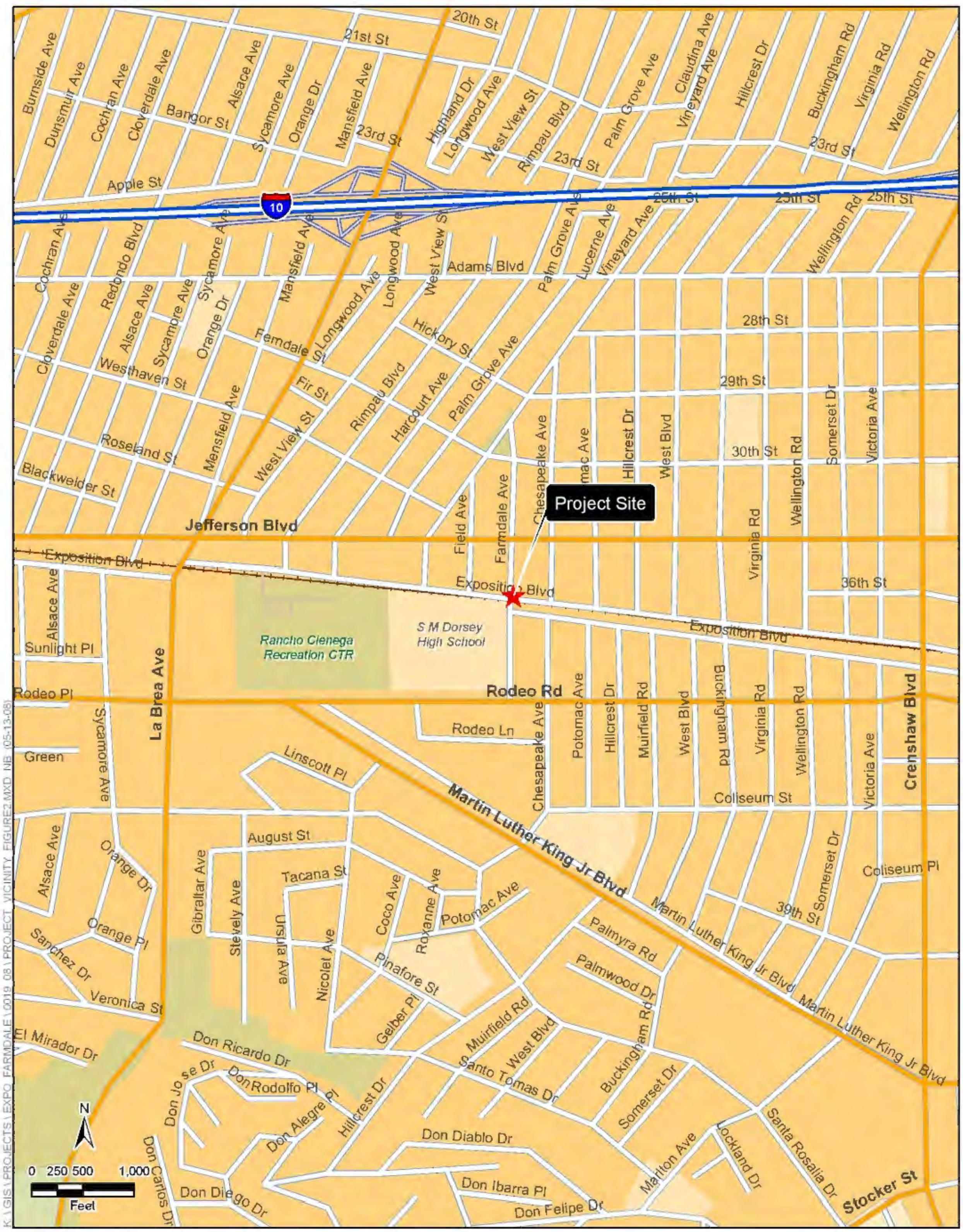


Figure 1
Regional Location



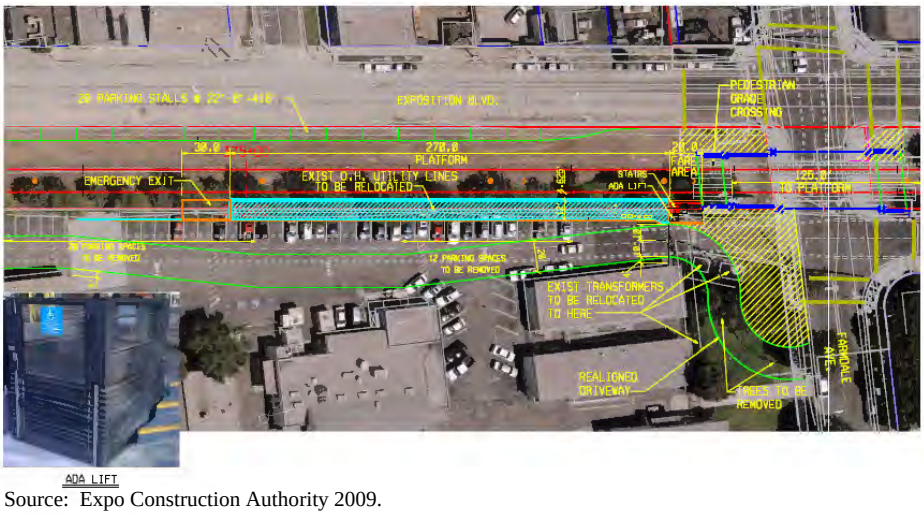
SOURCE: ESRI Streetmap USA (2007)

Figure 2
Project Vicinity

2.3 Proposed Project

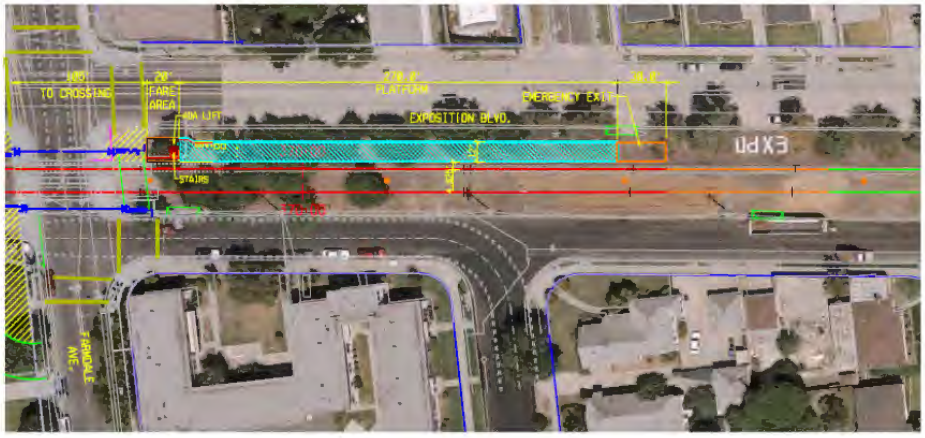
The proposed project would involve the construction of a passenger station at the intersection of Farmdale Avenue and Exposition Boulevard (see Figures 3a and 3b). Farmdale Avenue would remain open to crossing vehicular and pedestrian traffic at Exposition Boulevard, and crossing gates and signals would be employed, similar to the design proposed for the at-grade crossing at Farmdale Avenue under the original Expo LRT project.

Figure 3a: Proposed LRT Passenger Station with At-grade Crossing – Eastbound Platform West of Farmdale Avenue



Source: Expo Construction Authority 2009.

Figure 3b: Proposed LRT Passenger Station with At-grade Crossing – Westbound Platform East of Farmdale Avenue



Source: Expo Construction Authority 2009.

To ensure pedestrian safety, the passenger station would be constructed with a near-side split-platform configuration at the intersection of Farmdale Avenue and Exposition Boulevard. The split-platform configuration would require trains to stop at each platform prior to reaching the vehicular and pedestrian crossings at

Farmdale Avenue. Each station platform would be 12 feet wide and 270 feet long, with a 12-foot-wide, 20-foot-long fare collection area adjacent to Farmdale Avenue and an emergency exit on the far end of each platform. Westbound Expo trains would stop at the platform east of Farmdale Avenue, and passengers would ingress/egress trains from the north side of the Expo LRT tracks, within the existing right-of-way. Eastbound Expo trains would stop at the platform to the west of Farmdale Avenue, and passengers would ingress/egress trains from the platform on the south side of the Expo LRT tracks. Once passengers embark or disembark, trains would not leave the station until the train operator verifies that the at-grade crossing is clear of both pedestrians and vehicles. A small train control and communications building would be located east of the station along Exposition Boulevard.

Approximately 5,000 square feet of property would be acquired from Dorsey High School for construction of the eastbound platform on the south side of the Expo LRT right-of-way (approximately 2,500 square feet) and the pedestrian plaza for the at-grade crossing at the northeast corner of the Dorsey High School campus (approximately 2,500 square feet). The eastbound platform would be partially within an existing staff vehicle parking area on LAUSD property at Dorsey High School and would require the relocation or reconfiguration of approximately 32 existing parking spaces, with a net loss of approximately 19 spaces. A 10,963-square-foot property on the northeast corner of the intersection of Exposition Boulevard and Farmdale Avenue would be acquired, and all structures would be demolished, including the Expo Inn, a residency motel located at 4523 West Exposition Boulevard. To compensate for the loss of parking spaces within the existing Dorsey High School staff parking lot for the construction of the proposed eastbound Expo LRT station platform, a new 26-space paved parking lot would be constructed on this acquired property.

To the west of Farmdale Avenue, construction of the eastbound platform would require existing Los Angeles Department of Water and Power (LADWP) overhead utility lines to be relocated underground along the right-of-way as well as the relocation of an electrical transformer at the northeast corner of Dorsey High School. Overhead catenary power lines would be constructed along the Expo LRT alignment, including at this station, to provide electrical power to the Expo LRT trains.

The at-grade crossing would also include realignment of the existing Dorsey High School driveway at the northeast corner of the school property to accommodate the pedestrian plaza for the at-grade pedestrian crossing. Pedestrians would be directed across the crossing when it is safe. The other side of the crossing, on the north side of Exposition Boulevard, would include a smaller pedestrian plaza, including swing gates, pedestrian gates, and traffic signals to control pedestrian and vehicle traffic.

Figures 4a and 4b, below, illustrate the proposed station and the proposed parking lot in relation to Dorsey High School.

Figure 4a. LRT Passenger Station with At-grade Crossing and LAUSD Staff Parking Area, Northeast View

Source: Expo Construction Authority 2009.

Figure 4b. LRT Passenger Station Plan with At-grade Crossing, LAUSD Staff Parking Area and Dorsey High School in Background, Southwest View

Source: Expo Construction Authority 2009.

Expo may decide to use an interim stop-and-proceed procedure until the station is constructed. During the initial interim phase, operating the at-grade crossing with a stop-and-proceed operation variation would not result in any physical modifications to the Farmdale Avenue crossing beyond those already evaluated in the FEIS/EIR and thus would not result in any environmental changes or new potentially significant environmental impacts beyond those evaluated in the FEIS/EIR.

2.4 Previously Considered Options

The following options were previously considered and evaluated but are no longer being proposed as a result of the CPUC decision dated February 25, 2009, and subsequent discussions among the parties conducted at the suggestion of the Administrative Law Judge to this proceeding to identify an option that could

provide a basis for a more expeditious resolution to this proceeding. Accordingly, these options are not evaluated in this initial study.

- At-grade Expo LRT crossing at Farmdale Avenue.
- Stop and proceed for Expo LRT trains at the at-grade crossing at Farmdale Avenue.
- Pedestrian overcrossing and closure of Farmdale Avenue at Exposition Boulevard.
- Pedestrian overcrossing, with Farmdale Avenue remaining open at Exposition Boulevard.
- Train overcrossing at Farmdale Avenue.
- Train undercrossing at Farmdale Avenue.

3.0 Environmental Setting

This section discusses the existing Regulatory and Physical Setting as they relate to Air Quality. This assessment includes a discussion of applicable significance criteria and analysis methodologies outlined in the following SCAQMD guidance documents:

- *CEQA Air Quality Handbook* (1993),
- *Localized Significance Threshold Methodology for CEQA Evaluations* (2003), and
- *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* (2006).

Impacts under NEPA were evaluated consistent with the U.S. Environmental Protection Agency (USEPA) General Conformity Rule.

Based on these above-referenced guidance documents, this assessment evaluates the short-term construction-period and long-term operational period impacts on localized and regional air quality that would result with development of the proposed options.

3.1 Regulatory Setting

A number of statutes, regulations, plans, and policies have been adopted that address air quality issues. The proposed project site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the USEPA is responsible for implementation of the federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile-source and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary-source requirements) are implemented by state and local agencies.

Federal Clean Air Act

The CAA was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met. The City of Los Angeles is within the South Coast Air Basin (Basin) and, as such, is in an area designated a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed options include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 1 shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone (O_3) and adopt a NAAQS for fine particulate matter (PM2.5). The Basin fails to meet national standards for O_3, inhalable particulate matter (PM10), and PM2.5 and therefore is considered a federal nonattainment area for those pollutants. Table 2 lists each criteria pollutant and their related attainment status.

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin is in compliance with these California standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. Table 1 details the current NAAQS and CAAQS, while Table 2 provides the Basin's attainment status with respect to federal and state standards.

Table 1. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]
Ozone (O_3)	1 hour	0.09 ppm[c]	--
	8 hour	0.07 ppm	0.075 ppm
Carbon Monoxide (CO)	1 hour	20.0 ppm	35.0 ppm

	8 hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	--
	Annual	0.03 ppm	0.053 ppm
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	--
	3 hour	--	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	--	0.030 ppm
Inhalable Particulate Matter (PM10)	24 hour	50.0 µg/m^3[c]	150.0 µg/m^3
	Annual	20.0 µg/m^3	--
Fine Particulate Matter (PM2.5)	24 hour	--	35.0 µg/m^3
	Annual	12.0 µg/m^3	15.0 µg/m^3
Sulfates	24 hour	25.0 µg/m^3	--
Lead (Pb)	30 day	1.5 µg/m^3	--
	Calendar quarter	--	1.5 µg/m^3
Hydrogen Sulfide	1 hour	0.03 ppm	--
Vinyl Chloride	24 hour	0.01 ppm	--

Notes:

[a] The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[b] The NAAQS, other than O_3 and those based on annual averages, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

[c] ppm = parts per million by volume; µg/m^3 = micrograms per cubic meter.

Source: California Air Resources Board, April 1, 2008.

Table 2. Federal and State Attainment Status for South Coast Air Basin

Pollutants	Federal Classification	State Classification
O_3 (1-hour standard)	--	Nonattainment
O_3 (8-hour standard)	Nonattainment, Severe-17	--
PM10	Serious Nonattainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Unclassified/Attainment	Attainment
SO_2	Attainment	Attainment

Source: California Air Resources Board, compiled by ICF Jones & Stokes, July 2009.

South Coast Air Quality Management District

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, all of Los Angeles County except for the Antelope Valley, the nondesert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. While air quality in these areas has improved, the basins require continued diligence to meet air quality standards.

SCAQMD has adopted a series of air quality management plans (AQMPs) to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources; control programs for area sources and indirect sources; a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified (i.e., previously permitted) emission sources; and, transportation control measures.

The SCAQMD adopted a comprehensive AQMP update, the 2007 AQMP, on June 1, 2007.[1] The Final 2007 AQMP addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. The 2007 AQMP builds upon the approaches taken in the 2003 AQMP for the attainment of the federal air quality standards. Additionally, the air plan highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet federal criteria pollutant standards within the timeframes allowed under federal Clean Air Act.

[1] South Coast Air Quality Management District. Available: < http://www.aqmd.gov/aqmp/AQMPintro.htm>.

SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the project. For example, SCAQMD Rule 403 requires implementing the best available fugitive dust control measures during active operations capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. SCAQMD has published the *CEQA Air Quality Handbook* (November 1993) to help local governments analyze and mitigate project-specific air quality impacts. This handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports and was used extensively in the preparation of this report. In addition, SCAQMD has published two additional guidance documents; *Localized Significance Threshold Methodology for CEQA Evaluations* (June 2003) and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* (October 2006), that provide guidance in evaluating localized effects from mass emissions during construction. Both were used in the preparation of this analysis.

Regional Comprehensive Plan and Guide

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties. It addresses regional issues relating to transportation, economy, community development, and environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the SCAG region, which includes Growth Management and Regional Mobility chapters, which form the basis for the land use and transportation components of the AQMP. These chapters are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

3.2 Existing Conditions

Regional Context

The project site is located within the Basin, an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

The southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by

periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography) and human influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

The greatest air pollution impacts throughout the Basin occur from June through September. These are attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing, which frequently reduce pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. O_3 concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California.

The SCAQMD is in the process of updating the MATES II, Multiple Air Toxics Exposure Study (SCAQMD 2000) with the MATES III study. The MATES II study was one of the most comprehensive air toxics studies ever conducted in an urban environment. The study was aimed at determining the cancer risk from toxic air emissions throughout the Basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminant (TAC) pollutants, and a modeling effort to fully characterize health risks for those living in the Basin. Initial results from the MATES III study indicate that inhalation cancer risks have decreased by about 17%, to 1,200 in 1 million, from the risk level of about 1,400 in 1million ascertained during the MATES II study.

Local Area Conditions

Local Climate

Data from the Western Regional Climate Center's Los Angeles Civic Center climate monitoring station was used to characterize project vicinity climate conditions because it is nearest to the project site. The average project area summer (August) high and low temperatures are 83.2 and 64.0°F, respectively, while the average winter (January) high and low temperatures are 66.4 and 48.4°F, respectively. The average annual rainfall is 14.80 inches.[2]

The wind monitoring station located nearest to the project site is in downtown Los Angeles; therefore, data from the downtown Los Angeles wind monitoring station was used to characterize study area wind conditions. Wind patterns in the

[2] Western Regional Climate Center. Los Angeles Area, California Climate Summaries. Los Angeles Civic Center, California (045115). Available: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5115). Accessed: May 15, 2008.

project vicinity display a nearly unidirectional flow, primarily from the west–southwest, at an average speed of 4.94 miles per hour. Calm wind conditions are present 8% of the time.[3]

Existing Pollutant Levels at nearby Monitoring Station

The SCAQMD has divided the Basin into air monitoring areas and maintains a network of air quality monitoring stations located throughout the Basin. The project site is located in the Central Los Angeles County Monitoring Area (i.e., Source Receptor Area [SRA] Number 1). The nearest monitoring station to this area is the Los Angeles North Main Street Monitoring Station, which is located within the City of Los Angeles. All criteria pollutants are monitored at this station.

Monitoring data, shown in Table 3, show the following pollutant trends: State 1-hour O_3 standards were exceeded an average of four times per year during the 3-year period. The national 8-hour O_3 standard was exceeded an average of once per year during the 3-year reporting period. CO and NO_2 concentrations are low, and recorded no exceedances during the 3-year reporting period. Particulate (PM10 and PM2.5) concentrations are largely affected by meteorology and show some variability during the 3-year reporting period. The state 24-hour PM10 standard was exceeded three times in 2005 and 2006, and once in 2007, while the national standard was not exceeded during the 3-year reporting period. The national PM2.5 standard was exceeded twice during the 3-year period, in 2005.

Existing Health Risk in the Surrounding Area

According to CARB cancer inhalation risk data, the project area is within a cancer risk zone of approximately 750 to 1000 in one million.[4] This is largely due to diesel particulates emitted from I-10 located north of the project site.

Sensitive Receptors and Locations

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive receptors within the project vicinity include single-family residential land uses located throughout the project vicinity and Dorsey High School located adjacent to the Farmdale Avenue and Exposition Boulevard intersection.

Proposed construction activity would occur within 82 feet of these sensitive land uses. As such, the evaluation of localized impacts during construction activity will focus on these land uses.

[3] SCAQMD, ftp://ftp.aqmd/pub/metdatadla.exe. Accessed May 15, 2008.
[4] California Air Resources Board. Cancer Inhalation Risk: Local Maps by Category, 2007b. Available: <http://www.arb.ca.gov/toxics/cti/hlthrisk/cncrinhl/riskmapviewfull.htm>.

Table 3. Air Quality Data from Los Angeles–North Main Street Station (CARB 70087)

Pollutant Standards	2005	2006	2007
Ozone (O_3)			
State standard (1-hour average = 0.09 ppm)			
National standard (8-hour average = 0.075 ppm)			
Maximum concentration 1-hour period (ppm)	0.121	0.108	0.115
Maximum concentration 8-hour period (ppm)	0.098	0.079	0.102
Days state 1-hour standard exceeded	2	8	3
Days national 8-hour standard exceeded	1	0	2
Carbon Monoxide (CO)			
State standard (8-hour average = 9 ppm)			
National standard (8-hour average = 9 ppm)			
Maximum concentration 8-hour period (ppm)	3.05	2.68	2.04
Days state/national 8-hour standard exceeded	0	0	0
Nitrogen Dioxide (NO_2)			
State standard (1-hour average = 0.18 ppm)			
Maximum 1-hour concentration	0.126	0.111	0.104
Days state standard exceeded	0	0	0
Suspended Particulates (PM10)			
State standard (24-hour average = 50 µg/m^3)			
National standard (24-hour average = 150 µg/m^3)			
Maximum state 24-hour concentration	69.0	58.0	77.0
Maximum national 24-hour concentration	70.0	59.0	78.0
Days exceeding state standard	3	3	1
Days exceeding national standard	0	0	0
Suspended Particulates (PM2.5)			
National standard (24-hour average = 35 µg/m^3)			
Maximum 24-hour concentration	73.7	56.2	51.2
Days exceeding national standard[a]	2	0	0

Notes:

[a] Number of exceedances based on NAAQS applicable during period shown (65 µg/m^3). Standard was changed to 35 µg/m^3 in November 2006, to be applied to 2007.

Source: California Air Resources Board, compiled by ICF Jones & Stokes, July 2009.

4.0 Significance Thresholds

Based on Appendix G of the CEQA Guidelines, the proposed project would have a potentially significant effect on air quality if it would:

- conflict with or obstruct implementation of the applicable air quality management plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors),
- expose sensitive receptors to substantial pollutant concentrations, or
- create objectionable odors affecting a substantial number of people

The CEQA Guidelines also state that the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determinations above.

Based on the SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies outlined in the SCAQMD *CEQA Air Quality Handbook* (as updated per their website), *Final Localized Significance Threshold Methodology* and *Final—Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds* guidance documents were used in evaluating project impacts.

Projected GHG emissions of CO_2, CH_4, and N_2O are provided for information purposes only, as quantitative GHG guidelines, including thresholds, have not been developed by SCAQMD.

4.1 Construction Emissions

According to criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, *Localized Significance Threshold Methodology for CEQA Evaluations*, and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents, the project would have a significant impact on construction emissions if any of the following were to occur.

- Regional emissions from both direct and indirect sources exceed any of the following SCAQMD prescribed threshold levels: (1) 75 pounds a day for reactive organic compounds (ROC), (2) 100 pounds per day for NO_X, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM10 or SO_X, and (5) 55 pounds per day for PM2.5.

- Localized emissions from on-site construction equipment and site disturbance activity exceed any of the following SCAQMD-prescribed threshold levels: (1) 111 pounds per day for NO_X, (2) 467 pounds per day for CO, (3) 5 pounds per day for PM10, and (4) 3 pounds per day for PM2.5.[5]

4.2 Operational Emissions

According to criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact with regard to operational emissions if:

- the project would cause an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9 ppm, respectively, at an intersection or roadway within 0.25 mile of a sensitive receptor.[6]

4.3 Toxic Air Contaminants

According to guidelines provided in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact from TACs if:

- on-site stationary sources emit carcinogenic or TACs that individually or cumulatively exceed the maximum individual cancer risk of ten in one million (1.0×10^{-5}) or an acute or chronic hazard index of 1.0 (SCAQMD 1998);[7]
- hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials, posing a threat to public health and safety; or
- the project would be occupied primarily by sensitive individuals within 0.25 mile of any existing facility that emits TACs, which could result in a health risk from pollutants identified in District Rule 1401 (SCAQMD 1993).

5.0 Methodology

5.1 Construction

Mass daily combustion emissions and off-gassing emissions were compiled using URBEMIS 2007, which is an emissions estimation/evaluation model developed by CARB that is based, in part, on SCAQMD *CEQA Air Quality Handbook* guidelines and methodologies.

[5] Derived from SCAQMD Localized Significance Threshold Tables—SRA 1 (Central Los Angeles County), 1-acre site, 82-feet (25-meter) receptor distance.

[6] Where the CO standard is exceeded at the intersection, a project would result in a significant impact if the incremental increase due to the project is equal to or greater than 1.0 ppm for the California 1-hour CO standard or 0.45 ppm for the 8-hour CO standard.

[7] SCAQMD Risk Assessment Procedures for Rules 1401 and 212, November 1998.

The URBEMIS 2007 model allows for the separation of the construction process into phases. For the purposes of this project, the proposed project has been phased as displayed in Table 4.

Table 4: Construction Phasing

Phase	Proposed Project
Site Work	2 Months
Systems	10 Months
Demolition	2 Weeks
Paving	1 Month

Source: Exposition Construction Authority, 2009.

Construction equipment by phase was based on scheduling information ascertained via communications with the project manager. A complete listing of the construction equipment by phase, construction phase duration assumptions, and changes to modeling default values used in this analysis is included within the URBEMIS 2007 printout sheets that are provided in Appendix A of this technical report.

5.2 Operations

Local area CO concentrations for roadways were evaluated using the CALINE-4 line-source dispersion model developed by the California Department of Transportation (Caltrans) combined with EMFAC2007 emission factors. The analysis of roadway CO impacts followed the protocol recommended by Caltrans and published in the document *Transportation Project-Level Carbon Monoxide Protocol*, December 1997. It is also consistent with procedures identified through the SCAQMD's CO modeling protocol. All emissions calculation worksheets and air quality modeling output files are provided in Appendix A.

5.3 Toxic Air Contaminants Impacts (Construction and Operations)

Potential TAC impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling) if necessary. The screening-level analysis consists of reviewing the proposed project's description and site plans to identify any new or modified TAC emissions sources. If it is determined that the proposed project would introduce a new source, or modify an existing TAC emissions source, then downwind sensitive-receptor locations are identified, and site-specific dispersion modeling is conducted to determine proposed project impacts.

5.4 Climate Change/Greenhouse Gas Emissions

Project-related CO_2 GHG emissions were estimated using the URBEMIS 2007 software.

6.0 Air Quality Impact Analysis

6.1 Construction Impacts

Regional Construction Impacts

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the project site. In addition, fugitive dust emissions would result from excavation and construction activities. Mobile-source emissions, primarily NO_X, would result from the use of construction equipment, such as graders, bulldozers, wheeled loaders, and cranes.

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources. The equipment mix and duration for each construction stage is detailed in the URBEMIS 2007 printout sheets provided in Appendix A.

Overall, construction is anticipated to start in early 2010 and last approximately 14 months. The total amount of construction, the duration of construction, and the intensity of construction activity could have a substantial effect upon the amount of construction emissions, the concentrations, and the resulting impacts occurring at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner burning construction equipment fleet mix, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Similar analyses were completed in the Expo LRT Project FEIS/EIR. Table 5, below, shows a comparison of emissions reported in the Expo LRT Project FEIS/EIR and the emissions calculated for the currently proposed project. As shown therein, emissions levels for criteria pollutants with significant impacts would be substantially less than those previously reported and, as such, would result in less-than-significant regional air quality impacts.

Local Construction Impacts

In addition to these regional emissions, the SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction-period emissions. If the on-site emissions from proposed construction activities are below the Localized Significance Threshold (LST) emission levels found in the LST mass rate look-up tables for the project site's SRA, then project emissions would not have the potential to cause a significant localized air quality impact.

Table 5. Comparative Estimate of Worst-Case Regional Construction Emissions (pounds per day)

	ROC	NO_x	CO	SO_x	PM10[a]	PM2.5[a]	Significant Impact	Significant After Mitigation
Regional Significance Threshold	75	100	550	150	150	55		
Expo LRT Project FEIS/EIR	2	23	32	<1	**412**	**86[b]**	**Yes**	**Yes**
Proposed Project	4	31	17	<1	5	2	No	No

Notes:

Construction emission calculation worksheets are included in the URBEMIS2007 printouts.

[a] PM10 emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

[b] PM2.5 calculation based on 21% of PM10 value, per calculation formulas provided in the *CEQA Air Quality Handbook* and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents.

Source: ICF Jones & Stokes, December 2009.

When quantifying mass emissions for LST analysis, only emissions that occur on site are considered. Consistent with SCAQMD LST guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts. A conservative estimate of the project's construction-period on-site mass emissions is presented in Table 6. As shown therein, the worst-case maximum emissions for NO_X, CO, PM10, and PM2.5 would remain below their respective SCAQMD LST significance threshold. As such, localized construction impacts would be less than significant. No mitigation is required.

Table 6. Worst-Case Localized Construction Emissions (pounds per day)

	NO_x	CO	PM10[a]	PM2.5[a]	Significant Impact	Significant after Mitigation
Localized Significance Thresholds[b]	111	467	5	3		
Proposed Project	29.06	14.92	4.55	2.01	No	No

Notes:

Construction emission calculation worksheets are included in the URBEMIS2007 printouts.

[a] PM10 emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

[b] The project site is located in SCAQMD SRA No. 1. These LSTs are based on the site location SRA, distance to nearest sensitive receptor location from the project site (82 feet), and project area that could be under construction on any given day (1 acre).

Source: ICF Jones & Stokes, December 2009.

Toxic Air Contaminants

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during site grading activities. The SCAQMD does not consider diesel-related cancer risks from construction

equipment to be an issue due to the short-term nature of construction activities. Construction activities associated with the proposed project would be sporadic, transitory, and short term in nature (less than 1 year). The assessment of cancer risk is typically based on a 70-year exposure period. Because exposure to diesel exhaust would be well below the 70-year exposure period, construction of the proposed project is not anticipated to result in an elevated cancer risk to exposed persons due to the short-term nature of construction. As such, project-related toxic emission impacts during construction would not be significant.

6.2 Operational Impacts

Regional Operations Impacts

Overall operations of the proposed project are expected to remain unchanged from the original design concept analyzed for in the Los Angeles Eastside Corridor FSEIS/SEIR. As previously analyzed, CO and PM10 emissions were each projected to decrease by approximately 0.05 percent. NO_X and ROG emissions were projected to decrease by approximately 0.01 percent and 0.02 percent, respectively. This impact would be considered beneficial.

Local Operational Impacts

Within an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations are generally found close to congested intersection locations. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For purposes of providing a conservative, worst-case impact analysis, CO concentrations are typically analyzed at congested intersection locations because if impacts are less than significant close to the congested intersections, impacts will also be less than significant at more distant sensitive receptor locations.

The SCAQMD recommends a hot-spot evaluation of potential localized CO impacts when volume-to-capacity ratios are increased by 2% at intersections with a level of service (LOS) of C or worse. However, with respect to the proposed project, it was concluded that trip generation and/or changes in off-site vehicle circulation patterns would be negligible, to the extent that there is no potential for project-related traffic to affect any intersection. The project's localized operational air quality impacts would therefore be less than significant. No mitigation measures are necessary.

Toxic Air Contaminants

SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulates (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions. In addition, typical sources of acutely and chronically hazardous toxic air contaminants include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities. Since the proposed project would not

contain such uses, the proposed project does not warrant a health risk assessment. Potential project-generated air toxic impacts on surrounding land uses would be less than significant. No mitigation measures are necessary.

7.0 Climate Change/Greenhouse Gas Emissions

7.1 Regulatory Setting

Federal Climate Change Policy

Twelve U.S. states and cities (including California), in conjunction with several environmental organizations, sued to force the USEPA to regulate GHGs as a pollutant pursuant to the federal Clean Air Act (CAA) (Massachusetts vs. Environmental Protection Agency et al. [U.S. Supreme Court No. 05–1120; argued November 29, 2006; decided April 2, 2007). The court ruled that the plaintiffs had standing to sue, that GHGs fit within the CAA's definition of a pollutant, and that the USEPA's reasons for not regulating GHGs were insufficiently grounded in the CAA. This prompted the Administrator of the USEPA to sign a proposal April 24, 2009. The proposal contained two distinct findings regarding greenhouse gases under section 202(a) of the CAA.

The Administrator is proposing to find that the current and projected concentrations of the mix of six key greenhouse gases (carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF_6]) in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the Endangerment Finding.

The Administrator is further proposing to find that the combined emissions of CO_2, CH_4, N_2O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change. This is referred to as the Cause or Contribute Finding.

Global Warming Solutions Act of 2006 (AB 32)

California's major initiatives for reducing climate change or greenhouse gas (GHG) emissions are outlined in the 2006 legislation Assembly Bill 32 (AB 32), 2005 Executive Order S-3-05, and a 2004 ARB regulation to reduce passenger car GHG emissions (AB 1493). These efforts aim at reducing GHG emissions to 1990 levels by 2020 - a reduction of about 25 percent, and then an 80 percent reduction below 1990 levels by 2050.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this executive order is to reduce California's GHG emissions to 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage

of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

In response to the State's efforts to reduce GHG's, the Secretary of California EPA created the Climate Action Team (CAT), which, in March 2006, published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the "2006 CAT Report"). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change greenhouse gas emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies. Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

ARB identified early actions in its October 17, 2007 report (ARB 2007):

- Group 1—Three new GHG-only regulations are proposed to meet the narrow legal definition of "discrete early action greenhouse gas reduction measures" in Section 38560.5 of the Health and Safety Code. These include the Governor's Low Carbon Fuel Standard, reduction of refrigerant losses from motor vehicle air conditioning maintenance, and increased methane capture from landfills. These actions are estimated to reduce GHG emissions between 13 and 26 million metric tons of carbon dioxide equivalent (MMT CO2e) annually by 2020 relative to projected levels. If approved for listing by the governing board, these measures will take legal effect by January 1, 2010. When these actions take effect, they would influence GHG emissions associated with vehicle fuel combustion and air conditioning but would not affect project site design or implementation otherwise.
- Group 2—ARB is initiating work on another 23 GHG emission reduction measures in the 2007–2009 time period, with rulemaking to occur as soon as possible where applicable. These GHG measures relate to the following sectors: agriculture, commercial, education, energy efficiency, fire suppression, forestry, oil and gas, and transportation.
- Group 3—ARB staff have identified 10 conventional air pollution control measures that underwent rulemaking in the 2007–2009 period. These control measures are aimed at criteria and toxic air pollutants but will have concurrent climate co-benefits through reductions in CO2 or non-Kyoto pollutants (i.e., diesel particulate matter, other light-absorbing compounds, and/or ozone precursors) that contribute to global warming.

These measures will become part of the State's comprehensive strategy for achieving GHG reductions under AB 32. AB 32 requires ARB to identify a list of "discrete early action greenhouse gas reduction measures" by June 30, 2007 (Health and Safety Code section 38560(a)). Once on the list, these measures are to be developed into regulatory proposals, adopted by ARB, and made enforceable by January 1, 2010. Additional early action items include a comprehensive framework of regulatory and non-regulatory elements that will result in significant and effective GHG emission reductions.

In consultation with ARB and California Public Utilities Commission, the California Energy Commission (CEC) is currently establishing a GHG emission performance standard for local, public-owned electric utilities (pursuant to Senate Bill No. 1368). This standard will limit the rate of GHG emissions to a level that is no higher than the rate of emissions of GHGs for combined-cycle natural gas baseload generation.

In October 2007, Governor Schwarzenegger signed SB 97, which requires the Governor's Office of Planning and Research (OPR) to prepare CEQA guidelines for the mitigation of GHG emissions. On April 13, 2009, OPR submitted to The Resources Agency its proposed amendments to the state CEQA Guidelines for GHG emissions. These proposed amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Resources Agency will conduct formal rulemaking by the end of 2009, prior to certifying and adopting the amendments, as required by SB97.

Senate Bill 1368

On August 31, 2006, the California Senate passed Senate Bill (SB) 1368 (signed into law on September 29, 2006), which required CPUC to develop and adopt a "greenhouse gasses emission performance standard" by February 1, 2007, for the private electric facilities under its regulation. CPUC adopted an interim standard on January 25, 2007. These standards apply to all long-term financial commitments entered into by electric utilities (California SB 2006). CEC was required to adopt a consistent standard by June 20, 2007. However, this date was missed; CEC will address the concerns of the Office of Administrative Law (OAL) and resubmit the rulemaking as soon as possible. The rulemaking then must be approved by OAL before it can take effect.

Assembly Bill 1493

On July 1, 2002, the California Assembly passed AB 1493 (signed into law on July 22, 2002), requiring CARB to "adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." The regulations were to be adopted by January 1, 2005, and apply to 2009 and later model-year vehicles. In September 2004, CARB responded by adopting "CO_2e fleet average emission" standards. The standards will be phased in from 2009 to 2016, reducing emissions by 22% in the near term (2009–2012) and 30% in the mid-term (2013–2016), as compared to 2002 model-year fleets.

Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. Essentially, the order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020; and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.

7.2 Existing Conditions

State Greenhouse Gas Emissions

Worldwide, California is the 12th to 16th largest emitter of CO_2 (CEC 2006), and is responsible for approximately 2% of the world's CO_2 emissions (CEC 2006).

Transportation is responsible for 41% of the state's GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%) and other sources (8%) (CEC 2006). Emissions of CO_2 and nitrous oxide are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks of CO_2 include uptake by vegetation and dissolution into the ocean. California GHG emissions in 2004 totaled approximately 492.1 MMT CO_2e.[8]

Climate change could affect the natural environment in California in the following ways, among others:

- rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta due to ocean expansion;
- extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- an increase in heat-related human deaths, infectious diseases, and a higher risk of respiratory problems caused by deteriorating air quality;
- reduced snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies;
- potential increase in the severity of winter storms, affecting peak stream flows and flooding;
- changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and
- changes in distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by 2040 (CEC 2006).

[8] Greenhouse gas emissions other than carbon dioxide are commonly converted into carbon dioxide equivalents, which takes into account the differing global warming potential of different gases. For example, the Intergovernmental Panel on Climate Change (IPCC) finds that nitrous oxide has a Global Warming Potential (GWP) of 310 and methane has a GWP of 21. Thus emission of one ton of nitrous oxide and one ton of methane is represented as the emission of 310 tons and 21 tons of CO_2e, respectively. This allows for the summation of different greenhouse gas emissions into a single total.

As such, the number of people potentially affected by climate change as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario are expected to increase. Similar changes as those noted above for California would also occur in other parts of the world with regional variations in resources affected and vulnerability to adverse effects. GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (CEC 2006) as well as natural processes.

7.3 Threshold of Significance

No federal, state, or regional air quality agency has adopted a methodology or quantitative threshold that can be applied to evaluate the significance of an individual project's contribution to GHG emissions, such as the quantitative thresholds that exist for criteria pollutants. In addition, a number of technical reports on climate change indicate that it is not yet possible to determine the significance of any individual development project's contribution to global climate change[9]. Thus, project GHG emissions of CO2, CH4, and N2O are provided for information purposes only, as quantitative GHG guidelines including thresholds have not been developed by the SCAQMD.

While not identified specifically in CEQA Guidelines, Appendix G, the potential impacts associated with GHG emissions are evaluated in this report. GHG emissions would be significant if the proposed project would

- conflict with the state goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006.

7.4 Impact Analysis

The following table presents an estimate of project-related greenhouse gas (GHG) emissions of CO_2, CH_4, and N_2O in terms of CO_2e (carbon dioxide equivalent). Because quantitative GHG guidelines, including thresholds, have not been developed by the SCAQMD, these emissions are provided for information and discussion purposes only.

[9] California Air Pollution Control Officers Association, *CEQA and Climate Change*, 6 (2008) ("thus far little has been done to assess the significance of the [e]ffects new developments projects may have on climate change"); California Energy Commission, *Integrated Energy Policy Report*, 215 (2007) (study of the relationship between land use impacts and greenhouse gas emissions is at the "early stages of exploration"). See also Intergovernmental Panel on Climate Change, *Understanding and Attributing Climate Change*,665 (2007) (attribution of climate change at any scale smaller than continental or over time scale of less than 50 years generally not established); Committee on Environment and Natural Resources, National Science and Technology Council, *Scientific Assessment of the Effects of Global Change on the United States* 3, 70 (same); National Research Council, *Radiative Forcing of Climate Change: Expanding the Concept and Addressing Uncertainties*, 125 (2005) (same).

Table 7. Estimate of Project-Related Greenhouse Gas Emissions Compared to Statewide Emissions

	Annual CO_2e (metric tons)
California State-wide Emissions (year 2006)	**479,800,000**
Proposed Project Emissions	261.0
SCAQMD Significance Threshold	NA
Exceed Threshold?	**NA**

Source: ICF Jones & Stokes 2009. URBEMIS 2007 outputs are provided in Air Quality Appendix.

As shown above, the relative quantity of project-related GHG emissions during short-term construction are negligible in comparison to statewide daily emissions. The proposed project's amount of emissions, without considering other cumulative global emissions, would be insufficient to cause global climate change. Thus, project emissions, in isolation, are considered less than significant. However, climate change is a global cumulative impact, and thus the proper context for analysis of this issue is not a project's emissions in isolation, but rather as a contribution to cumulative GHG emissions.

With regard to climate change and GHG emissions, the amounts of construction- and operations-period GHG emissions that would result from development of the proposed project are negligible. Worst case construction emissions for the proposed project would total approximately 261 metric tons CO_2e. This amount of CO_2e is far below the preliminary thresholds that are currently being contemplated by the SCAQMD's GHG Significance Thresholds Working Group, which are all in excess of 1,000 metric tons CO_2e per year for commercial uses. As such, it is concluded that project-related GHG emissions would be less than significant.

8.0 Recommendations

Beyond the required SCAQMD Rule 403 for fugitive dust emissions and construction mitigation measure C15, as described in the Expo LRT Project FEIS/EIR, no feasible mitigation is available to reduce localized construction PM10 and PM2.5 emissions. However, the proposed project is not expected to have a significant impact related to PM10 or PM2.5.

The following measures are recommended to reduce project-related GHG emissions.

8.1 GHG Construction-Period Recommendations

AIR-1: Utilize recycled, low-carbon, and otherwise climate-friendly building materials such as salvaged and recycled-content materials for building, hard surfaces, and non-plant landscaping materials.

AIR-2: Minimize, reuse, and recycle construction-related waste.

AIR-3: Minimize grading, earth-moving, and other energy-intensive construction practices.

AIR-4: Landscape to preserve natural vegetation and maintain watershed integrity.

AIR-5: Utilize alternative fuels in construction equipment and require construction equipment to utilize the best available technology to reduce emissions.

8.2 Significance after Mitigation

Localized Construction Emissions

Localized construction emissions for the proposed project would be less than significant and, as such, require no mitigation.

GHG Emissions

Given the relatively small amount of GHG emissions that would be emitted from this project during short-term construction, and implementation of prescribed mitigation measures, the proposed project would not conflict with the state's goals of reducing GHG emissions to 1990 levels by 2020 relative to construction emissions. Overall, the proposed Expo LRT project would substantially reduce GHG emissions and assist the state in meeting its goals by providing expanded mass transit as an alternative to automobiles. As such, potential significant impacts from GHG emissions would be less than significant.

9.0 Project Consistency with Regional AQMP

The project site is located within the 6,600-square-mile Basin. SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the Basin is in nonattainment (i.e., O_3, PM10, and PM2.5). As such, the project would be subject to the SCAQMD's AQMP, which contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by SCAG.

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, economy, community development, and environment.[10] With regard to air quality planning, SCAG has prepared the RCPG, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the AQMP

[10] SCAG serves as the federally designated metropolitan planning organization (MPO) for the Southern California region.

and which are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. Both the RCPG and AQMP are based, in part, on projections originating with County and City General Plans.

The City of Los Angeles is subdivided into local community planning areas. The proposed project falls within the West Adams Community Area.[11] The Community Plan for this area addresses the need for a public transit system that is capable of adequately serving the community and the region. Within the plan, Goal 8 of the West Adams-Baldwin Hills-Leimert Community Plan (City of Los Angeles 2001) transportation section specifies a "public transit system that improves mobility and accessibility with convenient alternatives to automobile travel." Therefore, the proposed project, as part of the Expo LRT system, would be in line with the goals of the community plan.

The West Adams Community Plan Freeways, Highways, and Street Element recognizes the goal of providing a circulation system that supports existing approved and planned land uses while maintaining a desired LOS at all intersections (Goal 7). Since the proposed project would support public transportation options, and would not adversely affect traffic conditions, the proposed project would be compatible with the West Adams Community Plan's Freeways, Highways, and Street Element.

Since the proposed project is consistent with the local community plan, pursuant to SCAQMD guidelines, they are considered consistent with the region's AQMP. As such, the proposed project-related emissions are accounted for in the AQMP, which is crafted to bring the Basin into attainment for all criteria pollutants. Potential impacts would be less than significant, and no mitigation measures are necessary.

10.0 Cumulative Impacts

Cumulative impacts on air quality could occur as a result of air pollutant emissions from mobile, area, and stationary sources attributed to buildout of the proposed project in combination with other cumulative projects. However, cumulative thresholds for air quality are the same as those used when considering a project-specific air quality impact because the thresholds are related to a project's contribution to the regional air quality baseline (as determined by SCAQMD's modeling that considers general plan land use designations for the jurisdictions within its borders). If a project would result in exceedances of daily regional emission limits, then it can be considered to contribute to cumulatively considerable air quality impacts. With respect to the proposed project, none of the criteria pollutants produced during long-term project operation would exceed regional or localized significance thresholds. In addition, the project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants. As such, cumulative impacts would be less than significant.

[11] West Adams-Baldwin Hills-Leimert Community Plan, City of Los Angeles. Available: http://www.lacity.org/PLN.

With regard to climate change and GHG emissions, the amounts of construction- and operations-period GHG emissions that would result from development of the proposed project are negligible. The proposed project's amount of emissions, without considering other cumulative global emissions, would be insufficient to cause climate change. Nevertheless, with implementation of the recommended measures, the proposed project would be consistent with the state's goals of reducing GHG emissions to 1990 levels by 2020. Overall, the proposed Expo LRT project would substantially reduce GHG emissions and assist the state in meeting its goals by providing mass transit as an alternative to automobiles. As such, the proposed project's contribution to climate change/worldwide GHG emissions would be less than significant.

11.0 General Conformity Determination (NEPA)

11.1 General Conformity – Regulatory Background

The USEPA promulgated the General Conformity Rule on November 30, 1993 in Volume 58 of the Federal Register (FR) page 63214 (58 FR 63214) to implement the conformity provision of Title I, section 176(c)(1) of the Federal CAA. Section 176(c)(1) requires that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approving any activity not conforming to an approved CAA implementation plan.

The General Conformity Rule is codified in Title 40 Code of Federal Regulations (CFR) Part 51, Subpart W and Part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. The General Conformity Rule applies to all federal actions except programs and projects requiring funding or approval from the U.S. Department of Transportation (DOT), the Federal Highway Administration, the Federal Transit Administration, or a Metropolitan Planning Organization. In lieu of a conformity analysis, these latter types of programs and projects must comply with the Transportation Conformity Rule promulgated by the DOT on November 24, 1993 (58 FR 62197).

11.2 General Conformity Requirements and Significance Thresholds

Title I, section 176(c)(1), of the CAA defines conformity as the upholding of "an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving attainment of such standards." Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of any NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

As part of the General Conformity process, a conformity analysis is required if a federal action satisfies one of the following two conditions:

The action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at or above the *de minimus* emission rates shown in Table 8.

The action's direct and indirect emissions of any criteria pollutant represent 10% or more of a nonattainment or maintenance area's total emissions inventory for said pollutant as shown in Table 9.

The General Conformity Rule establishes conformity in coordination with and as part of the NEPA process. The rule takes into account air pollutant emissions associated with actions that are federally funded, licensed, permitted, or approved, and ensures emissions do not contribute to air quality degradation, thus preventing the achievement of state and federal air quality goals. In short, General Conformity refers to the process of evaluating plans, programs, and projects to determine and demonstrate that they meet the requirements of the CAA and applicable SIP.

Table 8. Emission Rates for Criteria Pollutants in Nonattainment Areas*

Pollutant	**Emission Rate (Tons per Year)**
Ozone (ROGs or NO_X)	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside an ozone transport region	100
Marginal and moderate nonattainment areas inside an ozone transport region	
ROG	50
NO_X	100
CO: All nonattainment and maintenance areas	100
SO_2 or NO_2: All nonattainment areas	100
PM10	
Moderate nonattainment areas	100
Serious nonattainment areas	70
PM2.5	
Direct Emissions	100
SO_2	100
NO_x (unless determined not to be significant precursors)	100
ROG (unless determined not to be significant precursors)	100
Pb: All nonattainment areas	25

Notes:
**de minimis* threshold levels for conformity applicability analysis.

Source: 40 CFR 51.853.

Table 9. Regional Emissions for the South Coast Air Basin (tons per year)

Stationary Sources	**ROG**	**CO**	**NO_X**	**SO_X**	**PM10**	**PM2.5**
Fuel combustion	5.0	40.3	47.8	6.2	5.9	5.8
Waste disposal	7.9	0.9	1.9	0.4	0.3	0.3
Cleaning and surface coatings	42.7	0.1	0.1	0.0	0.7	0.6
Petroleum production and marketing	31.5	11.4	5.4	10.2	1.4	1.1
Industrial processes	14.8	2.9	3.1	2.5	12.6	5.8
** Total stationary sources*	*101.9*	*55.4*	*58.3*	*19.3*	*20.9*	*13.7*
Area-Wide Sources	**ROG**	**CO**	**NO_X**	**SO_X**	**PM10**	**PM2.5**
Solvent evaporation	132.2	--	--	--	--	--
Miscellaneous processes	16.1	110.3	25.6	0.8	210.2	51.1
** Total area-wide sources*	*148.3*	*110.3*	*25.6*	*0.8*	*210.3*	*51.2*
Mobile Sources	**ROG**	**CO**	**NOX**	**SO_X**	**PM10**	**PM2.5**
On-road motor vehicles	261.1	2,613.6	549.5	4.3	27.6	20.3
Other mobile sources	164.7	966.4	317.0	23.8	20.9	18.7
** Total mobile sources*	*425.8*	*3,580.0*	*866.5*	*28.1*	*48.4*	*39.0*
Grand total for the South Coast Air Basin	762.4	3,909.9	955.4	49.8	296.2	117.9
10% Threshold	**76.2**	**391.0**	**95.5**	**5.0**	**29.6**	**11.8**

Source: California Air Resources Board 2006.

11.3 General Conformity Applicability

Pursuant to the General Conformity Rule, the lead federal agency must make a General Conformity Determination for all federal actions in nonattainment or maintenance areas where the total of direct and indirect emissions of a nonattainment pollutant or its precursors exceeds levels established by the regulations.

Since the proposed project is located within the South Coast Air Basin, which is a federal nonattainment area for O_3, PM10, and PM2.5, as well as a maintenance area for CO, a General Conformity determination is required.

11.4 Assessment of Project Emissions for General Conformity Determination

As shown above in Table 8, the *de minimus* emission thresholds depend on the nonattainment area status at the project location. With respect to the SCAB, the General Conformity thresholds are the following: [12]

[12] Threshold for each pollutant based on the lesser value shown in Table 9 or Table 10.

- ROG, 10 tons/year;
- NO_X, 10 tons/year;
- CO, 100 tons/year;
- PM10, 29.6 tons/year;
- PM2.5, 11.8 tons/year; and
- SO_2, 5 tons/year.

If the proposed project's emissions exceed these *de minimus* thresholds, then predictive modeling may be used to demonstrate the emissions would not cause ambient concentrations exceeding the ambient air quality standards.

With respect to the proposed project, a conservative estimate of project construction and operation emissions is provided below in Table 10. As shown therein, the proposed project emissions would not exceed general conformity *de minimis* thresholds. In addition, the estimate of worst-case emissions for all criteria pollutants would remain below their respective regional inventory significance threshold. As such, the proposed project would not result in any adverse air quality effects.

Table 10. Construction Emissions (tons/year)

	ROG	NO_X	CO	SO_X	PM10	PM2.5
Expo LRT Project						
Proposed Project	<1	2	1	<1	<1	<1
***de minimis* Thresholds**[a]	**25**	**25**	**100**	**100**	**70**	**100**
Regional Inventory Thresholds[b]	**76.2**	**391.0**	**95.5**	**5.0**	**29.6**	**11.8**
Adverse Effect?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

[a] *de minimis* threshold levels for conformity applicability analysis.

[b] 10% of regional emission inventory

ROG = reactive organic gases
NO_X = nitrogen oxides
CO = carbon monoxide
SO_X = sulfur oxides
PM10 = particulate matter < 10 microns
PM2.5 = particulate matter < 2.5 microns

URBEMIS outputs are provided in the air quality appendix.

Source: ICF Jones and Stokes; December 2009

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13.0 List of Preparers

Shilpa Trisal, AICP, Environmental Planner
M.A. Community Planning, University of Cincinnati; B.A. Planning, School of Planning and Architecture, India. Five years of experience in land use and community planning.

Victor Ortiz, Environmental Planner/Air Quality Specialist
B.S., Earth and Environmental Sciences/University of California, Irvine. Three years of experience with air quality assessment, modeling, and documentation.

Gabriel Olson, Environmental Planner
M.Sc. Environmental Policy and Management, University of Utrecht, Netherlands; B.A. Anthropology, University of California, Berkeley. Five years of experience in environmental mapping, geographic information systems, and planning for sustainable development.

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Appendix A
Worksheets

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CONSERVATIVE ESTIMATE OF UNMITIGATED CONSTRUCTION EMISSIONS (pounds per day)

	ROC	NO_X	CO	SO_X	PM_{10} [a]	$PM_{2.5}$ [a]	CO_2
Site Work							
On-site Total	3.54	29.06	14.92	-	4.55	2.01	2,657.63
Fugitive Dust	-	-	-	-	3.06	0.64	-
Off-Road Diesel	3.54	29.06	14.92	-	1.49	1.37	2,657.63
Off-site Total	0.15	1.50	1.86	-	0.07	0.07	349.32
On-Road Diesel	0.11	1.42	0.55	-	0.06	0.06	193.83
Worker Trips	0.04	0.08	1.31	-	0.01	0.01	155.49
Grand Total	**3.69**	**30.56**	**16.78**	**-**	**4.62**	**2.08**	**3,006.95**
Station Construction							
On-site Total	1.55	11.38	6.16	-	0.74	0.68	1,101.70
Fugitive Dust	-	-	-	-	-	-	-
Off-Road Diesel, Bldg Cnst	1.55	11.38	6.16	-	0.74	0.68	1,101.70
Off-site Total	0.24	2.25	3.43	-	0.12	0.10	605.90
Vendor Trips	0.18	2.14	1.51	-	0.10	0.09	378.32
Worker Trip	0.06	0.11	1.92	-	0.02	0.01	227.58
Grand Total	**1.79**	**13.63**	**9.59**	**-**	**0.86**	**0.78**	**1,707.60**
Demolition							
On-site Total	1.14	7.68	4.68	-	4.50	1.35	700.30
Fugitive Dust	-	-	-	-	3.91	0.81	-
Off-Road Diesel	1.14	7.68	4.68	-	0.59	0.54	700.30
Off-site Total	0.42	5.09	2.98	0.01	0.24	0.20	808.72
On-Road Diesel	0.39	5.03	1.93	0.01	0.23	0.20	684.33
Worker Trips	0.03	0.06	1.05	-	0.01	-	124.39
Grand Total	**1.56**	**12.77**	**7.66**	**0.01**	**4.74**	**1.55**	**1,509.02**
Paving							
On-site Total	1.86	11.26	6.91	-	0.98	0.90	979.23
Asphalt Off-Gassing	0.03	-	-	-	-	-	-
Off-Road Diesel, Bldg Cnst	1.83	11.26	6.91	-	0.98	0.90	979.23
Off-site Total	0.06	0.21	1.75	-	0.03	0.01	234.93
On-Road Diesel	0.01	0.11	0.04	-	0.01	-	17.29
Worker Trip	0.05	0.10	1.71	-	0.02	0.01	217.64
Grand Total	**1.92**	**11.47**	**8.66**	**-**	**1.01**	**0.91**	**1,214.16**
On-site Emissions Totals							
Site Work	3.54	29.06	14.92	-	4.55	2.01	2,657.63
Station Construction	1.55	11.38	6.16	-	0.74	0.68	1,101.70
Demolition	1.1	7.7	4.7	-	4.5	1.4	700.3
Paving	1.9	11.3	6.9	-	1.0	0.9	979.2
Maximum On-site Emissions	**4**	**29**	**15**	**-**	**5**	**2**	**2,658**
Localized Significance Threshold [b]	--	111	467	--	5	3	--
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Regional Emissions Totals							
Site Work	3.7	30.6	16.8	-	4.6	2.1	3,007.0
Station Construction	1.8	13.6	9.6	-	0.9	0.8	1,707.6
Demolition	1.6	12.8	7.7	0.0	4.7	1.6	1,509.0
Paving	1.9	11.5	8.7	-	1.0	0.9	1,214.2
Maximum Regional Emissions	**4**	**31**	**17**	**0**	**5**	**2**	**3,007**
Regional Significance Threshold	75	100	550	150	150	55	--
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

URBEMIS print-out sheets and fugitive PM calculation worksheet are included in Appendix A.

[a] Fugitive PM_{10} and $PM_{2.5}$ emissions estimates take into account compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

[b] The project site is located in SCAQMD SRA No. 1. These LSTs are based on the site location SRA, distance to nearest sensitive receptor location from the project site (25 meters), and project area that could be under construction on any given day (one acre).

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\Los Angeles\3_Projects_Air Quality_Metro\Expo Farmdale\Impact Analysis\URBEMIS\Option3-Station\Option3-Station.urb924

Project Name: Option3-Station

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	3.69	30.56	16.77	0.01	3.93	1.55	4.73	0.82	1.43	2.07	3,006.96
2011 TOTALS (lbs/day unmitigated)	1.92	11.47	8.66	0.00	0.01	0.99	1.00	0.00	0.91	0.91	1,214.16

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2010-2/26/2010 Active Days: 41	**3.69**	**30.56**	**16.77**	0.00	3.07	**1.55**	4.62	0.64	**1.43**	**2.07**	**3,006.96**
Mass Grading 01/01/2010-02/28/2010	3.69	30.56	16.77	0.00	3.07	1.55	4.62	0.64	1.43	2.07	3,006.96
Mass Grading Dust	0.00	0.00	0.00	0.00	3.06	0.00	3.06	0.64	0.00	0.64	0.00
Mass Grading Off Road Diesel	3.54	29.06	14.92	0.00	0.00	1.49	1.49	0.00	1.37	1.37	2,657.63
Mass Grading On Road Diesel	0.11	1.42	0.55	0.00	0.01	0.06	0.06	0.00	0.05	0.06	193.83
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 3/1/2010-12/15/2010 Active Days: 208	1.79	13.63	9.58	0.01	0.02	0.84	0.86	0.01	0.77	0.78	1,707.61
Building 03/01/2010-12/15/2010	1.79	13.63	9.58	0.01	0.02	0.84	0.86	0.01	0.77	0.78	1,707.61
Building Off Road Diesel	1.55	11.38	6.16	0.00	0.00	0.74	0.74	0.00	0.68	0.68	1,101.70
Building Vendor Trips	0.18	2.14	1.51	0.00	0.01	0.09	0.10	0.00	0.08	0.09	378.32
Building Worker Trips	0.06	0.11	1.92	0.00	0.01	0.01	0.02	0.00	0.01	0.01	227.58

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Time Slice 12/16/2010-12/31/2010 Active Days: 12	1.56	12.77	7.66	**0.01**	**3.93**	0.80	**4.73**	**0.82**	0.73	1.55	1,509.02
Demolition 12/16/2010-12/31/2010	1.56	12.77	7.66	0.01	3.93	0.80	4.73	0.82	0.73	1.55	1,509.02
Fugitive Dust	0.00	0.00	0.00	0.00	3.91	0.00	3.91	0.81	0.00	0.81	0.00
Demo Off Road Diesel	1.14	7.68	4.68	0.00	0.00	0.59	0.59	0.00	0.54	0.54	700.30
Demo On Road Diesel	0.39	5.03	1.93	0.01	0.02	0.21	0.23	0.01	0.19	0.20	684.33
Demo Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 1/3/2011-1/31/2011 Active Days: 21	1.92	11.47	8.66	0.00	0.01	0.99	1.00	0.00	0.91	0.91	1,214.16
Asphalt 01/01/2011-01/31/2011	1.92	11.47	8.66	0.00	0.01	0.99	1.00	0.00	0.91	0.91	1,214.16
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.26	6.91	0.00	0.00	0.98	0.98	0.00	0.90	0.90	979.23
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	17.29
Paving Worker Trips	0.05	0.10	1.71	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.64

Phase Assumptions

Phase: Demolition 12/16/2010 - 12/31/2010 - Type Your Description Here

Building Volume Total (cubic feet): 93000

Building Volume Daily (cubic feet): 9300

On Road Truck Travel (VMT): 161.46

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 1/1/2010 - 2/28/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

12.22 lbs per acre-day

On Road Truck Travel (VMT): 45.73

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 6 hours per day

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1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2011 - 1/31/2011 - Type Your Description Here

Acres to be Paved: 0.25

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/1/2010 - 12/15/2010 - Default Building Construction Description

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 4 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Pumps (53 hp) operating at a 0.74 load factor for 4 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: G:\Los Angeles\3_Projects_Air Quality_Metro\Expo Farmdale\Impact Analysis\URBEMIS\Option3-Station\Option3-Station.urb924

Project Name: Option3-Station

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

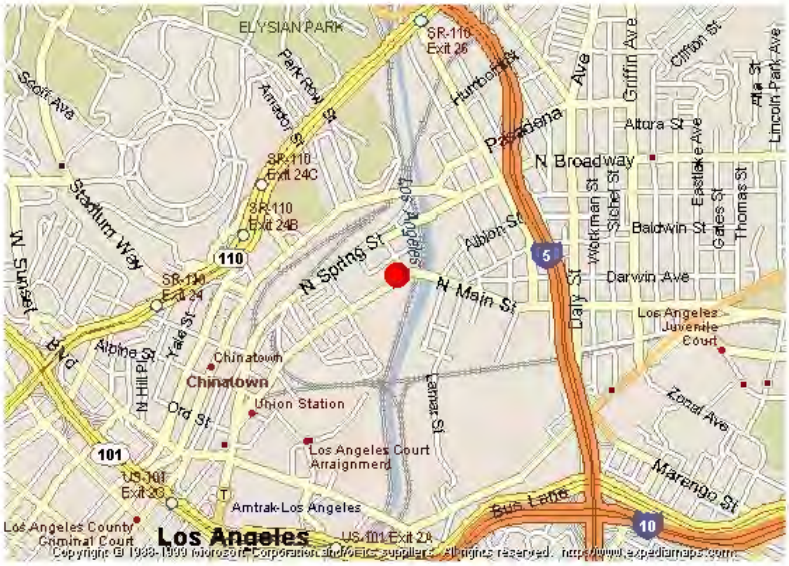
Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.27	2.12	1.39	0.00	0.09	0.12	0.21	0.02	0.11	0.13	248.29
2011 TOTALS (tons/year unmitigated)	0.02	0.12	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.75

Quality Assurance
Site Information for Los Angeles-North Main Street

This page updated February 10, 2005



AIRS Number	ARB Number	Site Start Date	Reporting Agency and Agency Code
060371103	70087	3/1/78	South Coast AQMD (061)

Site Address	County	Air Basin	Latitude	Longitude	Elevation
1630 North Main Street, Los Angeles CA 90012	Los Angeles	South Coast	34° 3' 59"	118° 13' 36"	87

Pollutants Monitored (click on parameter link for real-time data)
CO, SO_2, NO_2, O_3, Total NMHC, PM_{10}, BAM_{PM10}, $BAM_{PM2.5}$, $PM_{2.5}$, TSP, Toxics, Cr^{6+}, Relative Humidity, Wind Direction, Horizontal Wind Speed, Solar Radiation

Site Photos	Photo Sequences	Site Surveys
--Select Photos--	--Select Position And Direction--	--Select Survey--

Other ARB Database Information	Real-Time Met Data	Aerial Photos and Topo Maps Of Site
--Select Database--	--Select Data Server--	--Select External Map--

Site Information Menu Top Page | Quality Assurance Programs | Search QA Site Information Database

For real-time air quality data visit: Air Quality and Meteorological Information System (AQMIS)

For further information contact:

Merrin Wright, *Manager*
Quality Assurance Section

Air Resources Board

iADAM

Highest 4 Daily Maximum Hourly Ozone Measurements

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	May 22	0.121	Jul 22	0.108	Sep 3	0.115
Second High:	Aug 28	0.114	Jul 23	0.108	Sep 2	0.111
Third High:	May 14	0.094	Jun 3	0.103	Sep 1	0.099
Fourth High:	May 15	0.088	Jul 24	0.100	Aug 19	0.093
# Days Above State Standard:		2		8		3
California Designation Value:		0.12		0.11		0.11
Expected Peak Day Conc.:		0.116		0.111		0.108
# Days Above Nat'l Standard:		*0*		*0*		*0*
National Design Value:		*0.115*		*0.108*		*0.111*
Year Coverage:		96		97		96

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in parts per million.
The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .
State exceedances are shown in **yellow** . Exceedances of the revoked national 1-hour standard are shown in *orange* .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period.
* There was insufficient (or no) data available to determine the value.

Switch: 8-Hour Ozone | PM10 | PM2.5 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

Go to: Data Statistics Home Page | Top 4 Summaries Start Page

Air Resources Board

iADAM

Highest 4 Daily Maximum 8-Hour Ozone Averages

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	May 22	0.098	Jul 15	0.079	Sep 2	0.102
Second High:	Aug 28	0.084	Jul 22	0.077	Sep 3	0.093
Third High:	May 14	0.074	Sep 3	0.076	Aug 19	0.078
Fourth High:	May 15	0.070	Jun 3	0.075	May 19	0.072
California:						
First High:	May 22	0.098	Jul 15	0.079	Sep 2	0.103
Second High:	Aug 28	0.085	Jul 22	0.077	Sep 3	0.094
Third High:	May 14	0.074	Sep 3	0.077	Aug 19	0.079
Fourth High:	Sep 4	0.071	Jun 3	0.076	May 19	0.073
National:						
# Days Above Nat'l 1997 Std.:		1		0		2
Nat'l 1997 Std. Design Value:		0.076		0.074		0.072
National Year Coverage:		96		97		96
California:						
# Days Above State Standard:		4		7		6
California Designation Value:		0.088		0.085		0.085
Expected Peak Day Conc.:		0.089		0.086		0.085
California Year Coverage:		96		97		96

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All averages are expressed in parts per million.
National exceedances are shown in **orange** . State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | PM10 | PM2.5 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

Go to: Data Statistics Home Page | Top 4 Summaries Start Page

Air Resources Board

iADAM

Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Dec 24	3.05	Jan 13	2.68	Jan 16	2.04
Second High:	Nov 24	2.69	Feb 9	2.45	Jan 8	2.00
Third High:	Jan 23	2.64	Jan 12	2.35	Feb 17	2.00
Fourth High:	Nov 23	2.53	Dec 6	2.26	Mar 11	1.96
California:						
First High:	Dec 23	3.05	Jan 12	2.68	Jan 16	2.04
Second High:	Nov 24	2.69	Feb 8	2.45	Jan 8	2.00
Third High:	Jan 22	2.64	Jan 11	2.35	Feb 16	2.00
Fourth High:	Nov 22	2.53	Dec 5	2.26	Mar 11	1.96
# Days Above Nat'l Standard:		0		0		0
# Days Above State Standard:		0		0		0
Year Coverage:		97		95		54

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All averages are expressed in parts per million.
State exceedances are shown in **yellow** . National exceedances are shown in **orange** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM10 | PM2.5 | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

Go to: Data Statistics Home Page | Top 4 Summaries Start Page

Welcome to California

Air Resources Board

iADAM

Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Nov 14	0.126	Nov 17	0.111	Oct 26	0.104
Second High:	Jul 20	0.110	Feb 3	0.096	Feb 6	0.095
Third High:	Jan 22	0.099	Sep 28	0.096	Sep 12	0.094
Fourth High:	Mar 10	0.093	Jun 28	0.092	Aug 20	0.092
# Days Above State Standard:		0		0		0
Annual Average:		0.027		0.029		0.029
Year Coverage:		98		97		80

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in parts per million.
State exceedances are shown in **yellow** . National exceedances are shown in **orange** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM10 | PM2.5 | Carbon Monoxide | Sulfur Dioxide | Hydrogen Sulfide

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Air Resources Board

iADAM

Highest 4 Daily PM10 Measurements

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Mar 11	70.0	Feb 4	59.0	Apr 12	78.0
Second High:	Jan 22	68.0	May 11	55.0	Nov 20	77.0
Third High:	Nov 6	68.0	May 17	55.0	Oct 21	63.0
Fourth High:	Nov 24	51.0	Feb 10	48.0	Oct 27	58.0
California:						
First High:	Mar 11	69.0	Feb 4	58.0	Apr 12	77.0
Second High:	Jan 22	68.0	May 11	55.0	Jan 24	46.0
Third High:	Nov 6	67.0	May 17	54.0	Jan 6	42.0
Fourth High:	Sep 19	50.0	Feb 10	48.0	Mar 13	38.0
Measured:						
# Days Above Nat'l Standard:		0		0		0
# Days Above State Standard:		3		3		1
Estimated:						
3-Yr Avg # Days Above Nat'l Std:		0.0		0.0		0.0
# Days Above Nat'l Standard:		0.0		0.0		0.0
# Days Above State Standard:		17.8		18.1		*
State 3-Yr Maximum Average:		34		32		30
State Annual Average:		29.2		30.1		*
National 3-Year Average:		*32*		*31*		*31*
National Annual Average:		*29.6*		*30.1*		*33.3*
Year Coverage:		100		95		93

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in micrograms per cubic meter.
The national annual average PM10 standard was revoked in December 2006 and is no longer in effect.
Statistics related to the revoked standard are shown in *italics* or *italics* .
State exceedances are shown in **yellow** . National exceedances are shown in **orange** .
An exceedance is not necessarily a violation.
Statistics may include data that are related to an exceptional event.
State and national statistics may differ for the following reasons:
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
State and national statistics may therefore be based on different samplers.
State statistics for 1998 and later are based on *local* conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on *local* conditions).
National statistics are based on *standard* conditions.
State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.
3-Year statistics represent the listed year and the 2 years before the listed year.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM2.5 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

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Air Resources Board

iADAM

Highest 4 Daily PM2.5 Measurements

Los Angeles-North Main Street

FAQs

Year:	2005		2006		2007	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Mar 10	73.7	Feb 4	56.2	Mar 15	51.2
Second High:	Mar 11	67.5	Nov 24	45.7	Mar 17	47.0
Third High:	Oct 21	58.2	Feb 11	43.2	Feb 7	45.3
Fourth High:	Nov 6	54.7	Oct 25	42.0	Feb 8	44.9
California:						
First High:	Mar 10	73.7	Feb 4	56.2	Mar 15	51.2
Second High:	Mar 11	67.5	Nov 24	45.7	Mar 17	47.0
Third High:	Oct 21	58.2	Feb 11	43.2	Feb 7	45.3
Fourth High:	Nov 6	54.7	Oct 25	42.0	Feb 8	44.9
Est Days > Nat'l '97 24-Hr Std:		2.0		0.0		*
Measured Days > Nat'l '97 24-Hr Std:		2		0		0
Nat'l '97 24-Hour Std Design Value:		*		*		*
Nat'l '97 24-Hr Std 98th Percentile:		53.3		38.3		*
National Annual Std Design Value:		19.6		17.7		*
National Annual Average:		17.8		15.6		*
State Ann'l Std Designation Value:		18		18		18
State Annual Average:		17.8		16.0		*
Year Coverage:		95		90		53

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in micrograms per cubic meter.
State exceedances are shown in **yellow** . National exceedances are shown in **orange** .
An exceedance is not necessarily a violation.
State and national statistics may differ for the following reasons:
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
State and national statistics may therefore be based on different samplers.
State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient data available throughout the year to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM10 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

Go to: Data Statistics Home Page | Top 4 Summaries Start Page

LOS ANGELES CIVIC CENTE, CALIFORNIA (045115)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1914 to 6/30/2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	66.4	67.5	68.9	71.1	73.1	77.1	82.5	83.2	81.8	77.5	72.9	67.6	74.1
Average Min. Temperature (F)	48.4	49.7	51.2	53.5	56.6	59.8	63.2	64.0	62.7	58.8	53.4	49.3	55.9
Average Total Precipitation (in.)	3.15	3.41	2.43	1.05	0.26	0.06	0.01	0.06	0.27	0.44	1.29	2.36	14.80
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 99.5% Min. Temp.: 99.5% Precipitation: 99.5% Snowfall: 41.6% Snow Depth: 41.6%
Check Station Metadata or Metadata graphics for more detail about data completeness.

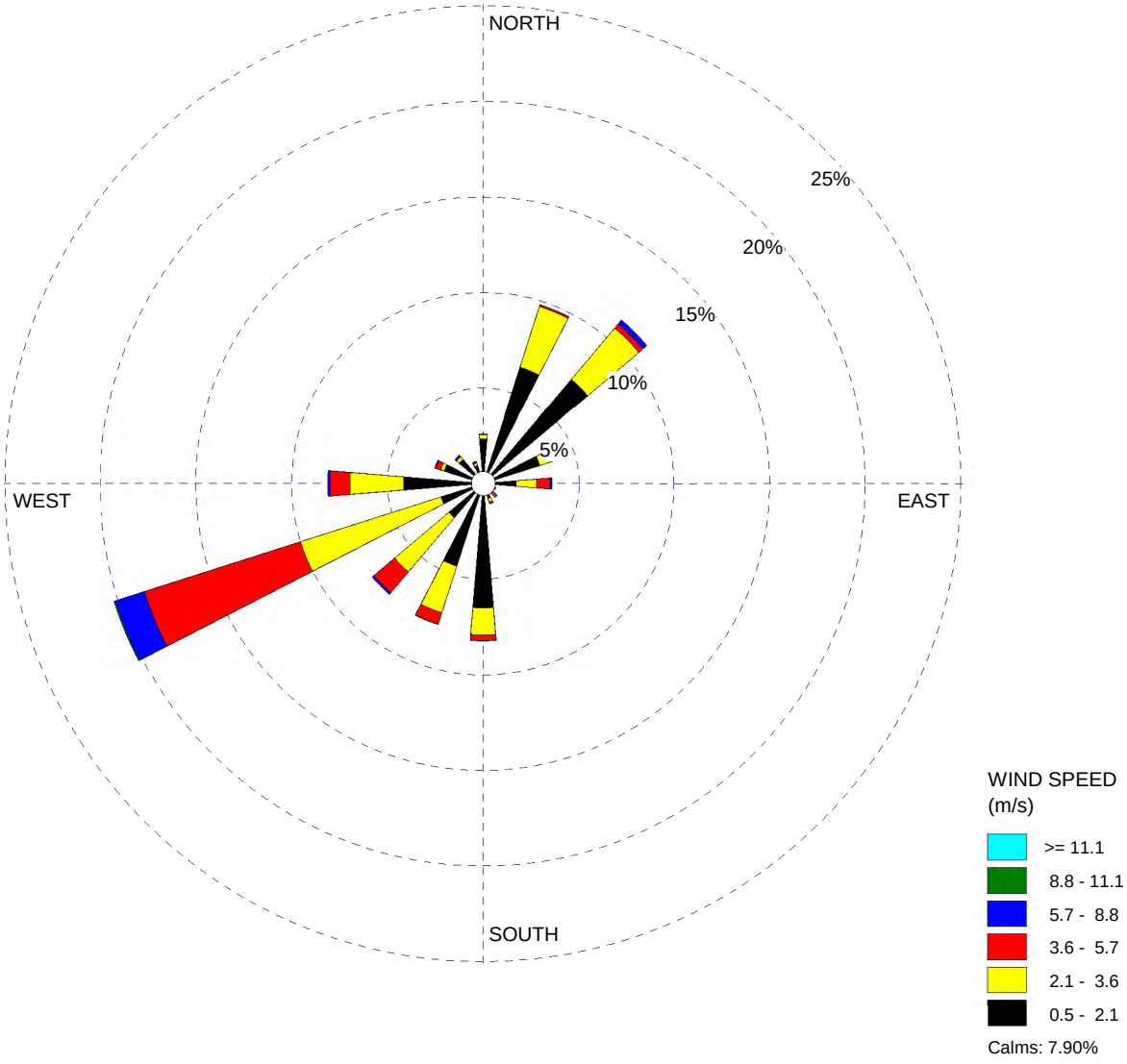
Western Regional Climate Center, wrcc@dri.edu

WIND ROSE PLOT:

Station #52075

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Downtown Los Angeles	DATA PERIOD: **1981** **Jan 1 - Dec 31** **00:00 - 23:00**	COMPANY NAME: **ICF Jones and Stokes**	
		MODELER: **Victor Ortiz**	
	CALM WINDS: **7.90%**	TOTAL COUNT: **8760 hrs.**	
	AVG. WIND SPEED: **2.21 m/s**	DATE: **5/15/2008**	PROJECT NO.: **00019.08**