PREFACE

This document constitutes the Final Program Environmental Impact Report (EIR) for the 2012 Air Quality Management Plan (AQMP). The Draft Program EIR was released for a 45-day public review and comment period from September 7, 2012 to October 23, 2012. It was concluded in the Draft Program EIR that the 2012 AQMP has the potential to generate significant adverse environmental impacts to the following environmental topic areas: construction air quality, energy (increased electricity and natural gas demand), hazards and hazardous materials, water demand, construction noise, and transportation and traffic. Measures were identified to mitigate to the maximum extent feasible potentially significant adverse impacts to all environmental topics identified above. In spite of implementing all feasible mitigation measures, impacts to all environmental topics remained significant. In addition, the Draft Program EIR included analyses of potentially significant adverse cumulative environmental impacts and identified and evaluated the relative merits of four project alternatives, including a No Project Alternative, and compared impacts from the project alternatives to the potential impacts from the 2012 AQMP. Thirteen comment letters were received from the public during the public comment period regarding the environmental analyses in the Draft Program EIR. These comment letters and the responses to individual comments are included in Appendix G of this document. No comments in these letters identified other potentially significant adverse environmental impacts from the proposed project not already analyzed in the Draft Program EIR.

In anticipation that the U.S. EPA would likely request that the SCAQMD prepare a federal one-hour ozone SIP, the 2012 AQMP contains ozone control measures that address the federal one-hour ozone standard (revoked) and contributes to making expeditious progress to attain the federal eight-hour ozone standard by 2023. All ozone control measures in the 2012 AQMP were evaluated in the Draft Program EIR. On September 19, 2012, the U.S. EPA published in the Federal Register a proposed "SIP call" which, if finalized, would require the SCAQMD to prepare a demonstration of attainment of the one-hour ozone standard, with attainment required ten years from the date the SIP call is finalized. The same day, the U.S. EPA published in the Federal Register a proposal to withdraw its approval of, and then to disapprove, the transportation control measure (TCM) demonstrations, also referred to as VMT emissions offset demonstrations, in the 2003 one-hour ozone plan and the 2007 eight-hour ozone plan. In response to the two U.S. EPA actions above and in anticipation that they will be finalized, SCAQMD staff has prepared the *One-hour Ozone Attainment Demonstration*, which demonstrates attainment of the federal one-hour ozone standard (revoked) by the year 2022 (2012 AQMP Appendix VII) and the *VMT Offset Requirement Demonstration* (2012 AQMP Appendix VIII). These documents and other minor modification to the proposed project made after circulation of the Draft Program EIR were evaluated by staff and it was concluded that they did not change in any way any conclusions regarding the significance of environmental impacts in the Draft Program EIR.

To facilitate identifying changes in this Final Program EIR, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strikethrough~~. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode. Staff has reviewed the modifications to the proposed project, including the documentation in new Appendices VII and VIII, and concluded that none of the modifications alter any conclusions reached in the Draft SEA nor provide new information of substantial importance relative to the draft document. As a result, none of the revisions to the Program EIR reflected in this document require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document is now constitutes the Final Program EIR for the 2012 AQMP.

CHAPTER 1

INTRODUCTION AND EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Legislature adopted the Lewis Air Quality Act in 1976, creating the South Coast Air Quality Management District (SCAQMD) from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The new agency was charged with developing uniform plans and programs for the South Coast Air Basin (Basin) to attain federal air quality standards by the dates specified in federal law. While the Basin has one of the worst air quality problems in the nation, there have been significant improvements in air quality in the Basin over the last two decades, although some air quality standards are still exceeded relatively frequently, and by a wide margin. The agency was also required to meet state standards by the earliest date achievable through the use of reasonably available control measures.

The Lewis Air Quality Act (now known as the Lewis-Presley Air Quality Management Act) requires that the SCAQMD prepare an Air Quality Management Plan (AQMP) consistent with federal planning requirements. In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for non-attainment areas that fail to meet all federal ambient air quality standards (Health & Safety Code §40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2) and particulate matter less than 10 microns in diameter (PM10). The California Clean Air Act (CCAA), adopted in 1988, requires the SCAQMD to endeavor to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO_2), and NO_2 by the earliest practicable date (Health & Safety Code §40910), and establishing requirements to update the plan periodically.

The first AQMP was prepared and approved by the SCAQMD in 1979 and has been updated and revised a number of times. The CCAA requires a three-year plan review and update to the AQMP. The following bullet items summarize the main components of those updates and revisions.

- In 1982, the AQMP was revised to reflect better data and modeling tools.

- In 1987, a federal court ordered the United States Environmental Protection Agency (U.S. EPA) to disapprove the 1982 AQMP because it did not demonstrate attainment of all national ambient air quality standards (NAAQS) by 1987 as required by CAA. This, in part, led to the preparation of the 1989 AQMP.

- The 1989 AQMP was adopted on March 17, 1989, and was specifically designed to attain all NAAQS. This plan called for three "tiers" of measures as needed to attain all standards and relied on significant future technology advancement to attain these standards.

- In 1991, the SCAQMD prepared and adopted the 1991 AQMP to comply with the CCAA.

- In 1992, the 1991 AQMP was amended to add a control measure containing market incentive programs.

- In 1994, the SCAQMD prepared and adopted the 1994 AQMP to comply with the CCAA three-year update requirement and to meet the federal CAA requirement for an ozone SIP. The AQMP, as adopted in 1994, included the following.

  - All geographical areas under the jurisdiction of the SCAQMD (referred to herein as the district), as opposed to the Basin.

  - The basic control strategies remained the same although the three-tiered structure of control measures was replaced. Measures previously referred to as Tier I, II, or III were replaced with short-/intermediate-term or long-term control measures;

  - Updated and refined control measures carried over from 1991;

  - The federal post-1996 rate of progress demonstration;

  - Best Available Control Measure (BACM) PM10 Plan;

  - The ozone attainment demonstration plan;

  - Amendments to the federal Reactive Organic Compound (ROC) Rate-of-Progress plan also referred to as the VOC Rate-of Progress Plan;

  - Attainment Demonstration Plans for the federal PM10, nitrogen dioxide, carbon monoxide air quality standards;

  - Expanded use of market incentives;

  - New public outreach and education programs; and

  - Manufacturer-certified products and equipment.

- The 1997 AQMP was designed to comply with the three-year update requirements specified in the CCAA as well as to include an attainment demonstration for PM10 as required by the federal CAA. Relative to ozone, the 1997 AQMP contained the following changes to the control strategies compared to the 1994 AQMP:

  - Less reliance on transportation control measures (TCMs);

  - Less reliance on long-term control measures that rely on future technologies as allowed under §182 (e)(5) of the CAA; and

  - Removal of other infeasible control measures and indirect source measures.

- In 1999, the ozone plan portion of the 1997 AQMP was amended to address U.S.EPA concerns with the 1997 AQMP plan to provide the following:
  - Greater emission reductions in the near-term than would occur under the 1997 AQMP;
  - Early adoption of the measures that would otherwise be contained in the next three-year update of the AQMP; and
  - Additional flexibility relative to substituting new measures for infeasible measures and recognition of the relevance of cost effectiveness in determining feasibility.
- In April 2000, U.S. EPA approved the 1999 ozone SIP Amendment to the 1997 plan. The 1999 Amendment in part addressed the State's requirements for a triennial plan update.
- The 1997 PM10 SIP, as updated in 2002, was deemed complete by U.S. EPA in November 2002 and approved on April 18, 2003.
- The 2003 AQMP was adopted by the SCAQMD in August 2003. The 2003 AQMP has not yet been approved by the U.S. EPA as part of the SIP. The 2003 AQMP addressed the following control strategies:
  - Attaining the federal PM10 ambient air quality standard for the South Coast Air Basin and Coachella Valley – these portions were approved by the U.S. EPA; in both areas, the attainment demonstration was disapproved by the California Air Resources Board (CARB) withdrew its measures;
  - Attaining the federal one-hour ozone standard;
  - 1997/1999 control measures not yet implemented;
  - Discussion regarding credit/incentive programs and their role in achieving overall emission reduction targets;
  - Revisions to the Post-1996 VOC Rate-of-Progress Plan and SIP for CO;
  - Initial analysis of emission reductions necessary to attain the particulate matter less than 2.5 microns in diameter (PM2.5) and eight-hour ozone standards;
  - The 2003 AQMP was partially approved and partially disapproved.
- The SCAQMD Governing Board approved the 2007 AQMP on June 1, 2007. On September 27, 2007, CARB adopted the State Strategy for the 2007 SIP and the 2007 AQMP as part of the SIP. The following summarizes the major components of the 2007 AQMP:

- The most current air quality setting (e.g., 2005 data);
- Updated emission inventories using 2002 as the base year, which also incorporate measures adopted since adopting the 2003 AQMP;
- Updated emission inventories of stationary and mobile on-road and off-road sources;
- 2003 AQMP control measures not yet implemented (eight of the control measures originally contained in the 2003 AQMP have been updated or revised for inclusion into the Draft 2007 AQMP);
- 24 new measures are incorporated into the 2007 AQMP based on replacing the SCAQMD's long-term control measures from the 2003 AQMP with more defined or new control measures and control measure adoption and implementation schedules;
- SCAQMD's recommended control measures aimed at reducing emissions from sources that are primarily under State and federal jurisdiction, including on-road and off-road mobile sources, and consumer products;
- SCAG's regional transportation strategy and control measures; and
- Analysis of emission reduction necessary and attainment demonstration to achieve the federal eight-hour ozone and PM2.5 air quality standards.

On November 22, 2010, U.S. EPA issued a notice of proposed partial approval and partial disapproval of the 2007 South Coast SIP for the 1997 Fine Particulate Matter Standards and the corresponding 2007 State Strategy. Specifically, U.S. EPA proposed approving the SIP's inventory and regional modeling analyses, but it also proposed disapproving the attainment demonstration because it relied too extensively on commitments to emission reductions in lieu of fully adopted, submitted, and SIP-approved rules. The notice also cited deficiencies in the SIP's contingency measures.

- In response the U.S. EPA's proposed partial disapproval of the 2007 SIP, on March 4, 2011, the SCAQMD Governing Board approved Revisions to the 2007 PM2.5 and Ozone State Implementation Plan for the South Coast Air Basin and Coachella Valley. The revisions to the 2007 PM2.5 and Ozone SIP consist of the following:
  - Updated implementation status of SCAQMD control measures necessary to meet the 2015 PM2.5 attainment date;
  - Revisions to the control measure adoption schedule;
  - Changes made to the emission inventory resulting from CARB's December 2010 revisions to the on-road truck and off-road equipment rules; and

- An SCAQMD commitment to tis "fair share" of additional NOx emission reductions, if needed, in the event U.S. EPA does not voluntarily accept the "federal assignment."

- In response to the July 14, 2011 U.S. EPA notice of proposed partial approval and partial disapproval of the 2007 South Coast IP for the 1997 Fine Particulate Matter Standards, at the October 7, 2011 public hearing, the SCAQMD Governing Board approved Further Revision s to PM2.5 and Ozone State Implementation Plan for South Coast Air Basin and Coachella Valley. Revisions to the PM2.5 SIP included a three-prong approach for identifying contingency measures needed to address U.S. EPA's partial disapproval:

  - Equivalent emission reductions achieved through improvements in air quality;

  - Relying on committed emission reductions for the 2007 ozone plan;

  - Quantifying excess emission reductions achieved by existing rules and programs that were not originally included in the 2007 PM2.5 SIP;

  - U.S. EPA approved the PM2.5 SIP except for contingency measures on November 9, 2011. Action is pending on the contingency measures; and

  - U.S. EPA approved the 2007 SIP for the 8-hour ozone standard on March 1, 2012.

- The 2012 AQMP outlines a comprehensive control strategy that meets the requirement for expeditious progress towards attainment with the 24-hour PM2.5 federal ambient air quality standard with all feasible control measures and demonstrates attainment of the standard by 2014. The 2012 AQMP is also an update to the 8-hour ozone control plan with new emission reduction commitments from a set of new control measures, which implement the 2007 AQMP's Section 182 (e)(5) commitments.

1.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA), this Final Program Environmental Impact Report (~~P~~EIR) has been prepared to address the potential environmental impacts associated with the South Coast Air Quality Management District's ~~Draft~~ 2012 Air Quality Management Plan (AQMP). The 2012 AQMP is the planning document that sets forth policies and measures to achieve federal and state air quality standards in the region. CEQA Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impact from these projects be identified.

To fulfill the purpose and intent of CEQA, the SCAQMD staff has prepared this Final Program Environmental Impact Report (~~P~~EIR) to address the potential

environmental impacts associated with the 2012 AQMP. Prior to making a decision on the ~~Draft~~ 2012 AQMP, the lead agency decision makers must review and certify the Final Program EIR as providing adequate information on the potential adverse environmental impacts of the AQMP.

1.2.1 Notice of Preparation/Initial Study

The original Notice of Preparation and Initial Study (NOP/IS) were distributed to responsible agencies and interested parties for a 30-day review and comment period on June 28, 2012 and 11 comment letters were received. A revised NOP/IS (included as Appendix A of this Final Program EIR) was recirculated on August 2~~1~~, 2012 for a 30-day comment period ending August 31, 2012, because changes were made to the 2012 AQMP project description during the comment period on the 6/28/12 NOP/IS. The recirculated Initial Study, referred to herein as the 8/2/12 NOP/IS, identified potential adverse impacts in the following environmental topics: aesthetics, air quality and greenhouse gas emissions; energy; hazards and hazardous materials; hydrology and water quality; solid/hazardous waste; and transportation and traffic. Based on public comments made relative to the 6/28/12 NOP/IS, the topics of land use and noise were also added to the Program EIR. The Program EIR also includes detailed responses to all 11~~9~~ comment letters received on the 6/28/12 NOP/IS ~~Initial Study~~ (see Appendix B). As indicated in Appendix C, no comment letters were received on the 8/2~~1~~/12 NOP/IS.

1.2.2 Program EIR Format

The overall format of the Program EIR is as follows:

Executive Summary
Chapter 1: Introduction
Chapter 2: Project Description
Chapter 3: Environmental Setting
Chapter 4: Environmental Impacts and Mitigation Measures
Chapter 5: Cumulative Impacts
Chapter 6: Alternatives
Chapter 7: References
Chapter 8: Acronyms

1.3 AREAS OF CONTROVERSY

CEQA Guidelines §15123 (b)(2) requires a public agency to identify the areas of controversy in the CEQA document, including issues raised by agencies and the public. Over the course of developing the 2012 AQMP, no areas of controversy were identified at the time of release of the NOP/IS relative to the environmental analysis. Further, SCAQMD had not been made aware of any areas of controversy relative to the environmental analysis in any of the comment letters received regarding the NOP/IS.

One comment letter received on the Draft Program EIR identified the following potential area of controversy. Concern was raised regarding the accuracy of the air quality inventory baseline, used as the basis for identifying potential air quality impacts, because it may not have included inventory information provided by the John Wayne Airport operators. However, as noted in response to comment #3-7 in Appendix G of this Final Program EIR, the 2012 AQMP baseline inventory was developed incorporating all information submitted by John Wayne Airport and SCAQMD staff will revise the Integra Report to reflect the updated information provided by the airport authority. Consequently, because the baseline inventory incorporates the data provided by the John Wayne Airport, this issue does not constitute an area of controversy.

Other comment letters were received on the Draft Program EIR, but none identified new issues relative to the environmental analysis or potential areas of controversy that could not be responded to in Appendix G. Since no areas of controversy were identified by SCAQMD or the public during the review and comment periods for both the NOP/IS and the Draft Program EIR, it is concluded that the proposed project does not contain any areas of controversy as defined by CEQA.

1.43 EXECUTIVE SUMMARY: CHAPTER 2 - PROJECT DESCRIPTION

Implementation of the ~~Draft~~ 2012 AQMP control strategies requires a cooperative partnership of governmental agencies at the federal, state, regional and local level. At the federal level, the U.S. EPA is charged with regulation of on-road motor vehicle standards; trains, airplanes, and ships; certain non-road engines; and off-shore oil development. CARB also oversees on-road emission standards, fuel specifications, some off-road sources and consumer product standards. At the regional level, the SCAQMD is responsible for stationary sources and some mobile sources. In addition, the SCAQMD has lead responsibility for the development of the AQMP. Furthermore, at the local level, the Southern California Association of Governments (SCAG) has a dual role of leader and coordinator. In their leadership role, they, in cooperation with local jurisdictions and sub-regional associations, develop strategies for these jurisdictions to implement. As a coordinator, they facilitate the implementation of these strategies (e.g., transportation control measures).

Chapter 2 describes existing air quality regulations and details the proposed approach for the 2012 ~~revision to the~~ AQMP.

1.43.1 Current Control Strategy

The SCAQMD has fulfilled the majority of its emissions reductions commitments specified in the 2007 State Implementation Plan (SIP). Through January 31, 2011, the SCAQMD Governing Board has amended and adopted 12 rules. The majority of these rules have been submitted to U.S. EPA and approved as part of the SIP. Several recently adopted SCAQMD rules have been submitted to CARB and have

been or are expected to be submitted to and subsequently evaluated by U.S. EPA. By 2014, the control measures adopted by the SCAQMD over this period will have achieved 22.5 tons per day of VOC reductions, 7.6 tons per day of NOx reductions, 4.0 tons per day of SOx reductions, and 1.0 ton per day of PM2.5 reductions. Additional reductions from these adopted rules will be achieved by 2023.

Since the 2007 AQMP was adopted, CARB has adopted (either entirely or partially) many of the 2007 AQMP's control measure commitments. In combination with the regulatory activity and revised inventory forecast, CARB has achieved the emission targets for both 2014 and 2023.

1.43.2 2012 AQMP Control Strategy

The overall control strategy for the ~~Draft~~ 2012 AQMP is designed to meet applicable federal and state requirements. The focus of the AQMP is to demonstrate attainment of the federal 24-hour PM2.5 ambient air quality standard by 2014, while making expeditious progress toward attainment of state PM standards. In addition, to further implement the existing 8-hour ozone plan, the ~~Draft~~ 2012 AQMP includes Section 182 (e)(5) implementation measures designed to assist in future attainment of the 8-hour ozone standard. The proposed control measures in the ~~Draft~~ 2012 AQMP are based on implementing all feasible control measures through the application of available technologies and management practices as well as development and deployment of advanced technologies and control methods. In addition, SCAQMD retains certain obligations relative to the (revoked) one-hour ozone standard. For purposes of the environmental analysis, it is expected that full implementation of the attainment strategy for the one-hour ozone standard would have the same environmental effects as implementing all the measures in the ~~Draft~~ 2012 AQMP and the Section 182 (e)(5) measures for the eight-hour standard that were already analyzed in the EIR for the 2007 AQMP. These measures rely on proposed actions to be taken by several agencies that currently have the statutory authority to implement such measures. Similar to the approaches taken in previous AQMPs, the SIP commitment includes an adoption and implementation schedule for each control measure. Each agency is also committed to achieving a total emission reduction target with the ability to substitute specified control measures for control measures deemed infeasible, as long as equivalent reductions are met by other means. These measures are also designed to satisfy the federal Clean Air Act requirement of reasonably available control technologies [§172 (c)], and the California requirement of Best Available Retrofit Control Technologies (BARCT) [Health and Safety Code §40440 (b)(1)].

To ultimately achieve the ozone ambient air quality standards and demonstrate attainment, significant NOx emissions reductions will be necessary, not only from non-vehicular sources under the jurisdiction of the SCAQMD, but substantial reductions will be necessary from sources primarily under the jurisdiction of CARB (e.g., on-road motor vehicles, off-road equipment, and consumer products) and U.S. EPA (e.g., aircraft, ships, trains, and pre-empted off-road equipment). Without an adequate and fair-share level of reductions from all sources, the emissions reduction

burden would unfairly be shifted to stationary sources that are already stringently regulated. The SCAQMD will continue to work closely with CARB to further control mobile source emissions where federal or State actions do not meet regional needs.

The ~~Draft~~ 2012 AQMP control measures consist of three components: 1) the SCAQMD's stationary and mobile source control measures; 2) suggested State mobile source control measures; and 3) Regional Transportation Strategy and control measures provided by SCAG. These measures rely on not only the traditional command-and-control approach, but also public incentive programs, as well as advanced technologies expected to be developed and deployed in the next several years.

1.54 EXECUTIVE SUMMARY: CHAPTER 3 - ENVIRONMENTAL SETTING

Chapter 3 provides a detailed description of the existing setting of environmental resources identified as having potential significant impacts from the proposed project.

1.54.1 Aesthetics

Aesthetic resources on federal lands are managed by the federal government using various visual resource management programs, such as the Visual Resource Management System utilized by the Federal Bureau of Land Management (BLM) and the Visual Management System utilized by the United States Forest Service (USFS).

The California Coastal Commission (CCC) regulates development projects within the coastal zone for jurisdictions that do not have a local coastal program (LCP) or land use plan (LUP). California's Scenic Highway Program helps to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of land adjacent to those highways. The nearest officially designated Scenic Highway to either the Ports and downtown Los Angeles would be Route 2 (Angeles Crest Scenic Byway) near La Canada/Flintridge, in the northeastern portion of Los Angeles County.

General plans, the primary document that establishes local land use policies and goals, are prepared by the counties and incorporated cities within the district. These general plans establish local policies related to aesthetics and the preservation of scenic resources within their communities or subplanning areas, and may include local scenic highway programs.

1.54.2 Air Quality

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, (CO), nitrogen dioxide (NO_2), PM10, PM2.5, sulfur dioxide (SO_2), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO_2, far more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride.

SCAQMD also has a general responsibility pursuant to HSC §41700 to control emissions of air contaminants and prevent endangerment to public health. Additionally, state law requires the SCAQMD to implement airborne toxic control measures (ATCM) adopted by CARB, and to implement the Air Toxics "Hot Spots" Act. As a result, the SCAQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases and stratospheric ozone depleting compounds. The SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

Two inventories are prepared for the ~~Draft~~ 2012 AQMP for the purpose of regulatory and SIP performance tracking and transportation conformity: an annual average inventory, and a summer planning inventory. The ~~Draft~~ 2012 AQMP uses annual average day emissions to estimate the cost-effectiveness of control measures, to rank control measure implementation, and to perform PM2.5 modeling and analysis. The summer planning inventory emissions are developed to capture the emission levels during a poor ozone air quality season, and are used to report emission reduction progress as required by the federal and California Clean Air Acts.

Stationary sources can be divided into two major subcategories: point and area sources. Point sources are large emitters with one or more emission sources at a permitted facility with an identified location (e.g., power plants, refineries). Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products, as well as permitted smaller sources), which are distributed across the region. The emissions from these sources are estimated using activity information and emission factors.

Mobile sources consist of two subcategories: on-road and off-road sources. On-road sources are from vehicles that are licensed to drive on public roads. Off-road sources are typically registered with the state and cannot be typically driven on public roads (construction and mining equipment, lawn and gardening equipment, ground support equipment, agricultural equipment).

In the 2008 base year model of the ~~Draft~~ 2012 AQMP, total mobile source emissions account for 60 percent of the VOC and 88 percent of the NOx emissions based on the summer planning inventory. The on-road mobile category alone contributes about 34 and 59 percent of the VOC and NOx emissions, respectively, and approximately 68 percent of the CO for the annual average inventory. For directly emitted PM2.5, mobile sources represent 39 percent of the emissions with another 10 percent due to vehicle-related entrained road dust.

Within the category of stationary sources, point sources contribute more SOx emissions than area sources. Area sources play a major role in VOC emissions, emitting about seven times more than point sources. Area sources, including sources such as commercial cooking, are the predominant source of directly emitted PM2.5 emissions (39 percent).

Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2012 RTP are used in the ~~Draft~~ 2012 AQMP. Industry growth factors for 2008, 2014, 2018, 2020, 2023, and 2030 are also provided by SCAG, and interim years are calculated by linear interpolation. Current forecasts indicate that this region will experience a population growth of 11 percent between 2008 and 2023, with a four percent increase in vehicle miles traveled (VMT); and a population growth of 16 percent by the year 2030 with an 11 percent increase in VMT.

Without any additional controls, VOC, NOx, and SOx emissions are expected to decrease due to existing regulations, such as controls on off-road equipment, new vehicle standards, and the RECLAIM programs. Due to already-adopted regulations, 2023 on-road mobile sources are expected to account for: about 16 percent of total VOC emissions compared to 34 percent in 2008; about 37 percent of total NOx emissions compared to 59 percent in 2008; and about 38 percent of total CO emissions compared to 68 percent in 2008. Meanwhile, area sources are expected to become the major contributor to VOC emissions from 35 percent in 2008 to 50 percent in 2023.

The milestone years 2008, 2014, 2019, 2023, and 2030 are the years for which emission inventories were developed as they are relevant target years under the federal CAA and the CCAA. The base year for the 24-hour PM2.5 attainment demonstration is 2008. The attainment year for the federal 2006 24-hour PM2.5 standard without an extension is 2014 and 2019 represents the latest attainment date with a full five-year extension. The 80 ppb federal 8-hour ozone standard attainment deadline is 2023, and the new 75 ppb 8-hour ozone standard deadline is 2032. A 2030 inventory will be used to approximate this latter year.

1.54.3 Energy

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation (U.S. DOT), United States Department of Energy (U.S. DOE), and

U.S. EPA are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy related research and development projects, and through funding for transportation infrastructure projects.

On the state level, the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) are two agencies with authority over different aspects of energy policy and regulations. The CPUC regulates privately-owned utilities in the energy, rail, passenger transportation, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares state-wide energy policy recommendations and plans, promotes and funds energy efficiency and renewable energy resources programs, plans and directs state response to energy emergencies, and regulates the power plant siting and transmission process.

In 2010, 71 percent of the electricity used in California came from in-state sources, while 29 percent was imported into the state. The electricity imported totaled 85,169 gigawatt hours (GWh), with 24,677 GWh coming from the Pacific Northwest, and 60,492 GWh from the Southwest. (Note: A gigawatt is equal to one million kilowatts). For natural gas in 2010, 42 percent of the natural gas used in California came from the Southwest, 22 percent from Canada, 12 percent from in-state, and 23 percent from the Rockies. Also in 2010, 38 percent of the crude oil came from in state, with 12 percent coming from Alaska, and 50 percent being supplied by foreign sources.

One of the key areas of concern in the energy sector is reducing the amount of petroleum based fuels in the district. Consumption of these fuels is a major factor in the amount of criteria pollutants in southern California. Alternative fuels play an important role in the strategy to reach attainment in the region. Renewable energy resources include: biomass, hydro, geothermal, solar and wind.

1.54.4 Hazards and Hazardous Materials

The potential for hazards exist in the production, use, storage, and transportation of hazardous materials. Hazardous materials may be found at industrial production and processing facilities. Some facilities produce hazardous materials as their end product, while others use such materials as an input to their production process. Examples of hazardous materials used as consumer products include gasoline, solvents, and coatings/paints. Hazardous materials are stored at facilities that produce such materials and at facilities where hazardous materials are a part of the production process. Specifically, storage refers to the bulk handling of hazardous materials before and after they are transported to the general geographical area of use. Currently, hazardous materials are transported throughout the district via all modes of transportation including rail, highway, water, air, and pipeline.

Hazard concerns are related to the risks of explosions or the release of hazardous substances or exposure to air toxics. State law requires detailed planning to ensure

that hazardous materials are properly handled, used, stored, and disposed of to prevent or mitigate injury to health or the environment in the event that such materials are accidentally released. Federal laws, such as the Emergency Planning and Community-Right-To-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act or SARA) impose similar requirements. These requirements are enforced by the California Emergency Management Agency (CalEMA).

In 2010, there were a total of 672 hazardous materials incidents (releases, accidents, spills, etc.) reported for Los Angeles, Orange, Riverside and San Bernardino counties, and in 2011 a total of 698 incidents were reported in these four counties. San Bernardino and Los Angeles counties accounted for the largest number of incidents, followed by Orange and Riverside counties.

1.54.5 Hydrology and Water Quality

The Federal Safe Drinking Water Act, enacted in 1974 and implemented by the U.S. EPA, imposes water quality and infrastructure standards for potable water delivery systems nation-wide. The California Safe Drinking Water Act was enacted in 1976. Potable water supply is managed through local agencies and water districts, the State Department of Water Resources (DWR), the Department of Health Services (DHS), the State Water Resources Control Board (SWRCB), the U.S. EPA, and the U.S. Bureau of Reclamation. The DWR manages the State Water Project (SWP), and compiles planning information on supply and demand within the state.

The DWR divides the state into ten hydrologic regions. Some regions contain a great deal of water, some regions are very dry and must have their water imported by aqueducts. The South Coast Air Basin lies within the South Coast Hydrologic Region. More than half of the state's population resides in the region (about 19.6 million people or about 54 percent of the state's population), which covers 11,000 square miles or seven percent of the state's total land. The cities of Los Angeles, Long Beach, Santa Ana, San Bernardino, and Big Bear Lake are among the many urban areas in this section of the state. The Santa Clara, Los Angeles, San Gabriel, and Santa Ana Rivers are among the area's hydrologic features. Most lakes in this area are actually reservoirs, made to hold imported water.

Imported sources account for approximately 75 percent of the total water used in the region. Local water resources, which include groundwater and captured surface water runoff, are fully developed and are expected to remain relatively stable in the future on a region-wide basis. Several groundwater basins in the region are threatened by overdraft conditions, increasing levels of salinity, and contamination by agricultural land to urban development, thereby reducing the land surface available for groundwater recharge. Increasing demand for groundwater may also be limited by water quality, since levels of salinity in sources currently used for irrigation could be unacceptably high for domestic use without treatment.

The SWRCB, and the nine regional water quality control boards (RWQCB), are responsible for protecting surface and groundwater supplies in California. In particular, the SWRCB establishes water-related policies and approves water quality control plans, which are implemented and enforced by the RWQCBs. Five RWQCBs have jurisdiction over areas within the boundaries of the SCAQMD. These agencies also regulate discharges to state waters through federal pre-treatment requirements enforced by the publicly owned treatment works (POTWs).

Water quality of regional surface water and groundwater resources is affected by point source and non-point source discharges occurring throughout individual watersheds. Regulated point sources, such as wastewater treatment effluent discharges, usually involve a single discharge into receiving waters. Non-point sources involve diffuse and non-specific runoff that enters receiving waters through storm drains or from unimproved natural landscaping. Within the regional Basin Plans, the RWQCBs establish water quality objectives for surface water and groundwater resources and designate beneficial uses for each identified waterbody.

Much of the urbanized areas of Los Angeles and Orange Counties are serviced by three agencies that operate large POTW facilities ~~operating~~ on the coast: the City of Los Angeles Bureau of Sanitation's Hyperion Treatment Plant in El Segundo, the City of Los Angeles Bureau of Sanitation's Terminal Island f~~F~~acility in San Pedro, ~~the Joint Outfall System of~~ the Los Angeles County Sanitation District's (LACSD) Joint Water Pollution Control Plant (JWPCP) in Carson, and the Orange County Sanitation District's (OCSD) treatment plants in Huntington Beach and Fountain Valley. These ~~three~~ facilities handle more than 70 percent of the wastewater generated in the entire region.

1.54.6 Land Use and Planning

The district is comprised of the non-desert portion of Los Angeles County, all of Orange County, a portion of southwestern San Bernardino County, and the Salton Sea Air Basin and Mojave Desert Air Basin portions of Riverside County amounting to a jurisdiction of approximately 10,473 square miles and a population of approximately 17 million. Urban development in the district tends to cluster around a well-defined network of state and federal highways which connect the regional populations of the district with other regions in California and across the nation. While most urban development has historically been based in the coastal regions of Los Angeles County and Orange County, there has been considerable urban growth eastward to the mountain and valley regions of Riverside County and San Bernardino County.

Without a vast surplus of open space, developers in Los Angeles County and Orange County have turned to different types of housing and commercial developments, including townhouses, condominiums, apartments, and mixed-use developments that combine commercial and office uses. Older buildings are often renovated or converted to accommodate new residential or commercial uses, and land use patterns in major developed cities have generally shifted from the traditional single-use

pattern to more of a mixed use approach, where residential and commercial land uses are often found adjacent to one another, or within the same building.

Much of the development in Riverside and San Bernardino Counties has taken place within unincorporated county land that both counties possess. Riverside County, in particular, has developed the Riverside County Integrated Project, which seeks to improve the quality of life for its citizens through a complementary array of development projects and programs aimed at creating a balanced and sustainable environment.

1.54.7 Noise

The federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks, and, for those noise sources, the state government is preempted from establishing more stringent standards. The state government sets noise standards for those transportation noise sources that are not preempted from regulation, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies.

Environmental noise levels typically fluctuate across time of day; different types of noise descriptors are used to account for this variability, and different types of descriptors have been developed to differentiate between cumulative noise over a given period and single noise events. Individual noise events, such as train pass-bys or aircraft overflights, are further described using single-event and cumulative noise descriptors.

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The Federal Transit Administration (FTA) states that in contrast to airborne noise, ground-borne vibration is not a common environmental problem and most people consider groundborne vibration to be an annoyance that may affect concentration or disturb sleep. However, high levels of vibration may damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration (e.g., electron microscopes).

Some land uses (residences, schools, hospitals, etc.) are considered more sensitive to ambient noise levels than others due to the amount of noise exposure and the types of activities typically involved and are assigned more stringent noise standards. A noise level of 55 to 60 decibels outdoors is the upper limit for intelligible speech communication inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at about 55 decibels.

1.54.8 Solid and Hazardous Waste

A total of 32 Class III active landfills and two transformation facilities (e.g., waste-to-energy facilities) are located within the district with a total capacity of 116,796 tons per day and 3,240 tons per day, respectively[1]. Permit requirements, capacity and surrounding land use are three of the dominant factors limiting the operations and life of landfills in the ~~South Coast Air D~~district. Landfills are permitted by the local enforcement agencies with concurrence from CalRecycle (formerly known as the California Integrated Waste Management Board). Local agencies establish the maximum amount of solid waste that can be received by a landfill each day, and the operational life of a landfill. Landfills are operated by both public and private entities. Landfills in the district are also subject to requirements of the SCAQMD as they pertain to gas collection systems, dust and nuisance impacts.

There are no hazardous waste disposal sites within the jurisdiction of the SCAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management (CWM) Kettleman Hills facility in King's County, and the Laidlaw Environmental Services (LES) facility in Buttonwillow (Kern County). Kettleman Hills is operating close to capacity, with reportedly less than one percent of capacity remaining. CMW applied to both the DTSC and the U.S. EPA to expand the facility to provide another 12-14 years of life. Buttonwillow receives approximately 900 tons of hazardous waste per day and has a remaining capacity of approximately 8,890,000 cubic yards. The expectant life of the Buttonwillow Landfill is approximately 40 years. Hazardous waste also can be transported to permitted facilities outside of California such as the U.S. Ecology Inc. facility in Beatty, Nevada or the LES facility in Lake Point, Utah.

While the DTSC has primary responsibility in the state for regulating the generation, transfer, storage and disposal of hazardous materials, DTSC may further delegate enforcement authority to local jurisdictions. In addition, the DTSC is responsible and/or provides oversight for contamination cleanup, and administers state-wide hazardous waste reduction programs. The DTSC conducts annual inspections of hazardous waste facilities. Other inspections can occur on an as-needed basis.

California Department of Transportation (Caltrans) sets standards for trucks transporting hazardous wastes in California. The regulations are enforced by the California Highway Patrol (CHP). Trucks transporting hazardous wastes are required to maintain a hazardous waste manifest. The manifest is required to describe the contents of the material within the truck so that wastes can readily be identified in the event of a spill.

[1] This repsresents the sum of the permitted capacities of the Southeast Resource Recovery Facility at 2,240 tons per day and the Commerce Refuse-To-Energy Facility at 1,000 tons per day. http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AK-0083/Detail/; http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0506/Detail.

1.54.9 Transportation and Traffic

The southern California transportation system is a complex intermodal network that consists of roads, highways, public transit, paratransit, bus, rail, airports, seaports and intermodal terminals designed to carry both people and goods. The transportation system supports the region's economic needs, as well as the demand for personal travel.

Numerous agencies are responsible for transportation planning and investment decisions within the southern California area. SCAG helps integrate the transportation-planning activities in the region to ensure a balanced, multimodal plan that meets regional as well as county, subregional, and local goals, while each of the four counties within the jurisdiction of the SCAQMD has a Transportation Commission or Authority. These agencies are charged with countywide transportation planning activities, allocation of locally generated transportation revenues, and in some cases operation of transit services.

The existing transportation network serving the Southern California area supports the movement of people and goods. On a typical weekday in the four-county region the transportation network supports a total of approximately 420 million vehicle miles of travel (VMT) and 12 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County.

Much of the existing travel in the Southern California area takes place during periods of congestion, particularly during the morning (6:00 AM to 9:00 AM) and evening peak periods (3:00 PM to 7:00 PM). Congestion can be quantified as the amount of travel that takes place in delay (vehicle hours of delay or VHD), and alternately, as the percentage of all travel time that occurs in delay (defined as the travel time spent on the highway due to congestion, which is the difference between VHT at free-flow speeds and VHT at congested speeds). Regional travel time in delay represents approximately 25 percent of all daily, 30 percent of all AM peak period, and 38 percent of all PM peak period travel times.

The regional freeway and highway system is the primary means of person and freight movement for the region. This system provides for direct automobile, bus and truck access to employment, services and goods. The network of freeways and State highways serves as the backbone of the system offering very high capacity limited-access travel and serving as the primary heavy duty truck route system.

Transit use is growing in southern California. As of 2009, transit agencies in the southern California area reported 747.3 million boardings. This represents growth of nearly 20 percent in the ten years between 2000 and 2010, but only four percent growth in per capita trips due to population growth. Metrolink and Metro Rail (Los Angeles County) have seen ridership growth of six percent to eight percent per year.

1.65 EXECUTIVE SUMMARY: CHAPTER 4 - ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Chapter 4 – Environmental Impacts and Mitigation Measures, provides a detailed review of the environmental topics that were identified in the 8/24/12 NOP/IS where potentially significant adverse impacts were identified (see Appendix A). In addition, the evaluation of several environmental resources (land use and noise) was added to the Program EIR based on public comments. Each of the proposed control measures was evaluated to determine the environmental topics that would potentially be impacted, if the control measure or strategy was adopted. The following subsections provide a brief discussion of the potential environmental impacts and mitigation measures for each environmental category analyzed. Table 1-1 provides a summary of the impacts identified under each resource category, identifies mitigation measures that were imposed (if applicable), and identifies the remaining impacts following mitigation.

1.65.1 Aesthetics

Subchapter 4.1 identifies the potential aesthetics impacts as a result of implementing the control measures in the 2012 AQMP.

Control measures ONRD-05, ADV-01 and ADV-02 included in the 2012 AQMP relate primarily to emission reductions through the incorporation of electrically powered trucks and locomotives. To power this equipment, catenary lines (overhead power lines) could be constructed and could potentially result in aesthetic impacts. These lines are similar to "trolley car lines" associated with electrically powered trollies and buses common in metropolitan transportation.

The areas affected by the proposed Zero and Near-Zero Emissions control measures that could result in the installation of catenary lines are expected to be located in commercial, industrial areas, and along existing transportation corridors (e.g., in areas within and adjacent to the Port of Los Angles and Port of Long Beach, along the I-710 Freeway, along the I-60 Freeway, as well as near railyards in downtown Los Angeles).

The construction and operation of the catenary or overhead power lines that could be used to power Zero and Near Zero vehicles and locomotives are not expected to be visible to any Scenic Highway or any roadway eligible as a Scenic Highway. Therefore, aesthetics impacts associated with the 2012 AQMP are less than significant.

1.65.2 Air Quality

Subchapter 4.2 examines the secondary air pollutant emissions that could occur as a consequence of efforts to improve air quality (e.g., emissions from control equipment such as afterburners). Secondary air quality impacts are potential increases in air pollutant that occur indirectly from implementation of control

measures in the ~~Draft~~ 2012 AQMP. SCAQMD evaluated all ~~Draft~~ 2012 AQMP control measures to identify those control measures that have the potential to generate secondary adverse air quality impacts. Evaluation of control methods for each control measure indicated that there are 27 control measures that could have potential secondary air quality impacts.

While implementing the ~~Draft~~ 2012 AQMP control measures is expected to reduce operational emissions, construction-related activities associated with installing or replacing equipment, for example, are expected to generate emissions from construction worker vehicles, trucks, and construction equipment. Implementation of some of the measures in the 2012 AQMP that require construction may cause significant impacts to air quality (mainly CO and PM10).

Secondary emissions from increased electricity demand, the reformulation of products (lower VOC materials), mobile sources (PZEV and ZEV vehicles), the increased use of fuels (lower fuel economy), and other miscellaneous sources (handling of greenwaste) are considered to be less than significant.

1.6~~5~~.3 Energy

Subchapter 4.3 identifies the potential energy impacts as a result of implementing stationary and mobile control measures in the 2012 AQMP. The EIR evaluated the potential impacts of the AQMP on electricity, natural gas, petroleum fuels, alternative fuels, and renewable energy.

The increase in electricity associated with the control measures and strategies in the 2012 AQMP is considered to be significant. While the increase in electricity is expected to be within the electric generating capacity of the region, an increase in electricity of greater than one percent represents a substantial increase in electricity. Thus, the energy impacts associated with electricity demand from the implementation of the 2012 AQMP are considered to be significant.

The energy impacts associated with implementation of the control measures and strategies in the 2012 AQMP are expected to result in an increase in natural gas demand. The increased demand for natural gas is considered to be significant.

The energy impacts associated with implementation of the control measures and strategies in the 2012 AQMP are expected to result in a reduction in use (less demand) of petroleum fuels so that no significant impacts on petroleum fuels are expected.

Although an increase in demand for hydrogen as a transportation fuel is expected due to implementation of the control measures and strategies in the 2012 AQMP, this increase is not expected to be significant since hydrogen is not widely available and its use is currently limited. Hydrogen is available or the feedstock that produces it is generally available. Future demand is expected be met through increased production. The energy impacts associated with the future use of hydrogen is

expected to be less than the current strategy that uses predominately petroleum based fuels so that no significant hydrogen demand impacts on are expected.

The design and goal of the 2012 AQMP is to shift to less polluting transportation fuels. Although an increase in alternative transportation fuels is expected, this increase is not expected to be significant since alternative fuels (e.g., natural gas or hydrogen) are available or the feedstock that produces the fuels is generally available.

Finally, no 2012 AQMP control measures were identified that would adversely affect renewable energy production or interfere with the goals and requirements of the Renewables Portfolio Standard.

1.6~~5~~.4 Hazards and Hazardous Materials

Subchapter 4.4 identifies the potential hazard impacts as a result of implementing the control measures in the ~~Draft~~ 2012 AQMP. The Initial Study identified the following types of control measures as having potentially significant hazards impacts: 1) use of reformulated coatings, solvents, adhesives, mold release and consumer products; 2) increase in the transportation and disposal of reformulated products; 3) the use of ammonia in selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) air pollution control technology; and, 4) use of alternative fuels.

Each control measure in the ~~Draft~~ 2012 AQMP was evaluated for potential hazard and hazardous materials impacts based the technologies expected to be employed through implementation of the control measure. Evaluation of control methods for each control measure indicated that there are 24 (three PM2.5 and 21 ozone precursor) control measures that have potential adverse hazard impacts.

Control Measures MCS-01, CTS-01, CTS-02, CTS-03, and CTS-04 could require reformulation of coatings, adhesives, solvents, mold release, and consumer products. The analysis indicates that the fire hazard impacts associated with reformulation are expected to be significant. Mitigation measures HZ-1 and HZ-2 were imposed that would add consumer warning requirements for all flammable and extremely flammable products and require public education regarding the use of flammable materials are expected to reduce the impacts to less than significant.

Control Measures IND-01, INC-01, ONRD-01, ONRD-03, ONRD-04, ONRD-05, OFFRD-01, OFFRD-02, OFFRD-03, OFFRD-04, ADV-01, ADV-02, ADV-03, ADV-04, ADV-05, ADV-06, and ADV-07 would establish in-use strategies that may require or promote the use of alternative fuels. Hazards impacts from the increased use of alternative fuels (including methanol, ethanol, CNG, LPG, biodiesel, hydrogen and electric/hybrid) are expected to be similar to or less than hazards associated with conventional fuels. Therefore, significant hazard impacts are not expected from the increased use of these alternative fuels. The potential hazards associated with the transportation of LNG were determined to be significant and

mitigation measures HZ-3 through HZ-6 were imposed. However, the mitigation measures would not reduce LNG transport impacts to less than significant.

Control Measures CMB-01, IND-01, MSC-01, OFFRD-02, OFFRD-03, OFFRD-04, ADV-01, ADV-02, ADV-04, and ADV-05 could result in the use of SCR and SNCR to reduce NOx emissions. While the use of aqueous ammonia at concentrations less than 20 percent by volume is expected to reduce hazard impacts associated with ammonia use, the potential for a spill of aqueous ammonia during transportation or on-site could pose a significant hazards impact. Accordingly, significant hazard impacts are expected from the increased use of ammonia in SCR and SNCR technologies and mitigation measures HZ-7 through HZ-10 were imposed that required the use of aqueous ammonia and included containment devices. After mitigation, no remaining significant impacts associated with ammonia use is expected.

Some control measures in the 2012 AQMP could use fuel additives in conjunction with other technologies and methodologies to provide emission reductions. In the past, the introduction of fuel additives into fuels has resulted in environmental impacts (e.g., lead and MTBE). Because of the many requirements before additives can be approved for use, the potential impacts of fuel additives are less than significant because negative impacts would be identified and mitigated, as necessary, prior to their use. Therefore, no mitigation measures are required.

Finally, no hazard impacts were identified pertaining to safety issues associated with implementing MCS-03, Start-up, Shutdown and Turnaround Procedures or from other control measures that would increase the use of catalysts.

1.65.5 Hydrology and Water Quality

Subchapter 4.5 identifies potential hydrology and water quality impacts that may be generated by implementing the 2012 AQMP. Some of the control measures in the 2012 AQMP may result in impacts on water quality and increased wastewater discharge; water quality impacts associated with the use of alternative fuels; water quality impacts associated with increased use of batteries; increased water demand; and use and application of sodium bisulfate for livestock operations.

Wastewater treatment facilities are expected to have sufficient capacity to handle the estimated increase in wastewater that could be generated from reformulation of products and use of air pollution control equipment (e.g., wet ESPs and WGSs). Therefore, no significant impacts associated with wastewater treatment or water quality is expected.

The use of alternative fuels is not expected to result in greater adverse water quality impacts than the use of conventional fuels. No significant adverse hydrology and water quality impacts are expected from the increased use of alternative fuels.

It is expected that the recycling of EV and hybrid batteries will be greater than lead-acid batteries in conventional vehicles, reducing the potential for illegal disposal and potential water quality impacts. No significant adverse water quality impacts are expected from the increased use of EV and hybrid vehicles.

Water demand associated with the manufacture and use of waterborne and add-on air pollution control technologies are potentially significant. While mitigation measures are available, they can vary from jurisdiction to jurisdiction, and may remain significant.

The use and application of SBS should be controlled and monitored to prevent water quality runoff and related water quality impacts. Therefore, the use of SBS is expected to be less than significant.

Potential spills associated with ammonia are expected to be contained on-site due to the requirement for secondary spill containment devices and berms. Therefore, potential ammonia spills are expected to be less than significant.

1.65.6 Land Use and Planning

Subchapter 4.6 examines the potential land use impacts associated with implementation of the proposed control measures in the 2012 AQMP. Potential land use impacts are associated primarily with the construction of support systems (e.g., catenary overhead electrical lines or magnetic infrastructure related to operation of zero- and near-zero transport systems). Control measures ONRD-05, ADV-01, and ADV-02 could require construction activities that may generate land use impacts. Control measures are not expected to conflict with applicable land use plans, policies, or regulations or physically divide an established community. Therefore, no significant adverse land use impacts are expected.

1.65.7 Noise

Subchapter 4.7 identifies 2012 ~~Draft~~ AQMP control measures that could result in potential adverse noise impacts. Control measures that may have noise impacts relate primarily with construction activities associated with air pollution control equipment and construction of support systems (e.g., wayside power, catenary overhead electrical lines, battery charging or fueling infrastructures related to operation of zero- and near-zero transport systems).

A number of control measures could result in the construction of air pollution control equipment including BCM-03, IND-01, MCS-01, CMB-01, FUG-01, FUG-02, OFFRD-04, ADV-01, ADV-02, ADV-03, ADV-04, ADV-05, and ADV-06. Control measures ONRD-05 and ADV-01 could require the installation of catenary overhead electrical lines within or adjacent to existing roadways, streets, freeways, and/or transportation corridors. ADV-02 could require the installation of electrical or magnetic infrastructure along rail lines.

During construction, there may be significant noise and vibration impacts, but these will be temporary in nature and related solely to construction activities. No modification to existing rail or truck traffic routes/corridor is expected; therefore, noise and vibration impacts associated with operational activities are expected to be less than significant.

1.6~~5~~.8 Solid and Hazardous Waste

Subchapter 4.8 identifies potential solid and hazardous waste impacts that may be generated by implementing the ~~Draft~~ 2012 AQMP. Implementing some of the control measures could increase the generation and disposal of solid and hazardous waste in the region. Specifically, some control measures will encourage the use of electric vehicles which could result in an increase in waste associated with spent batteries (Control Measures IND-01, INC-01, ONRD-01, ONRD-02, ONRD-03, ONRD-04, ONRD-05, OFFRD-01, OFFRD-02, OFFRD-03, ADV-01, ADV-02, ADV-03, ADV-04, ADV-05, and ADV-06). Other control measures could increase the generation of solid or hazardous waste due to installation of air pollution control equipment, such as activated carbon, filters, and catalysts (Control Measures BCM-03, MCS-01, CMB-01, INC-01, OFFRD-02, OFFRD-03, OFFRD-04, ADV-01, ADV-04, and ADV-05). Finally, other control measures would encourage the early retirement of older equipment and replacement with newer and lower emission technology equipment, generating additional waste (Control Measures IND-01, MCS-01, CMB-01, CMB-02, CMB-03, INC-01, ONRD-01, ONRD-02, ONRD-03, ONRD-04, ONRD-05, OFFRD-01, OFFRD-02, OFFRD-03, ADV-01, ADV-02, ADV-05, ADV-06, and ADV-07).

The increased use of EVs and hybrids are not expected to result in a significant increase in the illegal disposal of batteries as they are valuable as a recyclable; no significant solid and hazardous waste impacts were identified due to air pollution control technologies as part of the ~~Draft~~ 2012 AQMP; and control measures that would require new equipment are not expected to result in a significant impact as the equipment being replaced can be reused in areas outside the district or recycled.

1.6~~5~~.9 Transportation and Traffic

Subchapter 4.9 examines impacts on the potential transportation and traffic impacts associated with implementation of the proposed control measures in the 2012 AQMP. Some of the control measures could require construction activities adjacent to or within existing roadways potentially impacting traffic during construction activities.

The existing rail and truck routes/corridors likely to be modified are located primarily in commercial and industrial zones within the Southern California area. Examples of these areas include, but are not limited to, the Port of Los Angeles, Port of Long Beach, and industrial areas in and around container transfer facilities (rail and truck) near the Terminal Island Freeway, along the Alameda Corridor, as well as inland facilities. Since only existing transportation routes will be modified, no new

transportation routes are anticipated as part of the proposed project, project impacts will be temporary in nature and limited to construction activities.

Implementation of Control Measures ONRD-05 and ADV-01 may contribute to significant adverse operational traffic impacts on roadways because transportation infrastructure improvements pertaining to overhead catenary electrical lines could require the dedication of an existing land exclusive to vehicles using the overhead catenary electrical lines. The dedication of an existing lane would mean that other vehicles would have reduced access to available driving lanes, which could adversely affect traffic and congestion. Mitigation measures for construction and operation would need to be identified on a project-by-project basis. SCAQMD recommends that mitigation measure MM-TR29 from SCAG's 2012-2035 RTP/SCS Program EIR (which generally requires a traffic management plan) be implemented for all projects resulting from Control Measures ONRD-05 and/or ADV-01 that have the potential to impact roadways. Traffic impacts would remain significant after mitigation.

1.65.10 Other CEQA Topics

1.65.10.1 Growth-Inducing Impacts

CEQA defines growth-inducing impacts as those impacts of a proposed project that "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The 2012 AQMP is not expected to foster economic or population growth or result in the construction of additional housing or other infrastructure, either directly or indirectly, that would further encourage growth. The 2012 AQMP could result in construction projects at existing stationary sources and along existing transportation corridors. However, the proposed project would not be considered growth-inducing, because it would not result in an increase in production of resources or cause a progression of growth that could significantly affect the environment either individually or cumulatively.

1.65.10.2 Significant Environmental Effects Which Cannot Be Avoided

The following is a summary of impacts associated with the 2012 AQMP that this ~~Draft~~ Final Program EIR concluded are significant and unavoidable:

- Air emissions associated with construction activities due to the implementation of the control measures in the 2012 AQMP were considered to be potentially significant for CO and PM10 emissions.

- The increased demand for electricity and natural gas associated with the 2012 control measures is considered to be significant.

- The potential hazards associated with LNG transport are considered significant.

- Water demand associated with the manufacture and use of waterborne coatings, solvents and other consumer products, and add-on air pollution control technologies are potentially significant. While mitigation measures as available, they can vary from jurisdiction to jurisdiction, and may remain significant.

- Noise and vibration impacts will be temporary in nature and related solely to construction activities, but could be significant.

- Traffic impacts will be temporary in nature and related solely to construction activities, but could be significant.

Feasible mitigation measures have been developed for the identified adverse significant impacts; however, those mitigation measures may not reduce the impacts to less than significant. The 2012 AQMP would place only an incremental demand on nonrenewable and limited resources, such as energy and water supplies relative to the rate of use of these resources due to population growth and increased consumer demand. The largely irretrievable conversion of undeveloped/agricultural land to urban uses is a function of the growing population and local land use authority, not the 2012 AQMP. The 2012 AQMP is expected to result in long-term benefits associated with achieving ambient air quality standards and a reduction in the use of petroleum-based fuels (e.g., increased use of alternative fuels).

1.6~~5~~.10.3 Relationship Between Short-Term Uses and Long-Term Productivity

Implementing the ~~Draft~~ 2012 AQMP is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The purpose of the 2012 AQMP is to set forth a comprehensive control program that will lead the Basin into compliance with the federal 24-hour PM2.5 air quality standards and achieve additional reductions in ozone precursors. By attaining federal and state air quality standards, the 2012 AQMP is expected to enhance short and long-term environmental productivity in the region.

1.7~~6~~ EXECUTIVE SUMMARY: CHAPTER 5 – CUMULATIVE IMPACTS

CEQA Guidelines §15130 (a) requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in §15065 (a)(3). The 2012 AQMP is a regional plan that includes broad policy criteria and as such, the 2012 AQMP Final Program EIR evaluates the environmental impacts associated with implementing the 2012 AQMP stationary and mobile source control measures to determine whether or not the impacts of the project are cumulatively considerable when combined with potential impacts associated with other similar regional projects involving regulatory activities or other projects with similar impacts.

The traffic control measures (TCMs) in the 2012 AQMP (see Appendix E of this Final Program EIR) were developed and adopted by SCAG as part of the 2012-2035 RTP/SCS and the 2011 Federal Transportation Improvement Program (FTIP). These measures and recommendations have accordingly been moved forward for inclusion in the region's air quality plans and are included as part of the 2012 AQMP. The impacts of implementation of these TCMs were evaluated in the 2012-2035 RTP/SCS Program EIR (SCAG, 2012). The cumulative analysis in this section of the Final Program EIR for the 2012 AQMP relies primarily on the environmental analyses in the SCAG 2012-2035 RTP/SCS Program EIR for the evaluation of the environmental impacts of implementing the TCMs.

Because the TCMs, their associated mitigation measures, and their emissions reductions are included along with the 2012 AQMP in the PM2.5 SIP submittal for the Basin and because the TCMs and other projects in the 2012-2035 RTP/SCS have the potential to generate similar impacts, the 2012-2035 RTP/SCS is considered to be a cumulatively related project. In general, the long-term transportation planning requirements for emission reductions from on-road mobile sources within the district are met by SCAG's RTP/SCS, whereas the short-term implementation requirements of the Transportation Conformity Rule are met by SCAG's biennial Regional Transportation Improvement Program (RTIP).

1.76.1 Aesthetics

Implementation of the 2012 AQMP would not in itself result in significant aesthetic impacts.

According to the 2012-2035 RTP/SCS Program EIR, aesthetic impacts are expected to remain significant because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level. Aesthetic impacts would remain significant because the population growth projected by 2035 in combination with the projects in the 2012-2035 RTP/SCS would consume currently vacant land that would create significant contrasts with the overall visual character of the existing landscape setting. Potential aesthetic resources impacts would be reduced following the implementation of mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation.

There is no overlap between the 2012 AQMP projects that may affect aesthetics resources and aesthetic resources impacts created by the 2012-2035 RTP/SCS. The 2012 AQMP would not contribute to aesthetic impacts as noted above, so adverse cumulative operational aesthetics resources impacts are concluded to be less than significant.

1.76.2 Agricultural Resources

The 2012 AQMP is not expected to result in significant agriculture resources impacts, as evaluated in the NOP/IS.

For the 2012-2035 RTP/SCS, agricultural resource impacts are expected to remain significant following mitigation as the 2012-2035 RTP/SCS is expected to contribute to the loss and disturbance of agricultural lands as up to 74,300 new lane miles could be developed, some of which could disturb or consume agricultural lands. Potential agricultural resources impacts associated with the 2012-2035 RTP/SCS would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation because implementation of the 2012-2035 RTP/SCS would contribute to significant loss and disturbance of agricultural lands. Moreover, the 2012 AQMP would not contribute to these impacts, so adverse cumulative operational agricultural resources impacts are concluded to be less than significant.

1.76.3 Air Quality

Construction Impacts: Construction activities associated with the 2012 AQMP would result in significant impacts to the air quality resource and any concurrent emissions-generating activities from reasonably foreseeable construction activities would add an additional air emission burden to these significant levels. Therefore, construction air quality impacts from the 2012 AQMP are considered to be cumulatively considerable prior to mitigation and would contribute to significant adverse cumulative impacts from the 2012-2035 RTP/SCS.

Operational Impacts – Criteria Pollutants: The 2012 AQMP would result in overall emission reductions of NOx, VOC, SOx, and PM emissions, providing an air quality benefit. The 2012 AQMP would attain the 24-hour federal PM2.5 standard by 2014, make progress towards attaining the eight-hour ozone standard, maintain compliance with state and federal NO_2 standards, maintain compliance with state and federal SO_2 standards, and maintain compliance with the federal 24-hour PM10 standard. Secondary emissions from increased electricity demand, control of stationary sources, increased use of reformulated products, mobile sources, increased use of fuels due to reduction in fuel economy, and from miscellaneous sources were considered to be less than significant.

Under the 2012-2035 RTP/SCS, mobile source criteria pollutant emissions would stay approximately the same or decrease, providing an air quality benefit. However, the increase of re-entrained roadway dust would increase proportionately to VMT and as such was considered a significant impact.

Implementation of the 2012 AQMP would not in itself result in significant adverse operational air quality impacts associated with operational activities. For this reason, the 2012 AQMP would not be expected to contribute to significant adverse cumulative impacts from transportation projects projected in the 2012-2035 RTP/SCS.

Operational Impacts – Non-Criteria Pollutants: The 2012 AQMP is expected to result in a reduction of toxic air contaminant (TAC) emissions. The basis for this conclusion is that many TACs are also classified as criteria pollutants (e.g., PM and

VOCs). To the extent that AQMP control measures reduce PM and VOC emissions, associated TAC emission reductions could occur as well. The overall impacts associated with implementation of the 2012 AQMP are an overall reduction in non-criteria pollutants (e.g., toxic air contaminants). Therefore, no significant impacts on non-criteria pollutants have been identified.

Under the 2012-2035 RTP/SCS, as a result of on-going emission controls, cancer and other health risks within any given distance of mobile sources in the region would decline, although the health risks adjacent to transportation facilities would remain higher than regional averages and above desirable levels. As a result of 2012-2035 RTP/SCS policies anticipated growth patterns would concentrate population adjacent to transit and other transportation facilities in High Quality Transit Areas (HQTAs) that could result in more people being exposed to elevated cancer risk as compared to areas of the region more distant from such facilities.

Implementation of the 2012 AQMP would not in itself result in significant air quality impacts associated with non-criteria pollutants. Moreover, the 2012 AQMP would not contribute to impacts associated with transportation projects projected in the 2012-2035 RTP/SCS and, therefore, would not be expected to contribute to a cumulatively considerable impact requiring mitigation.

Greenhouse Gas Impacts: The 2012 AQMP is expected to result in a reduction of GHGs. This conclusion is based on the fact that mobile source control measures would reduce GHG emissions through accelerated penetration of partial zero-emission and zero emission vehicles, the use of alternative fuels such as natural gas, the combustion of which generates less GHG emissions than diesel fuel, along with other energy efficiency and pollution prevention measures.

Implementation of the 2012-2035 RTP/SCS projects would result in a significant increase of greenhouse gas emissions from residential and commercial building construction, operational energy demand, and total mobile source emissions. The 2012-2035 RTP/SCS Program EIR concludes that implementation of 2012-2035 RTP/SCS projects would meet the applicable AB 32 reduction targets (identified in SB 375) with respect to light duty vehicles. However, without technical details as to how each sector of the economy would comply with AB 32, growth anticipated to occur under the 2012-2035 RTP/SCS could result in a significant impact related to AB 32 and the Scoping Plan.

The 2012-2035 RTP/SCS Program EIR concluded that because per capita carbon dioxide emissions from light duty trucks and autos would meet ARB targets by 2020 and would achieve even greater emission reductions in 2035, the 2012-2035 RTP/SCS would result in a less-than-significant impact related to per capita emissions and SB 375.

Air Quality Summary: The air quality impacts associated with 2012 AQMP control measures were determined to be significant for construction activities and less than significant for secondary emissions from increased electricity demand,

control of stationary sources, change in use of lower VOC materials, mobile sources, increase use of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone. Although mitigation measures identified in the 2012 AQMP Final Program EIR would reduce construction air quality impacts associated with construction activities, impacts would remain significant and as such would continue to contribute to considerable impacts following mitigation. Since project-specific construction air quality impacts from the 2012 AQMP would be significant, the 2012 AQMP would contribute to significant adverse cumulative construction air quality impacts generated by the 2012-2035 RTP/SCS

Similarly, although mitigation measures identified in the 2012-2035 RTP/SCS Program EIR would reduce air quality and associated health impacts, impacts for construction, operation, TACs, and GHG impacts would continue to contribute to cumulatively considerable impacts following mitigation. The 2012 AQMP would not contribute to these impacts, so adverse cumulative operational air quality impacts are concluded to be less than significant.

1.76.4 Biological Resources

The 2012 AQMP is not expected to result in significant biological resources impacts. 2012-2035 RTP/SCS impacts associated with biological and open space resources would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation due to significant disturbance and removal of natural vegetation that may be utilized by sensitive species, habitat fragmentation and the associated decrease in habitat quality, litter, trampling, light pollution and road noise in previously undisturbed natural areas, displacement of riparian and wetland habitat, siltation of streams and other water bodies during construction, and the loss of prime farmlands, grazing lands, open space and recreation lands. The increased urban development anticipated by the 2012-2035 RTP/SCS would also result in similar impacts. However, since the 2012 AQMP was not identified as creating any adverse biological resources impacts, it would not create cumulatively considerable impacts, so adverse cumulative biological resources impacts from the 2012 AQMP are concluded to be less than significant.

1.76.5 Cultural Resources

The 2012 AQMP is not in itself expected to result in significant cultural resources impacts. The development of transportation facilities as part of the 2012-2035 RTP/SCS may affect historical resources because many projects could be located in older urban centers where structures of architectural of historical significance are likely to be located. In addition, 2012-2035 RTP/SCS transportation projects would significantly affect archaeological and paleontological resources because projects could be located in previously undisturbed areas. However, the 2012 AQMP would not contribute to impacts associated with transportation projects projected in the 2012-2035 RTP/SCS and, therefore, would not be expected to contribute to a

cumulatively considerable impact requiring mitigation. As a result, adverse cumulative cultural resources impacts from the 2012 AQMP are concluded to be less than significant.

1.76.6 Energy

Electricity and natural gas demand impacts associated with the 2012 AQMP control measures were concluded to be significant, while energy impacts associated with use of petroleum fuels, use of alternative fuels and renewable energy sources were considered to be less than significant. Although mitigation measures identified in the 2012 AQMP Final Program EIR would reduce energy impacts associated with electricity demand, impacts would remain significant and as such would continue to contribute to considerable impacts following mitigation.

2012-2035 RTP/SCS impacts associated with energy resources would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation because energy consumed during construction and expansion of the transportation system, as well as growth that would be accommodated by the 2012-2035 RTP/SCS, would contribute to considerable impacts following mitigation. Therefore, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would contribute to a cumulatively considerable electricity and natural gas demand impacts following mitigation.

1.76.7 Geology and Soils

Implementation of the 2012 AQMP would not in itself result in significant geological or soil impacts. Potential geologic and soil resources impacts associated with the 2012-2035 RTP/SCS would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation because implementation of the 2012-2035 RTP/SCS is expected to result in potential damage to transportation infrastructure through surface rupture, ground shaking, liquefaction, and landsliding, as well as long term soil erosion and/or loss of top soil, subsidence, and slope failure. Moreover, the 2012 AQMP would not contribute to geologic and soil resources impacts associated with transportation projects projected in the 2012-2035 RTP/SCS and, therefore, would not be expected to contribute to a cumulatively considerable impact requiring mitigation.

1.76.8 Hazards and Hazardous Materials

It was concluded in the 2012 AQMP Final Program EIR that potentially significant adverse fire hazard impacts associated with reformulated products and the on-site ammonia storage hazards would be less than significant after mitigation. In spite of implementing mitigation measures, it was concluded that hazards associated with LNG transport would remain significant.

It was concluded in the 2012-2035 RTP/SCS that impacts associated with hazards and hazardous materials would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, impacts from the implementation of the 2012-2035 RTP/SCS, associated with upset and accident conditions, hazardous emissions in vicinity of schools, and disturbance of contaminated property during construction activities would remain significant following mitigation. When combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, the 2012 AQMP has the potential to contribute to a cumulatively considerable hazards and hazardous materials impacts following mitigation for the risks associated with the transport of LNG.

1.76.9 Hydrology and Water Quality

Although 2012 AQMP impacts associated with water demand would be reduced following the implementation measures, the effectiveness of mitigation measures can vary between jurisdictions, therefore, water demand impacts may remain significant.

2012-2035 RTP/SCS impacts associated with hydrology and water quality would be reduced following the implementation of the 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation for water quality, wastewater, riparian habitats and waters of the U.S. runoff/drainage, groundwater, flooding, and water supply. Therefore, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would contribute to cumulatively considerable impacts following mitigation to water demand impacts. The cumulative impacts of other hydrology and water quality impacts associated with the 2012 AQMP are less than significant.

1.76.10 Land Use and Planning

Implementation of the 2012 AQMP would not result in any significant impacts associated with land use or planning. Potential land use and planning impacts associated with the 2012-2035 RTP/SCS would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation because implementation of the 2012-2035 RTP/SCS would contribute to inconsistencies with general plans, disruption or division of established communities, changes to land uses by changing concentrations of development throughout SCAG, change patterns of growth and urbanization beyond the SCAG region, and cumulatively considerable changes to land use and the intensity of land use. Short-term construction related impacts and long-term or permanent displacement or offsite impacts from new facilities would also potentially occur as a result of implementation of the 2012-2035 RTP/SCS. Moreover, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would not be expected to

contribute to cumulatively considerable land use and planning impacts requiring mitigation.

1.76.11 Mineral Resources

Implementation of the 2012 AQMP would not result in any significant impacts associated with mineral resources. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation because implementation of 2012-2035 RTP/SCS would result in increased demand driven by growth and the large number of projects anticipated in the 2012-2035 RTP/SCS. The 2012 AQMP, when combined with past, present, and reasonably foreseeable activities and in particular with the 2012-2035 RTP/SCS transportation projects, would not be expected to contribute to cumulatively considerable mineral resources impacts following mitigation.

1.76.12 Noise

The 2012 AQMP control measures associated with construction of overhead catenary lines could result in significant noise and vibration impacts after mitigation due to the geographic proximity of sensitive receptors. Although impacts would be reduced following implementation of noise mitigation measures identified in the 2012 AQMP Final Program EIR, noise and vibration impacts associated with the construction of catenary lines would remain significant in areas where sensitive receptors are located near transportation corridors.

2012-2035 RTP/SCS impacts associated with noise would be reduced following the implementation of 2012-2035 RTP/SCS Program EIR mitigation measures. However, 2012-2035 RTP/SCS impacts would remain significant following mitigation for noise and vibration during construction activities and operational activities. Therefore, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would contribute to cumulatively considerable construction noise and vibration impacts following mitigation.

1.76.13 Population and Housing

The 2012 AQMP control measures would not result in population and housing impacts. The policies included in the 2012-2035 RTP/SCS seek to direct growth in a way that is efficient for both mobility and land consumption. Implementation of the RTP/SCS would help induce growth to certain vacant areas of the region, a substantial number of residences and businesses would likely be displaced, and the mobility benefits from the RTP/SCS may shift population, households, and employment. This may generate potentially significant adverse cumulative population and housing impacts in spite of implementing mitigation measures. Therefore, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and with 2012-2035 RTP/SCS projects in particular, would not be expected to produce a cumulatively considerable impact following mitigation.

1.76.14 Public Services

The 2012 AQMP control measures would not result in significant public services impacts. The public service impacts from the 2012-2035 RTP/SCS associated with police, fire, and emergency response were concluded to be significant in spite of implementing mitigation measures. Impacts to wildfire threats would also remain significant because development would occur in areas that have a high threat of fire. In addition, the region's demand to accommodate an additional 453,000 school children would remain a significant impact on public services following implementation of 2012-2035 RTP/SCS mitigation measures.

Based on the above information, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and with 2012-2035 RTP/SCS projects in particular, is not expected to produce cumulatively considerable impacts to public services following mitigation.

1.76.15 Recreation

The 2012 AQMP control measures would not result in significant impacts on recreation resources. Impacts associated with recreation resources remain significant following mitigation because the 2012-2035 RTP/SCS would contribute to the loss and disturbance of open space and recreational lands. Based on the above information, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would not be expected to contribute to cumulatively considerable recreation impacts following mitigation.

1.76.16 Solid and Hazardous Waste

The 2012 AQMP control measures would not result in significant impacts on solid or hazardous waste. Solid and hazardous waste impacts associated with the 2012-2035 RTP/SCS would remain significant following mitigation because the demand for solid waste services in the SCAG region and the resulting need to move solid waste large distances, potentially out of the region, would remain. Based on the above information, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and in particular with the 2012-2035 RTP/SCS transportation projects, would not be expected to contribute to cumulatively considerable solid or hazardous waste impacts following mitigation.

1.76.17 Transportation and Traffic

The 2012 AQMP control measures that could result in the construction of overhead catenary lines are expected to remain a significant construction impact to traffic after mitigation. Such construction activities would generate traffic associated with construction worker vehicles and trucks delivering equipment, materials and supplies to the project site during the duration of the construction activities. Similarly, transportation infrastructure improvements pertaining to overhead catenary electrical

lines could require the dedication of an existing lane exclusive to vehicles using the overhead catenary electrical lines or fixed guideway systems. Thus, a reduction in the number of available lanes could result in significant adverse operational traffic impacts.

According to the 2012-2035 RTP/SCS Program EIR, implementation of the RTP/SCS would result in several significant and several less than significant impacts after mitigation. The 2035 VMT and 2035 heavy-duty truck VHD would be substantially greater than the existing conditions and as such would result in a significant impact in spite of implementing mitigation measures. As the population increases through 2035, the number of trips originating and ending in Santa Barbara, San Diego and Kern counties to and from the SCAG region would increase. And the transportation demand from growth, in combination with the accommodating projects in the 2012-2035 RTP/SCS would contribute to a cumulatively considerable transportation impact.

Therefore, the 2012 AQMP, when combined with past, present, and reasonably foreseeable activities, and with 2012-2035 RTP/SCS projects in particular, would contribute to cumulatively considerable construction impacts following mitigation and, since no mitigation measures were identified that reduce potential operation-related traffic impacts, these remain significant.

1.8~~7~~ EXECUTIVE SUMMARY: CHAPTER 6 – ALTERNATIVES

1.8~~7~~.1 Alternatives Evaluated in the Program EIR

Four alternatives were evaluated in the Program EIR. The following provides a description of each alternative.

Alternative 1, No Project: CEQA requires the specific alternative of no project to be evaluated. A No Project Alternative consists of what would occur if the project was not approved; in this case, not adopting the ~~Draft~~ 2012 AQMP. The net effect of not adopting the ~~Draft~~ 2012 AQMP would be a continuation of implementing the 2007 AQMP.

Alternative 2, PM2.5 Attainment Plan Localized PM Control in Mira Loma Area: This alternative is similar to the currently proposed ~~Draft~~ 2012 AQMP with the following exception. Alternative 2 does not include Control Measure BCM-02. Instead, Alterative 2 includes the same episodic control measures that would apply only to the Mira Loma area as described in the June 28, 2012 NOP/IS. These control measures would be implemented sequentially and as needed to meet the 24-hour PM2.5 standard at the Mira Loma monitoring station.

Alternative 3, Greater Reliance on NOx Emissions Reductions: This alternative would rely to a greater extent on NOx emission reductions, primarily from on-road and off-road mobile sources to achieve the federal 24-hour PM2.5 standard.

Alternative 3 includes all of the same ozone control measures as the ~~Draft~~ 2012 AQMP, but Control Measures ONRD-03 and OFFRD-01 would be modified under Alternative 3 to accelerate implementation of CARB's on-road and off-road regulations, respectively.

Alternative 4, PM2.5 Emissions Reduction Strategies Only: This alternative is considered to be a legally viable alternative because the SCAQMD is only required to submit a PM2.5 plan demonstrating attainment of the 2006 24-hour PM2.5 National Ambient Air Quality Standard no later than three years from December 14, 2012, the effective date of designation of nonattainment of the federal 24-hour PM2.5 standard. However, there is no federal requirement to submit an ozone plan by the same date as the PM2.5 plan. Alternative 4 would only include Control Measures CMB-01, BCM-01, BCM-02, BCM-03, BCM-04, IND-01, EDU-01, and MCS-01, eschewing all the other CAA §182 (e)(5) control measures, but continue implementing the Ozone SIP portion of the 2007 AQMP.

1.8~~7~~.2 Alternatives Analysis Summary

Of the project Alternatives, Alternative 1 would generate the least amount or least severe environmental impacts compared to the 2012 AQMP. However, of the project alternatives it would achieve the fewest of the project objectives.

Alternative 2 would be expected to generate equivalent impacts to the 2012 AQMP in all environmental topic areas analyzed. It would achieve all of the project objectives, but would not achieve the objectives related to reducing PM2.5 emissions as well as the 2012 AQMP.

Alternative 3 has the potential to generate greater impacts than the 2012 AQMP because Alternative 3 ozone Control Measure ONRD-03 could result in approximately 5,000 additional medium-heavy-duty trucks complying with the year 2010 engine exhaust requirements for the years 2013 through 2017 (1,000 trucks per year, 250 trucks per year (1,250 total trucks) would comply with the 2010 on-road vehicle exhaust requirements using CNG engines and the rest would be diesel or diesel hybrid). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered vehicles from the year 2014 through 2017. To the extent that these ozone control measures contribute to environmental impacts, they would be greater than environmental impacts from the 2012 AQMP. Consequently, Alternative 3 does meet the requirement to reduce environmental impacts compared to the proposed project.

Alternative 4 would generate fewer environmental impacts or less severe impacts than the 2012 AQMP. It would achieve all but four of the project objectives (e.g., those related to continued progress towards attaining the ozone standards).

Based on the above information, the 2012 AQMP is the most effective project that provides the best balance in achieving all of the project objectives relative to environmental impacts generated.

TABLE 1-1

Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
AESTHETICS		
Potential visual impacts and impacts to scenic highways due to overhead power lines.	None required since no significant impacts were identified.	Impacts are expected to be less than significant.
AIR QUALITY		
Construction-related activities associated with installing or replacing equipment are expected to generate emissions from construction worker vehicles, trucks, and construction equipment. The secondary impacts associated with construction activities are potentially significant for CO and PM10 emissions.	Develop a Construction Emission Management Plan for the proposed project. The Plan shall include measures to minimize emissions from vehicles including, but not limited to consolidating truck deliveries, prohibiting truck idling in excess of five minutes, description of truck routing, description of deliveries including hours of delivery, description of entry/exit points, locations of parking, and construction schedule. At a minimum the Construction Emission Management Plan will include the following mitigation measures: 1) Prohibit construction equipment from idling longer than five minutes at construction sites; 2) Maintain construction equipment tuned up to manufacturer's recommended specifications that optimize emissions without nullifying engine warranties; 3) Electric welders shall be used in all construction areas that are demonstrated to be served by electricity; 4) Onsite electricity rather than temporary power generators shall be used in all construction areas that are demonstrated to be served by electricity; 5) Use cranes rated 200 hp or greater equipped with Tier 3 or equivalent engines; 6) For off-road construction equipment rated 50 to 200 hp that will be operating for eight hours or more, the project proponent shall use equipment rated 50 to 200 hp equipped with Tier 3 or equivalent engines; and 7) Suspend use of all construction activities that generate air pollutant emissions during first stage smog alerts.	The emissions associated with construction activities from the ~~proposed Draft~~ 2012 AQMP control measures were considered to be significant for CO and PM10 emissions.
Secondary impacts from increased electricity demand are less than significant.	None required since no significant impacts were identified.	Impacts are expected to be less than significant.

TABLE 1-1 (CONTINUED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
AIR QUALITY (cont.)		
Secondary impacts from control of stationary sources are less than significant.	None required since no significant impacts were identified.	Secondary air quality impacts from stationary sources are expected to be less than significant.
Secondary impacts from change in use of lower VOC materials are less than significant.	None required since no significant impacts were identified.	Secondary air quality impacts from use of lower VOC products are expected to be less than significant.
Secondary impacts from mobile sources are less than significant.	None required since no significant impacts were identified.	Secondary air quality impacts from mobile sources are expected to be less than significant.
Secondary impacts from miscellaneous sources are less than significant.	None required since no significant impacts were identified.	Secondary impacts from miscellaneous sources are expected to be less than significant.
The impacts associated with toxic air contaminants were determined to be less than significant.	None required since no significant impacts were identified.	Toxic air contaminant impacts are expected to be less than significant.
Implementation of the control measures in the ~~Draft~~ 2012 AQMP is expected to reduce emissions of compounds that contribute to global warming and ozone. GHG impacts are less than significant.	None required since no significant impacts were identified.	GHG emission impacts are expected to be less than significant.
ENERGY		
The increase in electricity associated with the ~~Draft~~ 2012 AQMP control strategies is expected to be significant.	Mitigation measures E-1 through E-7 have been identified which would encourage energy efficient equipment/vehicles, encourage increasing capacity of transmission lines, development of project electricity requirements, require energy analyses in environmental documentation, and identify measures to reduce peak energy demand.	Impacts on electricity demand are expected to remain significant following mitigation.
The natural gas impacts from the implementation of the ~~Draft~~ 2012 AQMP are expected to be significant.	Mitigation measures E-8 through E-12 have been identified which would promote energy efficiency and energy conservation, increasing the capacity of natural gas lines, development of project natural gas requirements, require energy analyses in environmental documentation, and identify measures to reduce peak energy demand.	Impacts on natural gas demand are expected to remain significant following mitigation.

TABLE 1-1 (CONTINUED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
ENERGY (cont.)		
Implementation of the 2012 AQMP is not expected to result in a significant increase on petroleum fuel use and impacts are less than significant.	None required since no significant impacts were identified.	Impacts on petroleum fuel use are expected to be less than significant.
Implementation of the 2012 AQMP is not expected to result in a significant increase on alternative transportation fuel use (e.g., natural gas and hydrogen) and impacts on alternative fuels are less than significant.	None required since no significant impacts were identified.	Impacts are expected to be less than significant.
HAZARDS AND HAZARDOUS MATERIALS		
The analysis indicates that the fire hazard impacts associated with reformulated coatings, solvents, adhesives, mold release and consumer products may are potentially significant.	Mitigation measures HZ-1 and HZ-2 would be implemented which would add consumer warning requirements for all flammable and extremely flammable products and require public education regarding the use of flammable materials.	Potential fire hazards are expected to be mitigated to less than significant.
The hazard impacts associated with the use of alternative fuels were determined to be less than significant for methanol, ethanol, CNG, LPG, biodiesel, hydrogen and electric/hybrids.	None required since no significant impacts were identified.	Hazard impacts for methanol, ethanol, CNG, LPG, biodiesel, hydrogen and electric/hybrids are expected to be less than significant.
The transportation hazard impacts associated with the use of LNG were determined to be significant.	Mitigation measures HZ-3 through HZ-6 would be implemented which would require the installation of secondary containment, valves that fail shut, emergency release valves, barriers to prevent physical damage to tanks, and require integrity testing to prevent failure.	Transportation hazards associated with LNG are expected to remain significant.
The use of ammonia in SCRs and SNCR would result in the increased transport of ammonia and potentially significant impacts in the event of a release.	The use of aqueous ammonia at concentrations less than 20 percent is recommended to minimize impacts.	The use of aqueous ammonia at concentrations less than 20 percent would reduce ammonia transport impacts to less than significant.

TABLE 1-1 (CONTINUED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
HAZARDS AND HAZARDOUS MATERIALS (cont.)		
The use of ammonia in SCRs and SNCR is considered to be potentially significant and could create significant impacts in the event of an onsite spill.	Mitigation measures HZ-7 though HZ-10 would be implemented which require the installation of safety devices (e.g., tank monitors, lead detection systems), secondary spill containment, and modifications to loading/unloading areas to minimize spills and assure any spills remain onsite.	The use of aqueous ammonia at concentrations less than 20 percent by volume in conjunction with additional mitigation measures are expected to reduce hazard impacts to less than significant.
The hazard impacts associated with fuel additives are expected to be less than significant since the use of fuel additives would require evaluation for their potential health and environmental impacts prior to approval and use.	None required since no significant impacts were identified.	Hazard impacts associated with fuel additives are expected to be less than significant.
The hazards pertaining to safety issues associated with start-up, shutdown, and turnaround procedures or from the increased use of catalyst are less than significant.	None required since no significant impacts were identified.	Hazard impacts associated with start-up, shutdown, and turnaround procedures and associated with the use of catalysts are expected to be less than significant.
HYDROLOGY AND WATER QUALITY		
Wastewater treatment facilities are expected to have sufficient capacity to handle the estimated increase in wastewater that could be generated from reformulation of products and use of air pollution control equipment (e.g., wet ESPs and WGSs). Therefore, no significant impacts associated with wastewater treatment or water quality is expected.	None required since no significant impacts were identified.	Wastewater treatment and water quality impacts are expected to be less than significant.
The use of alternative fuels is not expected to result in greater adverse water quality impacts than the use of regular diesel fuels and is, therefore, less than significant.	None required since no significant impacts were identified.	Alternative fuel impacts on water quality are expected to be less than significant.
No significant adverse water quality impacts are expected from the increased use of EV and hybrid vehicles.	None required since no significant impacts were identified.	Water quality impacts associated with the increased use of EV/hybrids vehicles are expected to be less than significant.

TABLE 1-1 (CONTINUED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
HYDROLOGY AND WATER QUALITY (cont.)		
Water demand associated with the manufacture and use of waterborne and add-on air pollution control technologies are potentially significant.	Mitigation measures HWQ-1 through HWQ-4 were imposed which include the preparation of updated Urban Water Management Plans; development of Water Supply Assessments on a project specific basis; and develop water conservation measures and encourage the use of recycled water.	Mitigation measures vary from jurisdiction to jurisdiction and water demand impacts may remain significant.
The use and application of SBS should be controlled and monitored to prevent water quality runoff and related water quality impacts. The use of SBS is expected to be less than significant.	None required since no significant impacts were identified.	Water quality impacts associated with the use of SBS are expected to be less than significant.
Potential spills associated with ammonia are expected to be contained on-site due to the requirement for secondary spill containment devices and berms. Therefore, potential ammonia spills are expected to be less than significant.	None required since no significant impacts were identified.	Water quality impacts associated with ammonia use are expected to be less than significant.
LAND USE AND PLANNING		
The ~~Draft~~2012 AQMP control measures are not expected to conflict with applicable land use plans, policies, or regulations or physically divide an established community. Therefore, no significant adverse land use impacts are expected.	None required since no significant impacts were identified.	Land use impacts are expected to be less than significant.

TABLE 1-1 (CONTINUED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
NOISE		
Noise and vibration impacts will be temporary in nature and related solely to construction activities, but could be significant.	Noise and vibration mitigation measures include NO-1 through NO-9 which would require site-specific construction noise reduction programs, measures to track noise complaints, use of noise barriers and other noise attenuation measures, use of engineers to estimate noise vibration levels required to avoid building impacts, compliance with noise ordinances and regulations, and completion of noise evaluations in environmental documents.	Noise impacts may remain significant during construction activities.
No modification to existing rail or truck traffic routes/corridor is expected; therefore, noise and vibration impacts associated with operational activities are expected to be less than significant.	None required since no significant impacts were identified.	Noise impacts during project operation are expected to be less than significant.
SOLID AND HAZARDOUS WASTE		
The increased use of EVs and hybrids are not expected to result in a significant increase in the illegal disposal of batteries. NiMH and Li-ion batteries more common with EVs and hybrids have a long battery life, are valuable, and usually have a monetary incentive associated with return of the battery to the manufacturer.	None required since no significant impacts were identified.	Waste impacts associated with increased use of EV/Hybrids are expected to be less than significant.
No significant solid and hazardous waste impacts were identified due to air pollution control technologies as part of the ~~Draft~~2012 AQMP.	None required since no significant impacts were identified.	Waste impacts associated with air pollution control technologies are expected to be less than significant.

TABLE 1-1 (CONCLUDED)
Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
TRANSPORTATION AND TRAFFIC		
Control measures that would require new equipment will generally require that it occur as the life of the old equipment is exhausted, be reused outside the district, or recycled. Therefore, no significant solid/hazardous waste impacts were identified due to implementation of the control measures.	None required since no significant impacts were identified.	Waste impacts associated with the retirement of old equipment are expected to be less than significant.
Construction-related traffic impacts associated with the installation of catenary overhead electrical lines and related facilities, although temporary in nature, could be significant.	Mitigation measures will need to be developed on a project-specific basis. The SCAQMD recommends that mitigation measure TT-1 be implemented for applicable projects that may impact roadways, which requires that a detailed traffic management plan should be developed for construction activities.	The mitigation measure is expected to reduce the traffic impacts during construction activities; however, construction traffic impacts are expected to remain significant
Adverse operational traffic impacts may also occur as overhead catenary electrical lines could require dedicated lanes.	Mitigation measures would need to be developed on a project-specific basis.	Operational traffic impacts are expected to remain significant.