CHAPTER 6

ALTERNATIVES

6.1 INTRODUCTION

This Final Program EIR provides a discussion of alternatives to the proposed project as required by CEQA. Pursuant to the CEQA Guidelines, alternatives should include realistic measures to attain the basic objectives of the proposed project but would avoid or substantially lessen any of the significant effects of the project, and provide means for evaluating the comparative merits of each alternative (CEQA Guidelines §15126.6 (a)). In addition, though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines §15126.6 (a)). The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines §15126.6 (f)(3)).

6.2 METHODOLOGY FOR DEVELOPING PROJECT ALTERNATIVES

The alternatives typically included in CEQA documents for proposed SCAQMD rules, regulations, or plans are developed by breaking down the project into distinct components (e.g., emission limits, compliance dates, applicability, exemptions, pollutant control strategies, etc.) and varying the specifics of one or more of the components. Different compliance approaches that generally achieve the objectives of the project may also be considered as project alternatives.

The overall control strategy for the 2012 AQMP is designed to meet applicable federal and state requirements, including attainment of ambient air quality standards. The focus of the 2012 AQMP is to demonstrate attainment of the 2006 24-hour PM2.5 national ambient air quality standard by the 2014 attainment date, as well as provide an update regarding ozone to ensure further implementation of measures [Clean Air Act §182 (e)(5)] to meet the federal and state 8-hour ozone standards. Therefore, 2012 AQMP serves as the official SIP submittal for the federal 2006 24-hour PM2.5 standard, for which U.S. EPA has established a due date of December 14, 2012. The 2012 AQMP includes a number of short-term stationary source control measures and §182 (e)(5) stationary and mobile sources, both on-road and off-road, control measures. The attainment demonstration for the new 8-hour ozone standard (75 ppb) will be addressed in a 2015 ozone plan.

The possible alternatives to the proposed 2012 AQMP are limited by the nature of the project. For example, the SCAQMD is required to prepare a PM2.5 AQMP that demonstrates attainment of the federal PM2.5 federal ambient air quality standard by 2014. To achieve the 2006 24-hour PM2.5 ambient air quality standard by 2014, the 2012 AQMP relies on a comprehensive and integrated control approach. Further, 2012 AQMP control measures are developed to achieve the maximum emission reduction potential that is technically feasible and cost-effective. Because, the 2012 AQMP includes all feasible control measures identified as part of the AQMP development process and control measures reflect the maximum emission reduction potential, it is difficult to develop alternatives that would still achieve the project objectives, including attaining the federal 24-hour PM2.5 standard, but are substantially different than the 2012 AQMP.

In spite of the limitations identified above with regard to developing project alternatives, similar to previous AQMP Program EIRs, alternatives to the 2012 AQMP focus on emphasizing different pollutant control strategies. For example, alternatives could rely more heavily on emission reductions from short-term stationary source control measures versus greater reliance on future §182 (e)(5) mobile source control measures. Ultimately, all project alternatives must demonstrated attainment of the federal 24-hour PM2.5 standard.

The shortest routes for attaining the federal 24-hour PM2.5 typically rely on controlling directly emitted PM2.5 or controlling PM2.5 precursor pollutants, especially NOx because it also contributes to the SCAQMD's efforts to attain the federal ozone standards. Some combination of strategies to control both PM2.5 and NOx is necessary because neither a PM2.5-heavy control approach nor a NOx-heavy control approach can attain the standards alone.

Development of the PM2.5 attainment control strategy relies on baseline emissions specified by the emissions inventory of all emissions sources in the district. As indicated in Subchapter 3-1 of this Final Program EIR, the federal CAA §172 (c)(3) requires all plan (AQMP) submittals to include a comprehensive, accurate, and current inventory of actual emissions from all sources of the relevant pollutant(s). To fulfill the intent of this requirement, the year 2008 was selected as the baseline year for analyzing the effectiveness of 2012 AQMP control measures in attaining the PM2.5 standard. Consistent with CAA §172 (c)(3) requirements, the baseline year for alternatives to the 2012 AQMP will also be year 2008.

Typically, the existing setting is established at the time the NOP/IS is circulated for public review, which was June 2012. This baseline is used for all environmental topics analyzed in this Final Program EIR except air quality. However, CEQA Guidelines §15125 (a) recognizes that a baseline may be established at times other than when the NOP/IS is circulated to the public by stating (emphasis added), "This environmental setting ***will normally*** constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." Therefore, consistent with CAA §172 (c)(3) requirements, the air quality baseline for the 2012 AQMP is the year 2008.

6.3 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines §15126.6 (c), a CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Section 15126.6 (c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: 1) failure to meet most of the basic project objectives; 2) infeasibility; or, 3) inability to avoid significant environmental impacts.

As noted in Section 6.2, the range of feasible alternatives to the 2012 AQMP is limited by the nature of the proposed project and associated legal requirements. Similarly, the range of alternatives considered, but rejected as infeasible is also relatively limited. The following

subsections identify two potential alternatives to the 2012 AQMP, but were rejected for the reasons explained in each subsection.

6.3.1 No Project Alternative – No Further Action

CEQA documents typically assume that the adoption of a no project alternative would result in no further action on the part of the project proponent or lead agency. For example, in the case of a proposed land use project such as a housing development, adopting the No Project Alternative terminates further consideration of that housing development or any housing development alternative identified in the associated CEQA document. In that case, the existing setting would typically remain unchanged.

The concept of taking no further action (and thereby leaving the existing setting intact) by adopting a No Project Alternative does not readily apply to an update of an already adopted and legally mandated plan such as the AQMP. Adopting a no project alternative for an update to the AQMP does not imply that no further action will be taken (e.g., halting implementation of the existing AQMP). The federal and state Clean Air Acts require the SCAQMD to revise and implement the AQMP in order to attain all state and national ambient air quality standards. A no further action no project alternative in the case of the AQMP is not a legally viable alternative. Consequently, the No Project Alternative presented in this Final Program EIR is the continued implementation of the 2007 AQMP. Although it is unclear whether or not continued implementation of the 2007 AQMP is a feasible alternative because the SCAQMD is required to submit to U.S. EPA a PM2.5 AQMP that demonstrates attainment of the 2006 24-hour PM2.5 national ambient air quality standard by December 14, 2012, as explained above. However, continued implementation of the 2007 AQMP as the No Project Alternative is consistent with CEQA Guidelines §15126.6 (e)(2) (italics added):

"The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, *as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services*…"

It should be noted that, except for air quality, there would be no further incremental impacts on the existing environment if no further action is taken. Although there are existing rules that may have future compliance dates, potential adverse impacts from these rules have already been evaluated in the Final Program EIR for the 2007 AQMP and subsequent rule-specific CEQA documents. Air quality would continue to improve to a certain extent, but it is unlikely that all state or federal ozone standards would be achieved as required by the federal and California CAAs. It is possible that the federal 24-hour PM2.5 standard may be achieved; however, it is unlikely that further progress would be made towards achieving the state PM2.5 standard as required by the California CAA.

6.3.2 More NOx Reductions Through Accelerated Penetration of Alternative Fuel Mobile Sources

This NOx heavy emission reduction alternative would have relied on accelerated penetration of alternative fuel on-road and off-road mobile sources. Specifically, this alternative would have required 50 percent of all heavy-duty on-road mobile sources subject to CARB's adopted Truck and Bus Regulation to meet the requirement of replacing heavy-duty on-road trucks and buses with trucks and buses that comply with the 2010 model year or newer final requirements by the year 2014. Similarly, this alternative would have required 50 percent of all off-road mobile sources subject to CARB's adopted off-road mobile sources regulations to meet the requirement of replacing heavy-duty off-road mobile sources that comply with Tier 4 or equivalent requirements by the year 2014.

Converting heavy-duty on-road mobile sources to year 2010 model year engines or off-road mobile sources to Tier 4 or equivalent standards has typically required incentive funding to offset the typically higher costs of the cleaner vehicles. Incentive funding sources include Carl Moyer or Proposition 1B funds. This NOx heavy emission reduction alternative is considered to be economically infeasible because insufficient funding would be available to meet the 50 percent penetration rate in the 2012 to 2014 timeframe.

6.3.3 Alternative Location

CEQA requires consideration of an alternative location alternative if significant effects of the project would be avoided or substantially lessened by putting the project in another location. Pursuant to CEQA Guidelines §15126.6 (f)(2)(B), if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location. The 2012 AQMP applies to the entire area of the SCAQMD's jurisdiction. The SCAQMD has no authority to adopt and enforce 2012 AQMP control measures in areas outside its jurisdiction. CEQA does not grant an agency new powers independent of the powers granted to the agency by other laws (CEQA Guidelines §15040 (b)). Therefore, an alternative locations alternative is not considered to be a feasible alternative

6.4 ALTERNATIVES TO THE 2012 AQMP

Because of the substantial emission reductions necessary to bring the region into attainment with the federal 24-hour PM2.5 standard, as well as the eight-hour ozone, the SCAQMD is relatively limited with regard to the number of potential alternatives to the 2012 AQMP. As a result, with the exception of the No Project Alternative, all project alternatives include the same short-term control measures to attain the federal 24-hour standard because of the requirement to attain the standard by 2014 and these measures would regulate or further regulate PM emission sources where emission reductions are feasible.

Although most of the project alternatives also include long-term measures, the primary difference between the various alternatives is the pollutant control strategies being

employed. The alternatives rely to a greater or lesser extent on PM control to attain the federal 24-hour PM2.5 standard or NOx control to, not only attain the federal 24-hour PM2.5 standard, but to demonstrate progress in attaining the federal ozone standards as well. Similarly, the pollutant control strategy of the alternative may determine the extent to which the SCAQMD and CARB will rely on specific emission source categories to obtain future emission reductions. This means that the SCAQMD and CARB may rely to a greater or lesser extent on emission reductions from some source categories (e.g., on- and off-road mobile sources), compared to other source categories. The following subsections provide a brief description of the alternatives.

6.4.1 Alternative 1 – No Project Alternative (Continued Implementation of the 2007 AQMP)

CEQA requires the specific alternative of no project to be evaluated. A No Project Alternative consists of what would occur if the proposed project was not approved; in this case, not adopting the 2012 AQMP. The net effect of not adopting the 2012 AQMP would be a continuation of the 2007 AQMP. This approach is consistent with CEQA Guidelines §15126.6 (e)(3)(A), which states: "When no project is the revision on an existing land use or regulatory plan, policy or ongoing operation, the 'no project' alternative will be the continuation of the existing plan, policy, or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan."

Between 2008 and 2011, twelve short-term control measures from the 2007 AQMP have been promulgated as rules or rule amendments by the SCAQMD. Promulgation of these 12 control measures has allowed the SCAQMD to achieve its stationary source emission reduction targets (see Table 1-2 in Chapter 1 of the 2012 AQMP). Similarly, since the 2007 AQMP was adopted, 2007 AQMP control measure commitments were adopted (either entirely or partially) by CARB (see Table 1-2 in Chapter 1 of the 2012 AQMP).

Based on the above information, it is assumed for this alternative that both the SCAQMD and CARB have achieved their 2007 AQMP short-term emission reduction targets. Therefore, the 2007 AQMP does not contain any remaining short-term stationary source or mobile source control measures (Table 6-1). Although there were a couple of short-term control measures remaining (e.g., BCM-05 - Emission Reductions from Under-fired Charbroilers, MCS-06 - Improved Start-up and Shutdown, and Turnaround Procedures, etc.), there are no emission reductions associated with them or they are, or will be under evaluation to determine the feasibility of potential emission reductions in the future. As a result, all remaining necessary emission reductions from continuing to implement the 2007 AQMP would be obtained through implementing CAA §182 (e)(5) ("black box") measures. Table 6-1 summarizes the components of Alternative 1 and associated assumptions.

TABLE 6-1

2012 AQMP and Alternatives

PLAN TYPE	ATTAINMENT YEAR	STATIONARY SOURCE CMS	ON-ROAD MOBILE SOURCE CMS	OFF-ROAD MOBILE SOURCE CMS	COMMENT
Proposed Project – 2012 AQMP					
1. PM2.5 Attainment Plan (Includes Ozone Attainment Control Measures) 2. Federal 1-hour Ozone Attainment Demonstration (Includes 7 2007 AQMP Mobile Source CMs) 3. VMT Offset Requirement Demonstration	1. PM2.5 – 2014 2. 1-hour Ozone Demonstration – 2022 3. 8-hour Ozone – 2023	8 categories: 1) PM Sources (4 CMs); 2) Combustion (4 CMs); 3) Coatings & Solvents (4 CMs); 4) Petroleum Operations & Fugitive VOC (3 CMs); 5) Multiple Component (3 CMs); 6) Indirect (1 CM); 7) Incentive (2 CMs); & 8) Educational (1CM)	5 CMs: 1) Accelerated Penetration – light, medium, & medium HD vehicles (2 CMS); 2) Accelerated retirement of – light, medium, & HD vehicles (2 CMS); & 3) Emission reductions from near-dock railyard drayage trucks (1 CM)	5 CMS: 1) Emission reductions from construction equipment (1CM) 2) Emission reductions from freight & passenger locomotives (2 CMs) 3) Emission reductions from marine vessels (2 CMs) 7 ADV CMs for future studies to further reduce emission from off-road sources	Includes episodic CMs: BCM-01 Further Emissions Reductions from Wood Burning Devices (Rule 445) & BCM-02 Further Reductions from Open Burning (Rule 444. ADV CMs are CAA §182 (e)(5) black box measures.

TABLE 6-1 (Continued)

2012 AQMP and Alternatives

PLAN TYPE	ATTAINMENT YEAR	STATIONARY SOURCE CMS	ON-ROAD MOBILE SOURCE CMS	OFF-ROAD MOBILE SOURCE CMS	COMMENT
Alternative 1 – No Project Alternative					
Continue Implementing 2007 AQMP: PM2.5 & 8-hour Ozone Attainment Plans	PM2.5 – 2019 Ozone – 2023	Assumes no remaining short-term CMs	Assumes no remaining short-term CMs	Assumes no remaining short-term CMs	SCAQMD & CARB have met their emission reduction obligations, so no other short-term CMs adopted. It is assumed all remaining necessary emission reductions obtained through adopting CAA §182 (e)(5) "black box" CMs, see Table 6-2.
Alternative 2 – PM2.5 Attainment Plan Localized PM Control in Mira Loma Area					
PM2.5 Attainment Plan (Includes Ozone Attainment Control Measures)	PM2.5 – 2017 Ozone – 2023	Same as 2012 AQMP except includes: 1) Multiple Component – 3 new localized episodic CMs for Mira Loma: **CMALT-2A** Reductions From Mobile Sources Serving Warehouse And Distribution Centers; **CMALT-2B** Residential Wood Burning Devices; & **CMALT-2C** Ammonia Reductions from Livestock Waste 2) Excludes **BCM-02** Open burning	Same as 2012 AQMP	Same as 2012 AQMP	Excludes **BCM-02** Further Reductions from Open Burning, (Rule 444). MCS CMs are episodic & would apply only to the Mira Loma area. This alternative was originally the 2012 AQMP project in the June 28, 2012 NOP/IS. Includes CAA §182 (e)(5) "black box" CMs

TABLE 6-1 (Continued)

2012 AQMP and Alternatives

PLAN TYPE	ATTAINMENT YEAR	STATIONARY SOURCE CMS	ON-ROAD MOBILE SOURCE CMS	OFF-ROAD MOBILE SOURCE CMS	COMMENT
Alternative 3 – Greater Reliance on NOx Emissions Reductions					
PM2.5 Attainment Plan (Includes Ozone Attainment Control Measures)	PM2.5 – 2017 Ozone – 2023	Same as 2012 AQMP except excludes: **BCM-01** Further Emissions Reductions from Wood Burning Devices, (Rule 445)	Same as 2012 AQMP except includes: **ONRD-03** Accelerated implementation of CARB's On-road Truck & Bus Regulation[a] from adoption date of 2008. Double CARB's assumed 2017 penetration rate of fleet to new 2010 model–year engines (assumes 25% of the total fleet go to CNG & the rest go to compliant diesel engines)	Same as 2012 AQMP except includes: **OFFRD-01** Accelerated implementation of CARB's Off-road Vehicle Regulation[b] from adoption date of 2007. Double CARB's assumed 2017 turnover rate of the fleet to cleaner engines or comparable.	Note: **BCM-02** Further Reductions from Open Burning, is included in this alternative. Includes CAA §182 (e)(5) "black box" CMs.

[a] Can be found at: http://www.arb.ca.gov/msprog/onroadhd/onroadhd.htm

[b] Can be found at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm

TABLE 6-1 (Concluded)

2012 AQMP and Alternatives

PLAN TYPE	ATTAINMENT YEAR	STATIONARY SOURCE CMS	ON-ROAD MOBILE SOURCE CMS	OFF-ROAD MOBILE SOURCE CMS	COMMENT
Alternative 4 – PM2.5 Emissions Reduction Strategies Only					
PM2.5 Control Measures Only, No Ozone Control Measures	PM2.5 – 2014	Same as 2012 AQMP 5 categories: 1) PM Sources (4 CMs); 2) Combustion (1 CM); 3) Multiple Component (1 CM); 4) Indirect (1 CM); 5) Educational (1 CM)	None	None	1. Does not include CAA §182 (e)(5) "black box" measures. 2. Includes implementing all remaining 2007 AQMP ozone control measures.

Table 6-2 shows the black box measure strategies from the 2007 AQMP. Because all control measures in Table 6-2 regulate mobile sources or the VOC content in consumer products, they are all considered to be ozone reduction control measures. The only exceptions to this assumption are the renewable energy and AB32 implementation control measures, which primarily address GHG emissions. Otherwise, there are no control measures in Alternative 1 that specifically address reducing PM2.5 emissions.

Although Table 6-2 shows the 2007 AQMP black box measures and also shows the §182 (e)(5) control measures from the 2012 AQMP that affect the same emissions sources, this does not imply that the 2007 AQMP measures analyzed in this Final Program EIR will be updated to conform to the 2012 AQMP control measures. The descriptions of the black box control measures from the 2007 AQMP analyzed here are exactly the same as their descriptions in the 2007 AQMP.

TABLE 6-2

Long-Term (Black Box) Control Measures from the 2007 AQMP

SOURCE CATEGORY	METHOD OF EMISSIONS CONTROL	2012 AQMP CONTROL MEASURES AFFECTING SAME SOURCE
Light Duty Vehicles (SCLTM-01A)	Extensive retirement of high-emitting vehicles and accelerated penetration of ATPZEVs and ZEVs	ONRD-01 & ADV-01
On-Road Heavy Duty Vehicles (SCLTM-01B)	• Expanded modernization and retrofit of heavy-duty trucks and buses • Expanded inspection and maintenance program • Advanced near-zero and zero-emitting cargo transportation technologies	ONRD-03, ONRD-05 & ADV-06
Off-Road Vehicles (SCLTM-02)	Expanded modernization and retrofit of off-road equipment	OFFRD-01 & ADV-06
Consumer Products (SCLTM-03)	Ultra Low-VOC formulations; Reactivity-based controls	CTS-04
Fuels	More stringent gasoline and diesel specifications; Extensive use of diesel alternatives	No update [a]
Marine Vessels	More stringent emission standards and programs for new and existing ocean-going vessels and harbor craft	IND-01, OFFRD-05 & ADV-05
Locomotives	Advanced near-zero and zero emitting cargo transportation technologies	OFFRD-02 & ADV-02

TABLE 6-2 (CONCLUDED)

Long-Term (Black Box) Control Measures from the 2007 AQMP

SOURCE CATEGORY	METHOD OF EMISSIONS CONTROL	2012 AQMP CONTROL MEASURES AFFECTING SAME SOURCE
Pleasure Craft	Accelerated replacement and retrofit of high-emitting engines	No update [a]
Aircraft	More stringent emission standards for jet aircraft (engine standards, clean fuels, retrofit controls); Airport bubble	ADV-07
Renewable Energy	Accelerated use of renewable energy and development of hydrogen technology and infrastructure	No update [a]
AB32 Implementation	Concurrent criteria pollutant reduction technologies	No update [a]

[a] No update means that the control measures have not been updated as part of the 2012 AQMP, which primarily addresses attaining the federal 24-hour PM2.5 standard, but also includes a federal one-hour ozone attainment demonstration.

The No Project Alternative analyzed here will take into account the most current air quality setting (2008) and will include updated and refined control measures, but no new control measures (Table 6-2).

6.4.2 Alternative 2 – PM2.5 Attainment Plan Localized PM Control in Mira Loma Area

Alternative 2 is the 2012 AQMP project that was included in the 8/21/12 NOP/IS. This alternative is similar to the currently proposed 2012 AQMP with the following exceptions. Alternative 2 does not include Control Measure BCM-02 – Further Emission reductions from open burning because this measure was not included as part of the 2012 AQMP project description in the 8/21/12 NOP/IS. Alternative 2 includes the same episodic control measures that would apply only to the Mira Loma area and described in the June 28, 2012 NOP/IS. The episodic control measures for the Mira Loma area, shown in Figure 6-1, are described in the following paragraphs.

Control Measure MCS-04 contains three sub-control measures, two PM2.5 control measures and one ozone control measure, targeting specific sources around Mira Loma (approximately within a 10-mile radial), including mobile sources serving warehouse and distribution centers, residential wood burning devices (e.g., fireplaces and wood stoves), and livestock waste. Air quality data through 2011 show that the Mira Loma monitoring station in western Riverside County is the only monitoring station violating the federal 24-hour PM2.5 standard. Emissions sources in the Mira Loma area that contribute to violations of the federal 24-hour PM2.5 standard include: 1) local PM emissions from the large concentration of warehouses that attract heavy-duty diesel haul trucks; and 2) transport of

ammonia, a PM precursor, from dairies located downwind of the Mira Loma area (Figure 6-1). Therefore, the purpose of the sub-control measures under MCS-04 is to achieve a 1.0 µg/m3 PM2.5 air quality improvement (based on the 24-hour design value) at the Mira Loma station through targeted reductions of direct PM and NOx emissions from various sources in the areas around the monitoring station.

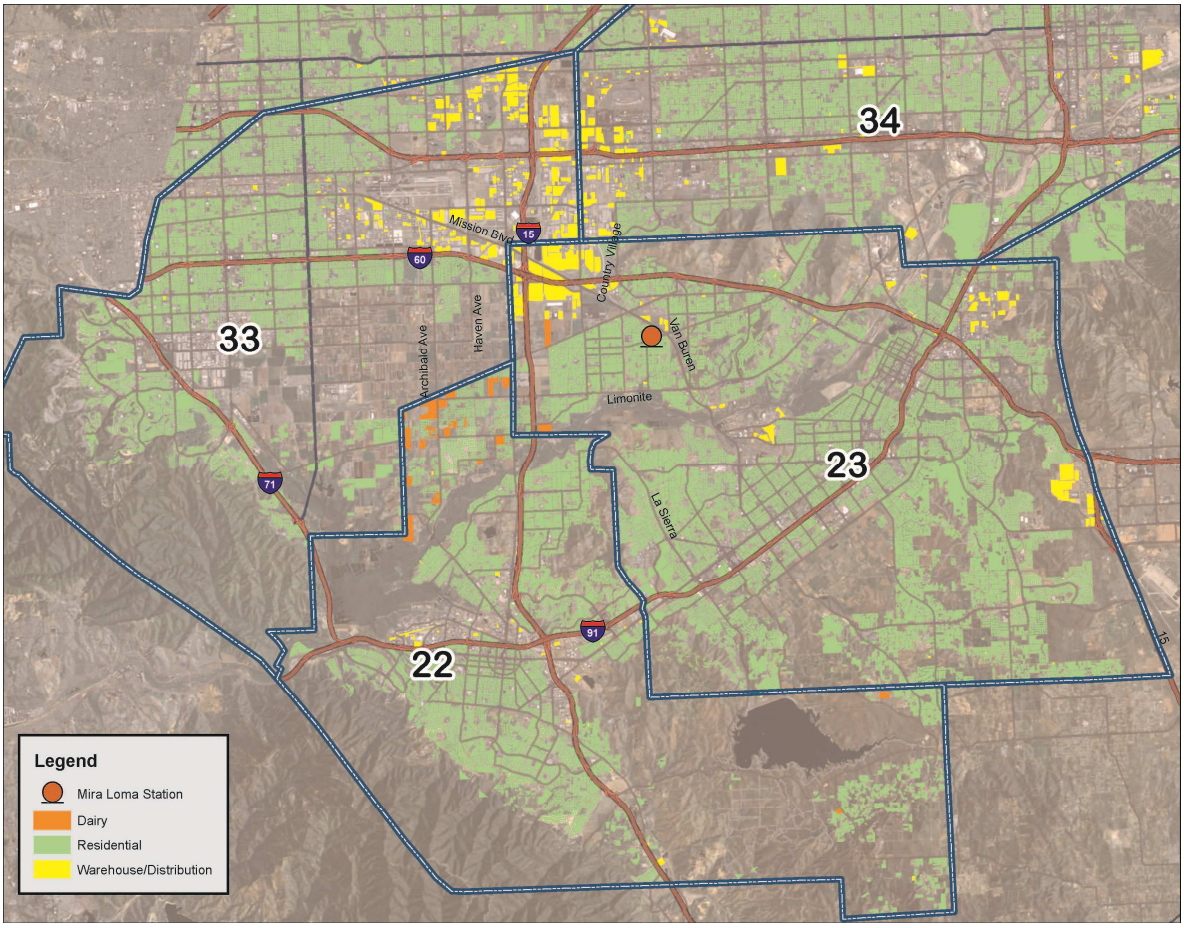

FIGURE 6-1

PM2.5 Emission Sources in the Mira Loma Area
(Numbers Represent Source Receptor Areas)

These control measures would be implemented sequentially and as needed to meet the 24-hour PM2.5 standard at the Mira Loma monitoring station. The mobile source control measure would be implemented initially, followed by the wood burning devices control measure. In the event ambient data indicate the 24-hour PM2.5 standard continues to be exceeded in Mira Loma in 2014 (single year, 98th percentile), the livestock measure would then be implemented in 2015 specifically applicable to dairies. If the 24-hour PM2.5 standard is not exceeded, each subsequent year would then be similarly assessed. U.S. EPA has suggested that such localized, and in some cases episodic or seasonal controls can be a very cost effective strategy for achieving the NAAQSs.

The specific sub-control measures identified in the 6/28/12 NOP/IS under MCS-04 were labeled as Control Measures MCS-04A, MCS-04B, and MCS-04C. They are relabeled to avoid confusion with the 2012 AQMP and are summarized in the following paragraphs.

CMALT-2A (*formerly MCS-04A and merged into ONRD-04 of the 2012 AQMP*) Further Emission Reductions From Mobile Sources Serving Warehouse And Distribution Centers Located Around The Mira Loma Region [NOx, PM]: Over the past decade, warehouse and distribution centers have been steadily increasing in size and number throughout the region. The greatest growth in warehouses/distribution centers has been in the Riverside area, especially the Mira Loma area (Figure 6-1), and San Bernardino areas. According to SCAG, by 2035 over one billion square feet of warehousing will be needed in the southern California area to support goods movement activities (SCAG, 2010).

Distribution centers and/or warehouses are facilities that serve as a distribution point for the transfer of goods. Such facilities include cold storage warehouses, goods transfer facilities, and transloading facilities, where imported goods are sorted, tagged, repackaged and prepared for retail distributions. These operations involve trucks, trailers, shipping containers, and other equipment with diesel engines. A warehouse/distribution center can be comprised of multiple centers or warehouse/distribution centers within an area. The size can range from 100,000 square feet to well over one million square feet. Depending on the size and type, a warehouse/distribution center may have hundreds of diesel trucks per day that deliver, load, and/or unload goods, generally operating seven days per week. To the extent that these trucks are transporting perishable goods, they are equipped with diesel-powered transport refrigeration units (TRUs) or TRU generator sets. The activities associated with delivering, storing, and loading freight produces NOx and PM emissions, including diesel particulate matter (DPM).

This sub-control would be a voluntary incentive program with the intent of reducing emission from older, pre-2010 heavy-duty vehicles beyond the emission reductions targeted in CARB's Truck and Bus Regulation. In addition, the proposed action would direct a portion of available public funding to assist in replacing older diesel trucks serving warehouse and distribution centers to a truck with an engine meeting on-road heavy-duty exhaust emission standards by 2015. The incentive program would place the highest priority on on-road vehicles that provide at least 75 percent of their service to warehouse and distribution centers in the Mira Loma region and have gross vehicle weight ratings of 26,001 lbs or greater.

Sub-Control Measure MCS-04 would only implemented if the federal 24-hour PM2.5 standard is exceeded. If needed to demonstrate attainment of the 24-hour PM2.5 standard at the Mira Loma monitoring station, Sub-Control Measure MCS-04 would be implemented first of the three sub-control measures. If the 24-hour PM2.5 standard is not exceeded in the Mira Loma area in 2014 (single year, 98th percentile), PM2.5 concentrations in each subsequent year would then be similarly assessed for any exceedances of the federal 24-hour PM2.5 standard.

CMALT-2B (*formerly 2007 AQMP Control Measure BCM-03; MCS-04B in the 6/28/12 NOP/IS; and is BCM-01 in the 2012 AQMP) Further Reductions from Residential Wood Burning Devices in Mira Loma Region)* [PM2.5] SCAQMD Rule 445 – Wood Burning Devices, was adopted in 2008 and prohibits the burning of any product not intended for use as a fuel (e.g., trash) in a wood burning device and requires commercial firewood facilities to only sell seasoned firewood (20 percent or less moisture content) from July through February. Rule 445 also establishes a mandatory wood burning curtailment program that extends from November 1 through the end of February each winter season. During a wood burning curtailment period, the public is required to refrain from both indoor and outdoor solid fuel burning in specific areas where PM2.5 air quality is forecast to exceed 35 $\mu g/m^3$ (federal 24-hour standard).

Under Sub-Control Measure CMALT-2B the current mandatory wood burning curtailment threshold would be lowered from 35 $\mu g/m^3$ to a more conservative 30 $\mu g/m^3$. This means that a mandatory wood burning curtailment would be implemented in the Mira Loma area when a PM2.5 level of greater than 30 $\mu g/m^3$ is forecast at monitoring stations in the Mira Loma area at any monitoring station at which the design value has exceeded the current PM2.5 24-hour standard of 35 $\mu g/m^3$ for either of the two previous years. The design value is the three-year average of the annual 98th percentile of monitored ambient PM2.5 data.

It is expected that, initially, the wood burning curtailment program would continue to target winter season emissions. In addition, the feasibility of an enhanced program to incentivize the purchase of gaseous fueled devices would be explored relative to areas in Mira Loma that are affected by high PM2.5 concentrations. For example, an enhanced incentive program for the Mira Loma community could result in the installation of as many as 2,000 units in existing residential homes.

It is expected that this sub-control measure would be implemented only if the federal PM2.5 standard continues to be exceeded in the Mira Loma area. In this situation, Sub-Control Measure CMALT-2A would be implemented first to address exceedances of the federal PM2.5 standard. If, after implementing Sub-Control Measure CMALT-2A, exceedances continue and data indicate the 24-hour PM2.5 standard is exceeded in Mira Loma in 2014 (single year, 98th percentile), only then would Sub-Control Measure CMALT-2B be implemented. If the 24-hour PM2.5 standard is not exceeded in the Mira Loma area in 2014 (single year, 98th percentile), PM2.5 concentrations in each subsequent year would then be similarly assessed for any exceedances of the federal 24-hour PM2.5 standard.

CMALT-2C (*formerly 2007 AQMP Control Measure MCS-05; MCS-04C in the 6/28/12 NOP/IS and BCM-04 in the 2012 AQMP*) Further Ammonia Reductions from Livestock Waste in Mira Loma Region [Ammonia] Ammonia contributes to formation of PM2.5 and mixes with transport emissions, particularly to form aerosol ammonium nitrate and ammonium sulfate. Livestock waste produces appreciable amounts of ammonia emissions. With the approval of Proposition 2 (known as cage-free proposition that passed in 2008), economic, and product demand climate, the livestock industry in the South Coast jurisdiction is not considered a growth industry

into the future. Currently, however, there continues to be large concentrations of dairies downwind of the Mira Loma area (Figure 6-1), which contributes to exceedances of the federal PM2.5 standard.

Like 2012 AQMP Control Measure BCM-04, the purpose of the sub-control measure is to reduce ammonia emissions from livestock operations with emphasis on dairies in the Mira Loma area. This control measure would reduce the pH level in manure through the application of acidulant additives (acidifier) as mitigation for ammonia. The acidifier sodium bisulfate (SBS) is being considered for use in animal housing areas where high concentrations of fresh manure are. Research indicates best results with the use of SBS on localized "hot spots." SBS can also be applied to manure stock piles, high manure concentrations at fence lines, and when scraping manure to reduce ammonia spiking from the leftover remnants of manure and urine. Implementing this measure would become effective in the event ambient data indicates the 24-hour PM2.5 standard is exceeded in Mira Loma in 2014 (single year, 98th percentile). Before implementing Sub-Control Measure CMALT-2C, Sub-Control Measures CMALT-2A and MCS-04 B would be implemented. The livestock measure would then be implemented in 2015, specifically applicable to dairies. If not exceeded, each subsequent year would then be similarly assessed. In the interim, a pilot program will be conducted to further evaluate the application of SBS at local dairies so as to evaluate the direct technical and economic feasibility of application.

6.4.3 Alternative 3 – Greater Reliance on NOx Emissions Reductions

Alternative 3 would rely to a greater extent on NOx emission reductions, primarily from on- and off-road mobile sources as described in the following paragraphs, to achieve the federal 24-hour PM2.5 standard. Greater reliance on NOx emission reductions is considered a viable alternative because NOx is not only a PM2.5 precursor, it is also an ozone precursor, so this alternative would also be consistent with the SCAQMD's efforts to continue making expeditious progress in attaining the federal one-hour and eight-hour ozone standards.

Because this alternative relies more heavily on NOx emission reductions to attain the federal 24-hour PM2.5 standard, it does not include Control Measure BCM-01 - Further Emissions Reductions from Wood Burning Devices. Although direct PM2.5 emission reductions are more effective than NOx in reducing PM2.5 concentrations, early and greater reliance on Basin-wide NOx emission reductions from on- and off-road mobile sources would not only assist with attaining the PM2.5 standard, they would also contribute to making greater progress in attaining the one-hour and eight-hour ozone standards than might otherwise be the case. Otherwise Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP.

Generally, Alternative 3 includes all of the same ozone control measures as the 2012 AQMP, which includes stationary source control measures and CAA §182 (e)(5) stationary source, on-road mobile source, off-road mobile source, and advanced . Two ozone Control Measures, ONRD-03 and OFFRD-01, would be modified under Alternative 3 as explained in the following paragraphs.

Control Measure ONRD-03 would be modified to accelerate implementation of CARB's on-road truck and bus regulation, which was originally adopted December 12, 2008. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Heavier trucks must be retrofitted with PM filters beginning January 1, 2012, and older trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The CARB regulation applies to nearly all privately- and federally-owned diesel fueled trucks and buses and privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. Small fleets with three or fewer diesel trucks can delay compliance and there are a number of extensions for low-mileage construction trucks, early PM filter retrofits, adding cleaner vehicles, and other situations. Privately and publicly owned school buses have different requirements.

Under Alternative 3 and ozone Control Measure ONRD-03, the rate of compliance with the statewide on-road truck and bus regulation would double by the year 2017 compared to the estimated compliance provided by CARB in the existing regulation for year 2017. Compliance with the increased penetration rate would be with engines that meet 2010 exhaust emission standards. Because there is more than one engine type that complies with the year 2010 engine exhaust requirements, it is unknown what the exact breakdown of compliant engine types will be in operation. Therefore, under this alternative it is assumed that 25 percent of the additional vehicles complying with the year 2010 engine exhaust standards would comply using CNG engines and the remainder would comply using diesel engines.

SCAQMD staff estimates that Alternative 3 could result in approximately 5,000 additional medium-heavy-duty trucks (14,000 to 26,000 pounds gross vehicle weight) complying with the year 2010 engine exhaust requirements for the years 2013 through 2017. This means that over the five years 2013 through 2017, 1,000 additional medium-heavy-duty trucks would comply with the year 2012 engine exhaust requirements. Consistent with the above assumption, approximately 250 of these medium-heavy-duty trucks would comply using CNG engines, while the remaining 750 would be compliant diesel or diesel hybrid trucks.

Finally, Alternative 3 ozone Control Measure OFFRD-01 would require accelerated implementation of CARB's off-road diesel vehicle regulation, which was originally adopted July 26, 2007. The overall purpose of the off-road regulation is to reduce NOx and PM emission from off-road diesel vehicles operating within California through increased turnover of older higher emitting vehicles to newer cleaner ones. The regulation applies to self-propelled diesel-fueled vehicles in California (except for agricultural or personal use, or for use at ports or intermodal railyards) with engines with a maximum rating of 25 horsepower or greater. The requirements and compliance dates of the Off-Road regulation vary by fleet size. To determine the size of their fleets, fleet operators must add up all of the off-road horsepower (hp) under common ownership or control in the fleet. For example, a small fleet would be comprised of a fleet with a total horsepower rating of less than or equal to 2,500 hp; a medium fleet would be comprised of a fleet with a total horsepower rating of 2,501 to 5,000 hp; and a large fleet would be comprised of a fleet with a total horsepower rating of over 5,000 hp (all state and federal fleets would be classified as large fleets

regardless of hp rating). Large, medium and small fleets must begin complying with regulation requirements by the beginning of 2014, 2017, and 2019 respectively.

Alternative 3 ozone Control Measure OFFRD-01 would require CARB to amend the off-road vehicle regulation to require doubling the implementation rate of the regulation such that the emission reductions expected by 2021 (the 8th year of compliance) would be realized by the year 2017. SCAQMD staff estimates that doubling the implementation rate of CARB's off-road vehicle regulation would result in approximately 19,344 additional off-road engine repowers or vehicle replacements over the years 2014 to 2017 (Table 6-3). The reason that the accelerated regulation affects more than three times the number of vehicles, instead of simply doubling the number is that the regulation was designed to regulate more vehicles in the later years (the vehicle turnover percentage rises from 8 percent to 10 percent in 2018 and the small fleets need to comply beginning in 2019).

TABLE 6-3

Number of Additional Off-Road Vehicles Affected by Alternative 3

YEAR	CURRENT RULE	ACCELERATED RULE	# OF ADDITIONAL VEHICLES
2014	2,447	5,500	3,053
2015	3,186	5,164	1,978
2016	1,982	10,087	8,105
2017	3,536	9,742	6,206
Total	11,150	30,494	19,344

6.4.4 Alternative 4 – PM2.5 Emissions Reduction Strategies Only

As requested by the public during the public comment period for the June 28, 2012 NOP/IS, the SCAQMD has incorporated a PM2.5 reduction strategies only alternative. Alternative 4 is considered to be a legally viable alternative because the SCAQMD is only required to submit PM2.5 plan demonstrating attainment of the 2006 24-hour PM2.5 National Ambient Air Quality Standard no later than three years from the effective date of designation of nonattainment of the federal 24-hour PM2.5 standard, December 14, 2012. However, there is no federal requirement to submit an ozone plan by the same date as the PM2.5 plan, December 14, 2012.

Alternative 4 would only include the control measures in Table 6-4. None of the remaining CAA §182 (e)(5) control measures, which include all remaining stationary source control measures (see Table 4-3, 2012 AQMP) and all on-road, off-road, and ADV control measures (see Table 4-6, 2012 AQMP) would be included in Alternative 4.

Creating a PM2.5 reduction strategies only alternative means that the Ozone SIP portion of the 2007 AQMP would remain in effect. This means that the CAA §182 (e)(5) black box measures shown in Table 6-2 would continue to be considered for promulgation into rules or

regulations in the future. Consequently the environmental analysis for this alternative would include potentially significant adverse environmental impacts from the measures listed in Tables 6-2 and 6-4.

TABLE 6-4

List of SCAQMD's Adoption/Implementation Dates and Estimated Emission Reductions from Short-Term PM2.5 Control Measures

NUMBER	TITLE	ADOPTION	IMPLEMENTATION PERIOD	REDUCTION (TPD)
CMB-01	Further NOx Reductions from RECLAIM [NOx] –*Phase I*	2013	2014	2-3
BCM-01	Further Reductions from Residential Wood Burning Devices [PM2.5]	2013	2013-2014	7.1[a]
BCM-02	Further Reductions from Open Burning [PM2.5]	2013	2013-2014	4.6 [b]
BCM-03 (*formerly BCM-05*)	Emission Reductions from Under-Fired Charbroilers [PM2.5]	Phase I – 2013 (*Tech Assessment*) Phase II - TBD	TBD	1 [c]
BCM-04	Further Ammonia Reductions from Livestock Waste [NH3]	Phase I – 2013-2014 (*Tech Assessment*) Phase II - TBD	TBD	TBD [d]
IND -01 (*formerly MOB-03*)	Backstop Measures for Indirect Sources of Emissions from Ports and Port-Related Sources [NOx, SOx, PM2.5]	2013	12 months after trigger	N/A[e]
EDU-01 (*formerly MCS-02, MCS-03*)	Further Criteria Pollutant Reductions from Education, Outreach and Incentives [All Pollutants]	Ongoing	Ongoing	N/A[e]
MCS-01 (*formerly MCS-07)*	Application of All Feasible Measures Assessment [All Pollutants]	Ongoing	Ongoing	TBD [d]

Source: Table 4-2, 2012 Air Quality Management Plan

a. Winter average day reductions based on episodic conditions and 75 percent compliance rate.
b. Reductions based on episodic day conditions.
c. Will submit into SIP once technically feasible and cost effective options are confirmed.
d. TBD means reductions to be determined once the technical assessment is complete, and inventory and control approach are identified.
e. N/A means reductions that cannot be quantified due to the nature of the measure (e.g., outreach, incentive programs) or if the measure is designed to ensure reductions that have been assumed to occur will in fact occur.

6.5 ALTERNATIVES ANALYSIS

The following subsections include the same environmental topic areas evaluated for the proposed 2012 AQMP. Under each environmental topic area, impacts and significance conclusions are summarized for the proposed 2012 AQMP. In addition, potential impacts generated by each alternative to that environmental topic are described, a significance determination is made for the alternative, and environmental impacts from each alternative are compared to the environmental impacts identified for the proposed project.

6.5.1 Aesthetics

The potential direct and indirect aesthetics impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect aesthetics impacts from each alternative relative to the 2012 AQMP.

6.5.1.1 Proposed Project

Potential direct and indirect aesthetics impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis of potential aesthetics impacts from implementing the 2012 AQMP, refer to Subchapter 4.1 – Aesthetics.

6.5.1.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.1 indicated that no 2012 AQMP PM2.5 control measures were identified that have the potential to significantly adversely affect aesthetics resources. Therefore, potential impacts to aesthetics resources are concluded to be less than significant.

6.5.1.1.2 Ozone Control Measures

The analysis in Subchapter 4.1 identified the following 2012 AQMP ozone control measures as having the potential to create significant adverse aesthetics impacts, including visual impacts and impacts to scenic highways, ozone Control Measures ONRD-05, ADV-01, and ADV-2. These control measures identify "wayside" power (such as electricity from overhead wires) as one of the zero emission technologies that could be used to reduce emissions from heavy-duty trucks and locomotives. Wayside power technologies include overhead catenary lines, where power is delivered from the electrical grid through the overhead wire to a pantograph on the vehicle itself. Catenary systems are well-established and efficient in light-rail applications, trolley cars and buses, and even mining trucks.

Control Measure ADV-01 indicates that the I-710 corridor was selected as high priority for introduction of zero-emission technology[1]. The 2012-2035 RTP/SCS also designates a route

[1] Los Angeles County Metropolitan Transportation Authority, *Alternative Goods Movement Technology Analysis-Initial Feasibility Study Report, Final Report: I-710 Corridor Project EIR/EIS*. Prepared by URS. January 6, 2009.

along the State Route 60 freeway as an east-west freight corridor[2]. Both of these corridors are currently heavily used freight corridors. In addition, there is currently a pilot project under consideration to install catenary lines at one of two sites, a site along the Terminal Island Freeway and on Navy Way at the Port of Los Angeles. Further, the most likely areas affected by these control measures are likely to be within five miles of the San Pedro Bay Ports complex because the heavy-duty truck measures affect near-dock truck transport. Finally, the I-710 freeway, State Route 60, and the roadways that may be chosen for the pilot project are not identified as scenic highways or eligible to be classified as scenic roadways nor are there any scenic highways or highways eligible for state scenic highway status.

6.5.1.1.3 Project-specific and Cumulative Impacts Conclusion

Overall, it was concluded in Subchapter 4.1 that 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, project-specific aesthetics impacts associated with the 2012 AQMP are less than significant.

Since, anticipated project-specific aesthetics impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific aesthetics impacts from the 2012 AQMP were evaluated in connection with aesthetic impacts from SCAG's 2012-2035 RTP/SCS. Further, it was concluded that aesthetics impacts from the 2012 AQMP would not contribute to significant adverse cumulative aesthetics impacts from the 2012-2035 RTP/SCS. Since aesthetics impacts from the 2012 AQMP are not cumulatively considerable and don't contribute to cumulative impacts generated by the 2012-2035 RTP/SCS, cumulative aesthetics impacts from the 2012 AQMP are not significant.

6.5.1.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR for the 2012 AQMP, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, the aesthetics impacts analysis for Alternative 1 will focus only on potential aesthetics impacts identified for the black box measures. Potential aesthetics impacts from implementing Alternative 1 are described in the Subsections 6.5.1.2.2 and 6.5.1.2.3.

[2] Los Angeles County Metropolitan Transportation Authority, *Alternative Goods Movement Technology Analysis-Initial Feasibility Study Report, Final Report: I-710 Corridor Project EIR/EIS*. Prepared by URS. January 6, 2009.

6.5.1.2.1 Alternative 1 Analysis Assumptions

If 2007 AQMP black box control measures contributed to impacts in any environmental topic areas that were concluded to be less than significant, it is assumed that they would continue to contribute impacts to those environmental topic areas, but impacts would be less than significant. Conversely, if 2007 AQMP black box control measures contributed to impacts to any environmental topic areas that were concluded to be significant, it is assumed for this analysis that they would continue to contribute to significant adverse impacts to those environmental topic areas. If 2007 AQMP black box control measures were not identified as contributing to impacts to an environmental topic area, for this analysis it was also assumed that they would not contribute to impacts to those environmental topic areas. For example, if it was concluded in the 2007 AQMP that the overall significance determination for an environmental topic area would be significant, but no black box control measures contributed to that significant adverse impact, it is assumed here that black box control measures that are part of Alternative 1 would also not contribute to significant adverse impacts to that environmental topic area. These same assumptions will be used for all subsequent environmental topics analyzed under Alternative 1.

6.5.1.2.2 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason and the fact that aesthetics was not an environmental topic identified in the NOP/IS for the 2007 AQMP that could be adversely affected by that AQMP, Alternative 1 is not expected to create any impacts to aesthetics resources from PM2.5 control measures.

6.5.1.2.3 Ozone Control Measures

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. As shown in Table 6-2, 2012 AQMP Control Measure ONRD-05 would regulate the same emissions sources as 2007 AQMP Control Measure Off-Road Vehicles (SCLTM-02) (e.g., heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies). However, catenary systems were not identified as a possible method of reducing heavy-duty truck emissions. In fact, it was concluded in the NOP/IS for the 2007 AQMP that some control measures may have beneficial effects on scenic resources by improving visibility as well as improving air quality, preventing smoke, limiting opening burning and wood burning; and minimizing fugitive dust emissions. Therefore, it is concluded that Alternative 1 does not have the potential to generate significant adverse aesthetics impacts.

6.5.1.2.4 Project-specific and Cumulative Impacts Conclusion

The NOP/IS for the 2007 AQMP concluded that the 2007 AQMP ozone control measures would not generate any aesthetics impacts. Therefore, consistent with the assumptions in

Subsection 6.5.1.2.1, it is presumed that, overall, Alternative 1 would not generate significant adverse project-specific aesthetics impacts.

Since, anticipated project-specific aesthetics impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project specific aesthetics impacts would be approximately equivalent to those generated by the 2012 AQMP, Alternative 1 would also not contribute to significant adverse cumulative impacts generated by the 2012-2035 RTP/SCS. Since aesthetics impacts from Alternative 1 are not cumulatively considerable, cumulative aesthetics impacts from Alternative 1 are not significant.

6.5.1.3 Alternative 2 – PM2.5 Attainment Plan Localized PM Control in Mira Loma Area

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma[3], CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone Control Measure CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential aesthetics impacts from implementing Alternative 2 would be the same as potential aesthetics impacts from implementing the 2012 AQMP. For the complete analysis of aesthetics impacts from the 2012 AQMP, refer to Subchapter 4.1 – Aesthetics. Potential aesthetics impacts from implementing Alternative 2 are described in the following subsections.

6.5.1.3.1 PM2.5 Control Measures

Similar to the analysis of aesthetics impacts for the 2012 AQMP in Subchapter 4.1, no PM2.5 control measures were identified from implementing Alternative 2 that have the potential to significantly adversely affect aesthetics resources. The two episodic control measures in this alternative that would apply only to the Mira Loma area do not contain any provisions for reducing heavy-duty truck emissions using wayside electricity such as catenary electric lines. None of the two PM2.5 control measures in the 2012 AQMP that regulates the same sources as the episodic control measures in Alternative 2 was identified as contributing to aesthetics impacts. Therefore, potential impacts to aesthetics resources from implementing the 2012 AQMP were concluded to be less than significant. This same conclusion applies to Alternative 2.

6.5.1.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone control measures CMALT-2A (similar to 2012 AQMP Control Measure ONRD-04) applies only to the Mira Loma area, aesthetics impacts from implementing Alternative 2

[3] As indicated in Subsection 6.4.2, Alternative 2 control measures CMALT-2C, which would reduce ammonia emissions from livestock waste in the Mira Loma area, is identical to 2012 control measure BCM-04.

ozone control measures would be the same as the aesthetics impacts from implementing the 2012 AQMP ozone control measures. As shown in the analysis of aesthetics impacts for the 2012 AQMP in Subchapter 4.1, implementing ozone control measures from Alternative 2 (e.g., ozone Control Measures ONRD-05, ADV-01, and ADV-2) has the potential to generate adverse impacts to aesthetics resources, scenic highways in particular. No other 2012 AQMP ozone control measures were identified that could affect aesthetic resources. Such impacts associated with implementing the 2012 AQMP ozone control measures would be less than significant, as no scenic highways or highways eligible for scenic highway status would be adversely affected as a result of installing catenary lines in the future. This same conclusion applies to Alternative 2 because it contains the same three ozone control measures that have the potential to affect aesthetics resources.

6.5.1.3.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential project-specific adverse aesthetics impacts from Alternative 2 would be the same as potential project-specific aesthetics impacts from the 2012 AQMP and less than significant, because 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.

Since, anticipated project-specific aesthetics impacts from Alternative 2 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project specific aesthetics impacts would be equivalent to those generated by the 2012 AQMP, Alternative 2 would also not contribute to significant adverse cumulative impacts generated by the 2012-2035 RTP/SCS. Since aesthetics impacts from Alternative 2 are not cumulatively considerable, cumulative aesthetics impacts from Alternative 2 are not significant and equivalent to the 2012 AQMP.

6.5.1.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential aesthetics impacts from implementing Alternative 3 would be the same as potential aesthetics impacts from implementing the 2012 AQMP. For the complete analysis of aesthetics impacts from the 2012 AQMP, refer to Subchapter 4.1 – Aesthetics.

6.5.1.4.1 PM2.5 Control Measures

Similar to the analysis of aesthetics impacts for the 2012 AQMP in Subchapter 4.1, no PM2.5 control measures were identified from implementing Alternative 3 that have the potential to significantly adversely affect aesthetics resources. Potential impacts to aesthetics resources from implementing the 2012 AQMP were concluded to be less than significant (see Subchapter 4.1 of this Final Program EIR). This same conclusion applies to Alternative 3.

6.5.1.4.2 Ozone Control Measures

Similar to the analysis of aesthetics impacts for the 2012 AQMP in Subchapter 4.1, implementing ozone control measures from Alternative 3 (e.g., ozone Control Measures ONRD-05, ADV-01, and ADV-02) has the potential to generate adverse impacts to aesthetics resources, scenic highways in particular. No other 2012 AQMP ozone control measures were identified that could affect aesthetic resources. Such impacts associated with implementing 2012 AQMP ozone control measures would be less than significant, as no scenic highways or highways eligible for scenic highway status would be adversely affected as a result of installing catenary lines in the future. This same conclusion applies to Alternative 3 because it contains the same three ozone control measures that have the potential to affect aesthetics resources.

6.5.1.4.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential project-specific adverse aesthetics impacts from Alternative 3 would be the same as potential project-specific aesthetics impacts from the 2012 AQMP and less than significant, because 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.

Since, anticipated project-specific aesthetics impacts from Alternative 3 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project specific aesthetics impacts would be approximately equivalent to those generated by the 2012 AQMP, Alternative 3 would also not contribute to significant adverse cumulative impacts generated by the 2012-2035 RTP/SCS. Since aesthetics impacts from Alternative 3 are not cumulatively considerable, cumulative aesthetics impacts from Alternative 3 are not significant and equivalent to the 2012 AQMP.

6.5.1.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of aesthetics impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.1 – Aesthetics. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential aesthetics impacts from implementing Alternative 4 are described in the following subsections.

6.5.1.5.1 PM2.5 Control Measures

Similar to the analysis of aesthetics impacts for the 2012 AQMP in Subchapter 4.1, no PM2.5 control measures were identified from implementing Alternative 4 that have the potential to significantly adversely affect aesthetics resources. Potential impacts to aesthetics resources from implementing the 2012 AQMP were concluded to be less than

significant (see Subchapter 4.1 of this Final Program EIR). This same conclusion applies to Alternative 4.

6.5.1.5.2 Ozone Control Measures

Adopting Alternative 4 means that the ozone SIP portion of the 2007 AQMP would remain in effect. As shown in Table 6-2 and discussed in subsection 6.5.1.2.3, 2012 AQMP Control Measure ONRD-05 would regulate the same emissions sources as 2007 AQMP Control Measure On-road Heavy-duty Vehicles (SCLTM-01B) (e.g., heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies). However, catenary systems were not identified as a possible method of reducing heavy-duty truck emissions. In fact, it was concluded in the NOP/IS for the 2007 AQMP that some control measures may have beneficial effects on scenic resources by improving visibility as well as improving air quality, preventing smoke, limiting opening burning and wood burning; and minimizing fugitive dust emissions. Therefore, it is concluded that Alternative 4 does not have the potential to generate significant adverse aesthetics impacts and impacts would be less than aesthetics impacts from the 2012 AQMP.

6.5.1.5.3 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, when considering overall aesthetics impacts from implementing Alternative 4, no significant adverse aesthetics impacts were identified from implementing PM2.5 or ozone control measures. Therefore, it is presumed that Alternative 4 would not generate significant adverse aesthetics impacts. Finally, it is concluded that potential adverse aesthetics impacts from implementing Alternative 4 would be less than for the 2012 AQMP because unlike the 2012 AQMP, Alternative 4 does not contain any control measures that adversely affect aesthetics resources.

Since, anticipated project-specific aesthetics impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project specific aesthetics impacts would be less than those generated by the 2012 AQMP, Alternative 4 would also not contribute to significant adverse cumulative impacts generated by the 2012-2035 RTP/SCS. Since aesthetics impacts from Alternative 4 are not cumulatively considerable, cumulative aesthetics impacts from Alternative 4 are not significant and less than the 2012 AQMP.

6.5.2 Air Quality

The potential direct air quality effects of implementing the proposed project and the project alternatives were modeled to determine their effectives in attaining the federal 24-hour PM2.5 standard. Modeling was also conducted to evaluate the effectiveness of the proposed project and project alternatives with regard to continued progress in achieving the one-hour and eight-hour ozone standards by 2023. Potential adverse secondary air quality impacts for the proposed project and project alternatives were also evaluated. The following subsections

provide brief discussions of direct and indirect air quality impacts from each alternative relative to the 2012 AQMP.

6.5.2.1 Methodology

The same models and methodology used to evaluate the effects of 2012 AQMP control measures were used to evaluate direct air quality impacts from the project alternatives. The methodology and assumptions used to analyze direct air quality impacts are summarized in the following paragraphs. For more complete discussions of the models and assumptions, the reader is referred to Chapter 5 of the 2012 AQMP and 2012 AQMP Appendix V~~5~~ – Modeling and Attainment Demonstrations.

PM2.5 is either directly emitted into the atmosphere (primary particles) or is formed through atmospheric chemical reactions from precursor gases (secondary particles). While the primary particles include road dust, diesel soot, combustion products, and other sources of fine particles, the secondary particles, such as sulfates, nitrates, and complex carbon compounds are formed from reactions with precursor pollutants, such as SOx, NOx, VOCs, and ammonia. These secondary particles make up most of the fine particle pollution in the Basin. Accordingly, reductions of the precursor pollutants contribute to lower ambient PM2.5 concentration levels so various combinations of reductions of these pollutants could all provide different paths to attaining the 24-hour PM2.5 standard.

The full extent of PM2.5 chemistry is extremely complex and can be calculated only with a very comprehensive numerical model that incorporates various mechanisms of chemical reactions, mixing, dispersion, removal process, and so on.

The Final 2007 AQMP established a set of factors relating regional per ton precursor emissions reductions to microgram per cubic meter improvements of ambient PM2.5 for the annual average concentration. The current CMAQ model simulations provide a similar set of factors, but this time related to 24-hour average PM2.5. For 24-hour average PM2.5, the simulations determined that VOC emissions reductions have the lowest benefit in terms of micrograms per cubic meter ambient PM2.5 reduced per ton of emissions reduction, half of NOx's effectiveness. The analysis further indicated that SOx emissions were about six times more effective than NOx, and that directly emitted PM2.5 is approximately 14 times more effective than NOx. It is important to note that the contribution of ammonia emissions is embedded as a component of the SOx and NOx factors, since ammonium nitrate and ammonium sulfate are the resultant particulate compounds formed in the ambient chemical process.

The 2012 AQMP PM2.5 attainment demonstration has been developed using the U.S. EPA supported Community Multiscale Air Quality (CMAQ) modeling platform, and the Weather Research and Forecasting Model (WRF) meteorological fields. The WRF meteorological simulations were initialized from National Centers for Environmental Prediction (NCEP) analyses and run for four-day increments with the option for four dimensional data assimilation (FDDA).

The emission inventory was prepared with a series of processes to retrieve stationary, mobile, area and biogenic emissions sources. Day-specific point source emissions were extracted from the SCAQMD's stationary source and RECLAIM inventories. Mobile source emissions include weekday, Saturday, and Sunday emission profiles based on CARB's on-road mobile source 2011 Emission Factors model (EMFAC 2011); Caltrans weigh-in-motion profiles; vehicle population and miles traveled; and transportation analysis zone (TAZ) data provided by SCAG. The mobile source data and selected area source data were subjected to daily temperature corrections to account for enhanced evaporative emissions on warmer days. Gridded daily biogenic VOC emissions were provided by CARB using the Model of Emissions of Gases and Aerosols from Nature (MEGAN). Once the emissions inventories for the modeling base year (year 2008 in the 2012 AQMP) were established, future years' inventories for each of the project alternatives were developed based on control measures already adopted through previous AQMPs, inventory projections to future milestone years, and the proposed emission control strategies for each project alternative. This same methodology was applied to the project alternatives, except that the control strategies were modified to account for the different pollutant control strategies embodied in each alternative.

In addition to the numerical modeling, the 2012 AQMP approach to demonstrate attainment of the air quality standards relies heavily on the use of design values and relative response factors (RRF) to translate regional modeling simulation output to the form of the air quality standard. The design value is derived from three consecutive years of monitored data, averaged according to the form of the standard. The 24-hour PM2.5 design value is determined from the three-year average of the 98th percentile of all 24-hour concentrations sampled at a monitoring site. The annual PM2.5 design value is based on quarterly average PM2.5 concentrations, averaged by year, for a three-year period. The Relative Response Factor (RRF) is simply a ratio of future year predicted air quality with the control strategy fully implemented to the simulated air quality in the base year. From these two, the future year design value is estimated by multiplying the non-dimensional RRF by the base year design value and then compared with the standard to determine future year compliance.

Subsequent to the release of the Draft Program EIR, control measures with associated emission reduction values were re-evaluated for the 2012 AQMP and all alternatives resulting in minor modifications to the pollutant emissions inventories, NOx equivalent values, and PM2.5 concentrations derived from the NOx equivalen values. These minor revisions do not change any of the conclusions for air quality for the 2012 AQMP or any of the project alternatives.

6.5.2.2 Proposed Project

Potential direct and indirect air quality impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.2 – Air Quality.

6.5.2.2.1 Direct Air Quality Impacts – PM2.5 Control Measures

The 2012 AQMP demonstrated that the federal 24-hour and annual PM2.5 standards are predicted to be met in 2014 with implementation of the 2012 AQMP PM2.5 control strategy.

The highest 24-hour and annual PM2.5 in the Basin were predicted to be 34.2 µg/m3 and 13.8 µg/m3, respectively, which are lower than the federal standards. The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the 58 tons per day (tpd) of PM2.5 emissions in the 2012 AQMP.

TABLE 6-5

2012 AQMP – PM2.5 Remaining Inventory [a] (Tons/Day)

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Baseline Year 2008 Average Annual Day (tpd)					
Total Stationary Sources	257	92	137	14	48
Total Mobile Sources	336	666	2,744	40	32
Total	**593**	**758**	**2,881**	**54**	**80**
Year 2014 – 2012 AQMP Average Annual Day (tpd) [b]					
Total Stationary Sources	234	77 ~~1~~	164	12	38
Total Mobile Sources	217	414 ~~29~~	1,931	6	20
Total	**451**	**491 ~~500~~**	**2,095**	**18**	**58**
Year 2017 – 2012 AQMP Average Annual Day [c] (tpd)					
Total Stationary Sources	237	74 ~~68~~	165	11	39
Total Mobile Sources	188	377	1,702	7	19
Total	**425**	**451 ~~45~~**	**1,867**	**18**	**58**
Year 2019 – 2012 AQMP Average Annual Day [c] (tpd)					
Total Stationary Sources	239	~~6~~ 72	165	11	40
Total Mobile Sources	170	331 ~~0~~	1,151	7	18
Total	**409**	**403 ~~397~~**	**1,716**	**18**	**58**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Demonstrate attainment of the federal 24-hour PM2.5 standard.

[c] Continues to demonstrate attainment of the federal 24-hour PM2.5 standard.

6.5.2.2.2 Direct Air Quality Impacts – Ozone Control Measures

~~Because t~~The 2012 AQMP is primarily a PM2.5 AQMP as required by the CAA, ~~all~~ primarily emission reductions are based on PM2.5 control measures. The 2012 AQMP also includes control measures for making expeditious progress in attaining the federal one-hour (revoked) and eight-hour ozone standards by the years2022 – 2023, respectively. Table 6-6 shows that implementing the 2012 AQMP would continue to make progress towards attaining the federal one-hour and eight-hour ozone standards, but it would not attain either of the federal ~~one-hour or~~ eight-hour ozone standards, as shown in Table 6-6. ~~However, is not technically an ozone attainment AQMP.~~ An ~~ozone attainment~~ AQMP specifically

addressing the eight-hour ozone standard will be prepared and submitted to U.S. EPA in 2015 as required by federal law.

As indicated in Chapter 2, the U.S. EPA's September 19, 2012 proposed "SIP call" and proposed withdrawing its approval/disapproval of the 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 U.S. EPA's disapproval of the VMT emissions offset demonstrations, has resulted in the preparation of the *One-hour Ozone Attainment Demonstration* (see 2012 AQMP Appendix VII) and *VMT Offset Requirement Demonstration* (2012 AQMP Appendix VIII). These documents were reviewed by SCAQMD staff to determine any CEQA implications.

Because the federal one-hour ozone SIP includes all of the same ozone control measures already in the 2012 AQMP and the VMT offset demonstration showed that no new TCMs are required for the one-hour ozone SIP, this Final Program EIR for the 2012 AQMP also serves as the CEQA document for the one-hour ozone SIP. Further, *One-hour Ozone Attainment Demonstration* includes seven mobile source control measures from the 2007 AQMP. Because a CEQA document was prepared and certified for the 2007 AQMP and because the 2007 AQMP control measures do not require any changes, no further environmental analysis of the 2007 AQMP control measures is required.

TABLE 6-6

2012 AQMP – Remaining Emission Inventory [a] for Ozone Attainment Evaluation (Tons/Day)

	POLLUTANT	
SOURCE CATEGORY	**VOC**	**NOx**
Baseline Year 2008 Summer Planning Inventory (tpd)		
Total Stationary Sources	264	87
Total Mobile Sources	375	634
Total	**639**	**721**
Year 2023 – 2012 AQMP Summer Planning Inventory (tpd)		
Total Stationary Sources	254	66 ~~0~~
Total Mobile Sources	177	227
Total	**431**	**293 ~~87~~**
Year 2023 – Ozone Attainment Inventory (tpd)		
Total Carrying Capacity: 8-Hr standard [b]	**420**	**114**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Inventory necessary to achieve 80 ppb to attain the federal eight-hour ozone standard by 2023.

6.5.2.2.3 Secondary Air Quality Impacts – PM2.5 Control Measures

Construction: Construction air quality impacts associated with a number of 2012 AQMP PM2.5 control measures were identified and evaluated. It was assumed that the following types of construction activities to implement 2012 AQMP PM2.5 control measures contribute to construction activities emission inventories: 1) additional infrastructure to support electric and alternative fuel vehicles; 2) additional infrastructure for stationary source controls; and, 3) additional infrastructure to support electrification of new sources. It was concluded that these PM2.5 control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4). Because future construction air quality impacts were concluded to be significant, seven mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts would remain significant.

Operation: Secondary air quality impacts associated with approximately seven 2012 AQMP PM2.5 control measures were also identified and evaluated. For example, several PM2.5 control measures have the potential to generate secondary criteria pollutant, toxic air contaminant, and GHG emissions from and electricity generation. Additional emission controls could result in increased electricity use and an associated increase in criteria pollutant and GHG combustion emissions. Further, increased use of alternative fuels could generate criteria pollutant and GHG emissions associated with the increased production. Installation of emission control technologies on some sources has the potential reduce engine efficiency resulting in combustion of more fuel and an increase in criteria pollutant and GHG emissions. Potential air toxic impacts could occur as a result of formulating coatings and solvents with more toxic materials than are currently used. The analysis concluded, however, that secondary operational emissions from increased electricity demand, control of stationary sources, coatings and solvents formulated with low VOC materials, use of alternative fuels in mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion would be less than significant.

6.5.2.2.4 Secondary Air Quality Impacts – Ozone Control Measures

Construction: Construction air quality impacts associated with approximately 14 2012 AQMP ozone control measures were identified and evaluated. It was assumed that the following types of construction activities to implement 2012 AQMP ozone control measures contribute to construction activities emission inventories: 1) additional infrastructure to support electric and alternative fuel vehicles; 2) additional infrastructure for stationary source controls; and, 3) additional infrastructure to support electrification of new sources. It was concluded that these ozone control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of

550 and 150 pounds per day, respectively (refer to Table 4.2-4). Because future construction air quality impacts were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts would remain significant.

Operation: Secondary air quality impacts associated with a number of 2012 AQMP ozone control measures were also identified and evaluated. The following bullet points show potential impacts from implementing ozone control measures and the significance determination.

- Secondary Emissions from Increased Electricity Demand: While there may be an increase in electricity, the existing air quality rules and regulations are expected to minimize emissions associated with increased generation of electricity. The impacts associated with secondary emissions from increased electricity demand are expected to be less than significant.
- Secondary Emissions from the Control of Stationary Sources: No significant secondary air quality impacts from control of stationary sources were identified associated with implementation of the 2012 AQMP.
- Secondary Emissions from Change in Use of Lower VOC Materials: The secondary air quality impacts associated with reformulated products are expected to be less than significant.
- Secondary Emissions from Mobile Sources: The overall impact of mobile sources due implementation of the control measures has been considered less than significant for all pollutants.
- Secondary Emissions from Increased Use of Fuels due to Reduction in Fuel Economy: The reduction in fuel economy is expected to be about one percent for the affected sources so a potential increase in fuel use could occur. However, the overall focus of the 2012 AQMP is to reduce PM2.5 and ozone emissions, which is primarily driven by increasing use of cleaner fuels. Therefore, the impact of fuel economy is expected to be less than significant.
- Secondary Emissions from Miscellaneous Sources: The impacts of the control measures on secondary emissions from miscellaneous sources were determined to be less than significant.
- Non-Criteria Pollutants: Electrification may cause greater emissions of benzene, aldehydes, metals, and polynuclear aromatic hydrocarbons from fuel-based power generating facilities. However, if the process being electrified was previously powered by direct combustion of fossil fuels, then electrification may result in an overall decrease in toxic emissions. No significant secondary air quality impacts were identified from non-criteria pollutants, so no mitigation measures are required.
- Global Warming and Ozone Depletion: The 2012 AQMP is expected to have a net effect of reducing emissions of compounds that contribute to global warming and ozone depletion so that no significant adverse impacts are expected.

The air quality impacts associated with approximately 23 ozone control measures (see Table 4.2-1 in this Final Program EIR) were evaluated and determined to be less than significant for secondary emissions from increased electricity demand, control of stationary sources, change in us of lower VOC materials, mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion.

6.5.2.2.5 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, the 2012 AQMP PM2.5 and ozone control measures have the potential to generate significant adverse project-specific construction CO and PM10 air quality impacts. In spite of identifying eight construction air quality mitigation measures, project-specific construction CO and PM10 air quality impacts would remain significant.

With regard to project-specific secondary operational air quality impacts, a number of different types of operational air quality impacts from both 2012 AQMP PM2.5 and ozone control measures were identified and analyzed. Based on the analysis of operational air quality impacts in Subchapter 4.2, operational air quality impacts were concluded to be less than significant. Since, anticipated project-specific construction CO and PM10 impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific air quality impacts from the 2012 AQMP were evaluated in connection with air quality impacts from SCAG's 2012-2035 RTP/SCS. Further, it was concluded that construction CO and PM10 impacts from the 2012 AQMP would not contribute to significant adverse cumulative air quality impacts from the 2012-2035 RTP/SCS. Since construction CO and PM10 impacts from the 2012 AQMP are cumulatively considerable and contribute to cumulative air quality impacts generated by the 2012-2035 RTP/SCS, cumulative construction air quality impacts from the 2012 AQMP are concluded to be significant.

Alternatively, since anticipated project-specific operational air quality impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project specific operational air quality impacts would be less than those generated by the 2012 AQMP, the 2012 AQMP would also not contribute to significant adverse cumulative operational air quality impacts generated by the 2012-2035 RTP/SCS. Since project-specific operational air quality impacts from the 2012 AQMP are not cumulatively considerable, cumulative operational air quality impacts from the 2012 AQMP are not significant.

6.5.2.3 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since

the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures. The following subsections analyze potential direct air quality impacts from Alternative 1 and compare them to direct air quality impacts from the 2012 AQMP. After the direct air quality analysis, subsections include an analysis of potential secondary air quality impacts from implementing Alternative 1 are described and impacts are compared to the 2012 AQMP. For the complete analysis of direct and secondary air quality impacts from the 2012 AQMP, refer to Subchapter 4.2 – Air Quality.

6.5.2.3.1 Direct Air Quality Impacts – PM2.5 Control Measures

It is expected that air quality will continue to improve under Alternative 1 because of the adoption and implementation by the SCAQMD and CARB of short- and mid-term control measures with future compliance dates. As shown in Table 6-7, which shows the average annual day inventories for demonstrating attainment of the federal 24-hour PM2.5 standard, Alternative 1 would not achieve the federal 24-hour PM2.5 standard until 2019, whereas it is expected that the 2012 AQMP would achieve the federal 24-hour PM2.5 standard by the year 2014, as required by federal law.

The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the remaining 58 tons per day PM2.5 emissions inventory in the attainment year 2014 compared to the 70 tons per day PM2.5 emissions inventory in the attainment year 2019 for Alternative 1. Although the remaining PM2.5 emissions inventory for the 2012 AQMP appear to be substantially less than the remaining PM2.5 emissions inventory for Alternative 1, both inventories attain the federal 24-hour PM2.5 standard. To understand how such different results could both demonstrate attainment it is necessary to view pollutant emissions in NOx equivalents.

TABLE 6-7

Alternative 1 – PM2.5 Remaining Inventory [a] (Tons/Day)

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Baseline Year 2008 Average Annual Day (tpd)					
Total Stationary Sources	257	92	137	14	48
Total Mobile Sources	336	666	2,744	40	32
Total	**593**	**758**	**2,881**	**54**	**80**
Year 2014 – Alternative 1 Average Annual Day (tpd) [b]					
Total Stationary Sources	234	77 ~~3~~	164	12	50
Total Mobile Sources	217	429	1,931	6 ~~7~~	20
Total	**451**	**506 ~~2~~**	**2,095**	**18 ~~9~~**	**70**
Year 2014 – 2012 AQMP Average Annual Day (tpd) [c]					
Total Stationary Sources	234	77 ~~1~~	164	12	38
Total Mobile Sources	217	414 ~~29~~	1,931	6 ~~7~~	20
Total	**451**	**491 ~~500~~**	**2,095**	**18 ~~9~~**	**58**

TABLE 6-7 Concluded)

Alternative 1 – PM2.5 Remaining Inventory [a] (Tons/Day)

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Year 2019 – Alternative 1 Average Annual Day (tpd) [c]					
Total Stationary Sources	245	74	165	11	52
Total Mobile Sources	170	331	1,551	7	18
Total	**415**	**405**	**1,716**	**18**	**70**
Year 2019 – 2012 AQMP Average Annual Day (tpd)					
Total Stationary Sources	239	~~6~~ 72	165	11	40
Total Mobile Sources	170	331 ~~0~~	1,151	7	18
Total	**409**	**403 ~~397~~**	**1,716**	**18**	**58**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Does **not** demonstrate attainment of the federal 24-hour PM2.5 standard.

[c] Demonstrates attainment of the federal 24-hour PM2.5 standard.

PM2.5 has five major precursors that contribute to the development of the ambient aerosol including ammonia, NOx, SOx, VOC, and directly emitted PM2.5. For this reason it is useful to weigh the value of the precursor emissions reductions (on a per ton basis) to microgram per cubic meter improvements in ambient PM2.5 levels. The 2012 AQMP CMAQ simulations determined that VOC emissions reductions have the lowest return in terms of micrograms reduced per ton reduction, one-half of the benefit of NOx reductions. SOx emissions were shown to be about six times more effective than NOx reductions, while directly emitted PM2.5 reductions were shown to be approximately 14 times more effective than NOx reductions. Applying these weighting factors to the VOC, NOx, SOx, and directly emitted PM2.5 inventory emissions provides NOx equivalents, which can then be converted to concentrations in micrograms per cubic meter ($\mu g/m^3$).

Table 6-8 shows NOx equivalent emissions for each pollutant and total NOx equivalent emissions from Alternative 1 compared to the 2012 AQMP for the 24-hour PM2.5 attainment years, 2019 and 2014, respectively. Table 6-8 also shows the corresponding PM2.5 concentrations. As can be seen in the table, the PM2.5 concentration in the 2019 attainment year for Alternative 1 is close to the PM2.5 concentration in 2014 attainment year for the 2012 AQMP and both demonstrate attainment of the federal 24-hour PM2.5 standard.

The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the 58 tons per day of remaining PM2.5 emissions from the 2012 AQMP in the year 2014 compared with 70 tons per day of remaining PM2.5 emissions in the year 2019 for Alternative 1. Attainment of the federal 24-hour PM2.5 standard by the year 2019 is primarily due to reductions in precursor pollutant emissions that form secondary particles rather than directly emitted PM. It is important to note that a greater portion of fine particles is produced

through a series of chemical reaction that involves precursor such as NOx, VOCs, SOx and ammonia.

TABLE 6-8

NOx Equivalent Emissions [a] Comparison Between Alternative 1 and the 2012 AQMP (Tons/Day)

	POLLUTANT						PM2.5 CONCENTRATION
	VOC	NOx	CO [b]	SOx	PM2.5	Total [c]	
Year 2019 – Alternative 1 Attainment (tpd) [c]							
Total Remaining Inventory	415	405 ~~0~~	1,716	18	70		
NOx Equivalents	195	405 ~~0~~	--	100	998	1,698 ~~3~~	35.4 µg/m^3
Year 2014 – 2012 AQMP Attainment (tpd) [c]							
Total Remaining Inventory	451	491 ~~500~~	2,095	18 ~~9~~	58		
NOx Equivalents	212	491 ~~500~~	--	108 ~~6~~	827	1,638 ~~45~~	34.2 µg/m^3

[a] This table shows remaining emissions, not emission reductions.

[b] CO does not contribute to PM2.5 formation, so it does not have a NOx equivalent value.

[c] Only emissions representing NOx equivalents are added together because these are all ratios relative to NOx emissions.

6.5.2.3.2 Direct Air Quality Impacts – Ozone Control Measures

Because the 2012 AQMP is a PM2.5 AQMP as required by the CAA, all emission reductions are based on PM2.5 control measures. The 2012 AQMP also includes ozone control measures to continue making expeditious progress towards achieving the federal one-hour and eight-hour ozone standards, but any emission reductions from these measures were not included in the analysis of direct air quality impacts.

Because most of the remaining "black box" control measures in the 2007 AQMP would regulate mobile sources, both on-road and off-road, in the future it is assumed that, similar to the CAA §182 (e)(5) mobile source measures in the 2012 AQMP, their primary objective is to make expeditious progress in attaining the federal one-hour and eight-hour ozone standards. However, the black box control measures in the 2007 consisted of general concepts and no emissions reductions were associated with them. The analysis of direct air quality impacts from Alternative 1 in Subsection 6.5.2.3.2 does not include any emission reductions from ozone control measures. As shown in Table 6-9, Alternative 1 would continue to make progress towards attaining the federal one-hour and eight-hour ozone standards, however, progress would not be as great as it would be under the 2012 AQMP.

6.5.2.3.3 Secondary Air Quality Impacts – PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason, Alternative 1 is not expected to create any secondary construction or operational air quality impacts from PM2.5 control measures.

TABLE 6-9

Alternative 1 – Remaining Emission Inventory [a] for Ozone Attainment Evaluation (Tons/Day)

	POLLUTANT	
SOURCE CATEGORY	**VOC**	**NOx**
Baseline Year 2008 Summer Planning Inventory (tpd)		
Total Stationary Sources	264	87
Total Mobile Sources	375	634
Total	**639**	**721**
Year 2023 – Alternative 1 Summer Planning Inventory (tpd)		
Total Stationary Sources	261	70 ~~63~~
Total Mobile Sources	177	249 ~~50~~
Total	**438**	**319 ~~3~~**
Year 2023 – 2012 AQMP Summer Planning Inventory (tpd)		
Total Stationary Sources	254	66 ~~0~~
Total Mobile Sources	177	227
Total	**431**	**293 ~~87~~**
Year 2023 – Ozone Attainment Inventory (tpd)		
Total Carrying Capacity: 8-Hr standard [b]	**420**	**114**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Inventory necessary to achieve 80 ppb to attain the federal eight-hour ozone standard by 2023.

6.5.2.3.4 Secondary Air Quality Impacts – Ozone Control Measures

Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of secondary air quality impacts from all control measures, including black box control measures. As noted in Subsection 6.4.1, both SCAQMD and CARB have achieved their 2007 AQMP short-term emission reduction targets, so the 2007 AQMP does not contain any remaining short-term stationary source or mobile source control measures the previously were identified as contributing to secondary air quality impacts. As a result, consistent with the assumption that significance determinations from the 2007 Program EIR continue to apply, it is concluded that Alternative 1 has the potential to generate potential secondary air quality impacts as shown in Table 6-10 and described in the following paragraphs.

TABLE 6-10 [a]

Environmental Impacts Identified for 2007 AQMP Black Box Measures

CONTROL MEASURE SOURCE CATEGORY	AIR QUALITY	ENERGY	HAZARDS AND HAZARDOUS MATERIALS	HYDROLOGY AND WATER QUALITY	SOLID AND HAZARDOUS ~~MATERIALS~~WASTE
Light Duty Vehicles (SCLTM-01A)	None identified.	1. Potential increase in electricity demand. **(NS)**	None identified.	None identified.	None identified.
On-Road Heavy Duty Vehicles (SCLTM-01B)	None identified.	1. Potential increase in electricity demand. **(NS)**	None identified.	None identified.	1. Potential increase in solid waste due to accelerated vehicle replacement. **(NS)**
Off-Road Vehicles (SCLTM-02)	1. Decreased engine efficiency could reduce fuel economy and increase emissions. **(NS)** 2. Potential for passive filters to emit higher levels of NO_2. **(NS)**	1. Potential increase in electricity demand. **(NS)**	1. SCR to control NOx could result in ammonia hazard impacts. **(NS)**	1. Potential impact on water demand and water quality. **(NS)** 2. Alternative formulations and additives can readily dissolve in water and impact ground and surface water. **(NS)**	1. Potential increase in solid waste due to accelerated vehicle replacement. **(NS)**
Consumer Products (SCLTM-03)	1. Increased air toxics emissions from products formulated with hazardous materials. **(NS)**	None identified.	1. Potential exposure to toxic air contaminant; flammability of reformulated material. **(NS)**	1. Potential increased use of water based formulations. **(NS)**	None identified.

[a] The topics of aesthetics, land use and planning, noise, and transportation and traffic were concluded to be less than significant in the NOP/IS for the 2007 AQMP and, therefore, were not further analyzed in the 2007 Program EIR.

TABLE 6-10 [a] (Concluded)

Environmental Impacts Identified for 2007 AQMP Black Box Measures

SOURCE CATEGORY	AIR QUALITY	ENERGY	HAZARDS AND HAZARDOUS MATERIALS	HYDROLOGY AND WATER QUALITY	SOLID AND HAZARDOUS ~~MATERIALS~~WASTE
Fuels	1. Construction impacts at refineries. **(S)** 2. Increase emissions at refineries to produce alt fuels**.** **(NS)**	None identified.	1. The use of alternative fuels and fuel additives can result in hazard impacts. **(NS)** 2. Production of alternative fuels could increase hazards at refineries. **(S)**	None identified.	None identified.
Marine Vessels	None identified.	None identified.	None identified.	None identified.	None identified.
Locomotives	None identified.	None identified.	1. SCR to control NOx could result in ammonia hazard impacts. **(NS)**	None identified	None identified.
Pleasure Craft	None identified.	None identified.	None identified.	None identified.	None identified.
Aircraft	None identified.	None identified.	None identified.	None identified	None identified.
Renewable Energy	None identified.	None identified.	None identified.	None identified.	None identified.
AB32 Implementation	None identified.	None identified.	None identified.	None identified.	None identified.

a The topics of aesthetics, land use and planning, noise, and transportation and traffic were concluded to be less than significant in the NOP/IS for the 2007 AQMP and, therefore, were not further analyzed in the 2007 Program EIR.

Construction: Of the remaining black box measures, the Fuels control measure was identified as having the potential to generate significant adverse construction emissions from modifications at local refineries to produce reformulated gasoline. Phase 3 reformulated gasoline requirements were adopted by CARB in 2008, so potential construction air quality impacts from the Fuels control measure from the 2007 AQMP have already occurred. No other black box control measures were identified as having the potential to generate construction air quality impacts. Therefore, this impact is concluded to be less than significant.

Operation: Potential operational impacts (reduced engine efficiency resulting in higher emissions and passive filters increasing NOx emissions) from Alternative 1 black box measure SCLTM-02 were identified, but concluded to be less than significant. Similarly, black box Control Measure SCLTM-03 impacts (potential toxic emissions from reformulating consumer products) were identified and also concluded to be less than significant. Finally, the Fuels control measure impacts, potential emissions from refineries produce phase 3 reformulated gasoline were identified and concluded to be less than significant.

6.5.4.3.5 Project-specific and Cumulative Impacts Conclusion

Based on the above information, implementing Alternative 1 has no PM2.5 control measures that could generate project-specific construction or operational air quality impacts. The black box ozone control measures have the potential to generate project-specific operational air quality impacts, but these were concluded to be less than significant. Overall, Alternative 1 would not generate any significant adverse project-specific air quality impacts. Potential project-specific impacts from Alternative 1 are less than project-specific air quality impacts from the 2012 AQMP, but it would achieve the 24-hour federal PM2.5 standard in 2019 instead of 2014.

Since, anticipated project-specific air impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific air quality impacts would be less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative air quality impacts generated by the 2012-2035 RTP/SCS. Since air quality impacts from Alternative 1 are not cumulatively considerable, air quality impacts from Alternative 1 are not significant.

6.5.2.4 Alternative 2 – PM2.5 Attainment Plan Localized PM Control in Mira Loma Area

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone Control Measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. The following subsections analyze potential direct air quality impacts from Alternative 2 and compare them to direct air quality impacts from the 2012 AQMP. After the direct air quality analysis, subsections describing potential

secondary air quality impacts from implementing Alternative 2 are described and compared to the 2012 AQMP. For the complete analysis of direct and secondary air quality impacts from the 2012 AQMP, refer to Subchapter 4.2 – Air Quality.

6.5.2.4.1 Direct Air Quality Impacts – PM2.5 Control Measures

The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the 58 tons per day of remaining PM2.5 emissions from the 2012 AQMP in the attainment year 2014 compared with 64 tons per day of remaining PM2.5 emissions for Alternative 2 in the attainment year 2017 (Table 6-10). Attainment of the federal 24-hour PM2.5 standard by the year 2017 is primarily due to reductions in precursor pollutant emissions that form secondary particles rather than directly emitted PM. It is important to note that a greater portion of fine particles is produced through a series of chemical reaction that involves precursor such as NOx, VOCs, SOx and ammonia.

Table 6-12 shows NOx equivalent emissions for each pollutant and total NOx equivalent emissions from Alternative 2 compared to the 2012 AQMP for the 24-hour PM2.5 attainment years, 2017 and 2014, respectively. Table 6-12 also shows the corresponding PM2.5 concentrations. As can be seen in the table, the PM2.5 concentration in the 2017 attainment year for Alternative 2 is close to the PM2.5 concentration in 2014 attainment year for the 2012 AQMP and both demonstrate attainment of the federal 24-hour PM2.5 standard.

TABLE 6-11

Alternative 2 – PM2.5 Remaining Inventory (Tons/Day) [a]

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Baseline Year 2008 Average Annual Day (tpd)					
Total Stationary Sources	257	92	137	14	48
Total Mobile Sources	336	666	2,744	40	32
Total	**593**	**758**	**2,881**	**54**	**80**
Year 2014 – Alternative 2 Average Annual Day (tpd) [b]					
Total Stationary Sources	234	73 ~~1~~	164	12	43
Total Mobile Sources	217	429	1,931	7	20
Total	**451**	**500**	**2,095**	**19**	**63**
Year 2014 – 2012 AQMP Average Annual Day (tpd) [c]					
Total Stationary Sources	234	77 ~~1~~	164	12	43 ~~8~~
Total Mobile Sources	217	429	1931	6 ~~7~~	20
Total	**451**	**506 ~~0~~**	**2,095**	**18 ~~9~~**	**63 ~~58~~**
Year 2017 – Alternative 2 Average Annual Day (tpd) [c]					
Total Stationary Sources	237	74 ~~68~~	165	11	44
Total Mobile Sources	188	377	1,702	7	19
Total	**425**	**451 ~~45~~**	**1,867**	**18**	**63**

TABLE 6-11 (Concluded)

Alternative 2 – PM2.5 Remaining Inventory (Tons/Day) [a]

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Year 2017 – 2012 AQMP Average Annual Day (tpd) [d]					
Total Stationary Sources	237	74 ~~68~~	165	11	39
Total Mobile Sources	188	377	1702	7	19
Total	**425**	**451 ~~45~~**	**1,867**	**18**	**58**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Does **not** demonstrate attainment of the federal 24-hour PM2.5 standard.

[c] Demonstrates attainment of the federal 24-hour PM2.5 standard.

[d] Continues to demonstrate attainment of the federal 24-hour PM2.5 standard.

TABLE 6-12

NOx Equivalent Emissions [a] Comparison Between Alternative 2 and the 2012 AQMP (Tons/Day)

	POLLUTANT						PM2.5 CONCENTRATION
	VOC	**NOx**	**CO [b]**	**SOx**	**PM2.5**	**Total [c]**	
Year 2017 – Alternative 2 Attainment (tpd) [c]							
Total Remaining Inventory	425	451 ~~45~~	1,867	18	63		
NOx Equivalents	200	451 ~~45~~	--	100	898	1,649 ~~3~~	34.5 µg/m^3
Year 2014 – 2012 AQMP Attainment (tpd) [c]							
Total Remaining Inventory	451	491 ~~500~~	2,095	18 ~~9~~	58		
NOx Equivalents	212	491 ~~500~~	--	108 ~~6~~	827	1,638 ~~45~~	34.2 µg/m^3

[a] This table shows remaining emissions, not emission reductions.

[b] CO does not contribute to PM2.5 formation, so it does not have a NOx equivalent value.

[c] Only emissions representing NOx equivalents are added together because these are all ratios relative to NOx emissions.

6.5.2.4.2 Direct Air Quality Impacts – Ozone Control Measures

Because the 2012 AQMP also includes control measures for making expeditious progress in attaining the federal one-hour and eight-hour ozone standards by the year 2023, a comparison of the summer planning inventories for ozone was also performed. As shown in Table 6-13, Alternative 2 would continue to make progress towards attaining the federal one-hour and eight-hour ozone standards to the same extent as the 2012 AQMP because

Alternative 2 contains all of the same control measures pertaining to reducing ozone concentrations as the 2012 AQMP.

6.5.2.4.3 Secondary Air Quality Impacts – PM2.5 Control Measures

Construction: The Alternative 2 PM2.5 control measures were evaluated and it was concluded that they would not contribute to construction air quality impacts. However, because all remaining PM2.5 control measures in Alternative 2 are identical to those in the 2012 AQMP, the same construction activities and associated construction emissions would occur. It was concluded that the 2012 AQMP PM2.5 control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4).

The same PM2.5 control measure construction air quality conclusion from the 2012 AQMP applies to Alternative 2. Similarly, because future construction air quality impacts from Alternative 2 were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts from Alternative 2 would remain significant and equivalent to the 2012 AQMP.

TABLE 6-13

Alternative 2 – Remaining Emission Inventory for Ozone Attainment Evaluation [a]

	POLLUTANT	
SOURCE CATEGORY	**VOC**	**NOx**
Baseline Year 2008 Summer Planning Inventory (tpd)		
Total Stationary Sources	264	87
Total Mobile Sources	375	634
Total	**639**	**721**
Alternative 2 Year 2023 Summer Planning Inventory (tpd)		
Total Stationary Sources	254	60
Total Mobile Sources	177	227
Total	**431**	**293 ~~87~~**
2012 AQMP Year 2023 Summer Planning Inventory (tpd)		
Total Stationary Sources	254	60
Total Mobile Sources	177	227
Total	**431**	**293 ~~87~~**
Year 2023 – Ozone Attainment Inventory (tpd)		
Total Carrying Capacity: 8-Hr standard [b]	**420**	**114**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Inventory necessary to achieve 80 ppb to attain the federal eight-hour ozone standard by 2023.

Operation: Alternative 2 PM2.5 measures CMALT-2B (similar to 2012 AQMP PM2.5 Control Measure BCM-01) and CMALT-2C (the same as 2012 AQMP PM2.5 Control Measure BCM-04) were evaluated and it was concluded that they have the potential to generate criteria pollutant and GHG emissions from combustion sources. Because all remaining PM2.5 control measures in Alternative 2 are identical to those in the 2012 AQMP, the same operation activities and associated operation emissions would occur. The analysis concluded, however, that secondary operational emissions from increased electricity demand, control of stationary sources, coatings and solvents formulated with low VOC materials, use of alternative fuels in mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion as a result of implementing the 2012 AQMP would be less than significant. Because Alternative 2 Control Measure CMALT-2B (similar to 2012 AQMP PM2.5 Control Measure BCM-01) would only apply to the Mira Loma area, the magnitude of the criteria pollutant and GHG emissions would be less than the operation impacts from 2012 AQMP Control Measure BCM-01. Consequently, operational air quality impacts from Alternative 2 would be less than significant and slightly less than operational air quality impacts from the 2012 AQMP.

6.5.2.4.4 Secondary Air Quality Impacts – Ozone Control Measures

Construction: Alternative 2 Control Measure CMALT-2A (similar to 2012 AQMP Control Measure ONRD-04) was evaluated and it was concluded that it would not contribute to construction air quality impacts. Because all remaining ozone control measures in Alternative 2 are identical to those in the 2012 AQMP, the same construction activities and associated construction emissions would occur. It was concluded that the 2012 AQMP ozone control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4). This same conclusion applies to Alternative 2. Similarly, because future construction air quality impacts from Alternative 2 were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts from Alternative 2 would remain significant and equivalent to the 2012 AQMP.

Operation: Alternative 2 Control Measure CMALT-2A (similar to 2012 AQMP Control Measure ONRD-04) was evaluated and it could potentially generate criteria pollutant, toxic air pollutant and GHG emissions from and electricity generation. Further, it has the potential generate emissions from demolition of retired vehicles. Because all remaining ozone control measures in Alternative 2 are identical to those in the 2012 AQMP, the same operation activities and associated construction emissions would occur. The analysis concluded, however, that secondary operational emissions from increased electricity demand, control of stationary sources, coatings and solvents formulated with low VOC materials, use of alternative fuels in mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion as a result of implementing the 2012 AQMP would be less

than significant. Because Alternative 2 Control Measure CMALT-2B (similar to 2012 AQMP PM2.5 Control Measure BCM-01) would only apply to the Mira Loma area, the magnitude of the criteria pollutant and GHG emissions would be less than the operation impacts from 2012 AQMP Control Measure BCM-01.

6.5.2.4.3 Project-specific and Cumulative Impacts Conclusion

Although the three episodic control measures for the Mira Loma area do not contribute to construction air quality impacts, all other control measures in Alternative 2 are identical to the control measures in the 2012 AQMP. Consequently, like the 2012 AQMP, Alternative 2 PM2.5 and ozone control measures have the potential to generate significant adverse project-specific construction CO and PM10 air quality impacts. In spite of identifying eight construction air quality mitigation measures, project-specific construction CO and PM10 air quality impacts would remain significant.

With regard to project-specific secondary operational air quality impacts, it was concluded that the three episodic control measures for the Mira Loma area contribute to operational air quality impacts. As already noted, all remaining PM2.5 and ozone control measures in Alternative 2 are identical to the 2012 AQMP PM2.5 and ozone control measures. As a result, operational air quality impacts from Alternative 2 were concluded to be less than significant. Because Alternative 2 Control Measures CMALT-2A (similar to 2012 AQMP PM2.5 control measure ONRD-04) and CMALT-2B (similar to 2012 AQMP PM2.5 Control Measure BCM-01) would only apply to the Mira Loma area, the magnitude of the criteria pollutant and GHG emissions would be less than the operation impacts from 2012 AQMP Control Measures ONRD-04 and BCM-01, respectively.

Since anticipated project-specific construction CO and PM10 air quality impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Since project-specific construction CO and PM10 air quality impacts from Alternative 2 are cumulatively considerable, cumulative project-specific construction CO and PM10 air quality impacts from Alternative 2 are concluded to be significant. Further, since project-specific construction air quality impacts would be significant and equivalent to those generated by the 2012 AQMP, Alternative 2 would also contribute to significant adverse cumulative air quality impacts generated by the 2012-2035 RTP/SCS. No other construction air quality mitigation measures were identified that reduce cumulative construction CO and PM10 air quality impacts to less than significant.

Alternatively, since anticipated project-specific operational air quality impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Since project-specific operational air quality impacts would be approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would also not contribute to significant adverse cumulative operational air quality impacts generated by the 2012-2035 RTP/SCS. Since project-specific construction CO and PM10 air quality impacts from the 2012 AQMP are not cumulatively considerable, cumulative operational air quality impacts from the 2012 AQMP are not significant.

6.5.2.5 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except for 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. The following subsections analyze potential direct air quality impacts from Alternative 3 and compare them to direct air quality impacts from the 2012 AQMP. After the direct air quality analysis, subsections describing potential secondary air quality impacts from implementing Alternative 3 are described and compared to the 2012 AQMP. For the complete analysis of direct and secondary air quality impacts from the 2012 AQMP, refer to Subchapter 4.2 – Air Quality.

6.5.2.5.1 Direct Air Quality Impacts – PM2.5 Control Measures

The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the 58 tons per day of remaining PM2.5 emissions from the 2012 AQMP in the attainment year 2014 compared with 65 tons per day of remaining PM2.5 emissions for Alternative 3 in the attainment year 2017 (Table 6-14). Attainment of the federal 24-hour PM2.5 standard by the year 2017 is primarily due to reductions in precursor pollutant emissions that form secondary particles rather than directly emitted PM. It is important to note that a greater portion of fine particles is produced through a series of chemical reaction that involves precursor such as NOx, VOCs, SOx and ammonia.

TABLE 6-14

Alternative 3 – PM2.5 Remaining Inventory (Tons/Day) [a]

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Baseline Year 2008 Average Annual Day (tpd)					
Total Stationary Sources	257	92	137	14	48
Total Mobile Sources	336	666	2,744	40	32
Total	**593**	**758**	**2,881**	**54**	**80**
Year 2014 – Alternative 3 Average Annual Day (tpd) [b]					
Total Stationary Sources	234	77 ~~1~~	164	12	45
Total Mobile Sources	217	429	1,931	6 ~~7~~	20
Total	**451**	**506 ~~0~~**	**2,095**	**18 ~~9~~**	**65**
Year 2014 – 2012 AQMP Average Annual Day (tpd) [c]					
Total Stationary Sources	234	77 ~~1~~	164	12	38
Total Mobile Sources	217	414 ~~29~~	1,931	6 ~~7~~	20
Total	**451**	**491 ~~500~~**	**2,095**	**18 ~~9~~**	**58**

TABLE 6-14 (Concluded)

Alternative 3 – PM2.5 Remaining Inventory (Tons/Day) [a]

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Year 2017 – Alternative 3 Average Annual Day (tpd) [c]					
Total Stationary Sources	234	72 ~~66~~	114	11	42
Total Mobile Sources	186	344	1,702	7	19
Total	**420**	**416 ~~0~~**	**1,816**	**18**	**61**
Year 2017 – 2012 AQMP Average Annual Day (tpd) [d]					
Total Stationary Sources	239 ~~7~~	72 ~~68~~	165	11	39
Total Mobile Sources	170 ~~88~~	331 ~~77~~	1,551 ~~702~~	7	19
Total	**409 ~~25~~**	**403 ~~45~~**	**1,716 ~~867~~**	**18**	**58**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Does **not** demonstrate attainment of the federal 24-hour PM2.5 standard.

[c] Demonstrates attainment of the federal 24-hour PM2.5 standard.

[d] Continues to demonstrate attainment of the federal 24-hour PM2.5 standard.

Table 6-15 shows NOx equivalent emissions for each pollutant and total NOx equivalent emissions from Alternative 3 compared to the 2012 AQMP for the 24-hour PM2.5 attainment years, 2017 and 2014, respectively. Table 6-15 also shows the corresponding PM2.5 concentrations. As can be seen in the table, the PM2.5 concentration in the 2017 attainment year for Alternative 3 is close to the PM2.5 concentration in 2014 attainment year for the 2012 AQMP and both demonstrate attainment of the federal 24-hour PM2.5 standard.

6.5.2.5.2 Direct Air Quality Impacts – Ozone Control Measures

Because the 2012 AQMP also includes control measures for making expeditious progress in attaining the federal one-hour and eight-hour ozone standards by the year 2023, a comparison of the summer planning inventories for ozone was also performed. As shown in Table 6-16, Alternative 3 would continue to make progress towards attaining the federal one-hour and eight-hour ozone standards to the same extent as the 2012 AQMP because Alternative 3 contains all of the same control measures pertaining to reducing ozone concentrations as the 2012 AQMP. Even though Alternative 3 would generate NOx emission reductions sooner, by 2023 NOx emission reductions from Alternative are expected to be equivalent to NOx emission reductions from the 2012 AQMP.

TABLE 6-15

NOx Equivalent Emissions [a] Comparison Between Alternative 3 and the 2012 AQMP (Tons/Day)

	POLLUTANT						PM2.5 CONCENTRATION
	VOC	NOx	CO [b]	SOx	PM2.5	Total [c]	
Year 2017 – Alternative 3 Attainment (tpd) [c]							
Total Remaining Inventory	420	416 ~~0~~	1,816	18	61		
NOx Equivalents	197	416 ~~0~~	--	100	870	1,583 ~~77~~	35.0 µg/m^3
Year 2014 – 2012 AQMP Attainment (tpd) [c]							
Total Remaining Inventory	451	491 ~~500~~	2,095	18 ~~9~~	58		
NOx Equivalents	212	491 ~~500~~	--	108 ~~6~~	827	1,638 ~~45~~	34.2 µg/m^3

[a] This table shows remaining emissions, not emission reductions.

[b] CO does not contribute to PM2.5 formation, so it does not have a NOx equivalent value.

[c] Only emissions representing NOx equivalents are added together because these are all ratios relative to NOx emissions.

TABLE 6-16

Alternative 3 – Remaining Emission Inventory for Ozone Attainment Evaluation [a]

	POLLUTANT	
SOURCE CATEGORY	**VOC**	**NOx**
Baseline Year 2008 Summer Planning Inventory (tpd)		
Total Stationary Sources	264	87
Total Mobile Sources	375	634
Total	**639**	**721**
Year 2023 – Alternative 3 Summer Planning Inventory (tpd)		
Total Stationary Sources	254	60
Total Mobile Sources	177	227
Total	**431**	**297 ~~87~~**
Year 2023 – 2012 AQMP Summer Planning Inventory (tpd)		
Total Stationary Sources	254	66 ~~0~~
Total Mobile Sources	177	227
Total	**431**	**293 ~~87~~**
Year 2023 – Ozone Attainment Inventory (tpd)		
Total Carrying Capacity: 8-Hr standard [b]	**420**	**114**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Inventory necessary to achieve 80 ppb to attain the federal eight-hour ozone standard by 2023.

6.5.2.5.3 Secondary Air Quality Impacts – PM2.5 Control Measures

Construction: All PM2.5 control measures in Alternative 3 are identical to those in the 2012 AQMP, except that Alternative 3 does not include BCM-01. PM2.5 Control Measure BCM-01 was not identified as a control measure that contributed to construction air quality impacts. Consequently, the same construction activities and associated construction emissions would occur under Alternative 3 as would occur under the 2012 AQMP. It was concluded that the 2012 AQMP PM2.5 control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4). This same conclusion applies to Alternative 3. Similarly, because future construction air quality impacts from Alternative 3 were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts from Alternative 2 would remain significant and equivalent to the 2012 AQMP.

Operation: With the exception of Control Measure BCM-01, Alternative 3 includes all of the same control measures as the 2012 AQMP, so the same operation activities and associated operation emissions would occur. The analysis concluded, however, that secondary operational emissions from increased electricity demand, control of stationary sources, coatings and solvents formulated with low VOC materials, use of alternative fuels in mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion as a result of implementing the 2012 AQMP would be less than significant. Because PM2.5 Control Measure BCM-01 has the potential to generate GHG emissions, but it is not included in as part of the operation impacts from Alternative 3, operational air quality impacts from Alternative 3 would be less than significant and slightly less than operation impacts from the 2012 AQMP.

6.5.2.5.4 Secondary Air Quality Impacts – Ozone Control Measures

Construction: All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered or replaced vehicles from the year 2014 through 2017. However, neither of these control measures was identified as contributing to construction air quality impacts. In spite of this conclusion, since all remaining ozone control measures in Alternative 3 are also included in the 2012 AQMP, Alternative 3 has the potential to contribute to significant adverse secondary air quality impacts from increased construction emission inventories for CO and PM10 from the baseline to the year 2023 in amounts that would exceed the applicable

construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4). This same conclusion applies to Alternative 3. Similarly, because future construction air quality impacts from Alternative 3 were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts from Alternative 3 would remain significant and equivalent to the 2012 AQMP.

Operation: All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 would comply with the 2010 on-road vehicle exhaust requirements using CNG engines and the rest would be diesel or diesel hybrid). The analysis of Alternative 3 ozone Control Measure ONRD-03 indicated that it has the potential to generate additional criteria pollutant, toxic air pollutant and GHG emissions from and electricity generation beyond those that would occur under the 2012 AQMP.

The increase in electricity demand from ozone Control Measure ONRD-03 would be twice that of the 2012 AQMP (see Table 4.2-5 of this Final Program EIR). However, this increase would not result in exceedances of any of the applicable regional significance thresholds.

Power generating facilities are subject to AB-32 and would be required to reduce GHG emissions by 2020. Therefore, the additional energy demand from Alternative 3 Control Measure ONRD-03 would be expected to increase, but is not expected to generate significant emission impacts.

Although Alternative 3 Control Measure ONRD-01 could increase demand for electricity, thus, potentially increasing GHG emissions from electric utilities, increased GHG emissions would be offset by reductions in GHG emissions from less polluting trucks. Because alternative 3 ozone Control Measure ONRD-03 would result in twice as many cleaner, less polluting heavy-duty trucks as the 2012 AQMP, GHG reduction benefits would be greater.

Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered or replaced vehicles from the year 2014 through 2017. Alternative 3 ozone Control Measure ONRD-03 has the potential double the increase in the demand for alternative fuels compared to the 2012 AQMP. The reduction in fuel economy associated with use of alternative fuels expected to be greater than the 2012 AQMP, which is one percent for the affected sources so a potential increase in fuel use could occur. However, the overall focus of the 2012 AQMP is to reduce PM2.5 and ozone emissions, which is primarily driven by increasing use of cleaner fuels. Therefore, the impact of fuel economy is expected to be less than significant, but greater than the 2012 AQMP.

6.5.2.5.5 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, Alternative 3 PM2.5 and ozone control measures have the potential to generate significant adverse project-specific construction CO and PM10 air

quality impacts equivalent to those from the 2012 AQMP. In spite of identifying eight construction air quality mitigation measures, project-specific construction CO and PM10 air quality impacts would remain significant.

Since anticipated project-specific construction CO and PM10 air quality impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific construction air quality impacts would be approximately equivalent to those generated by the 2012 AQMP, Alternative 3 would also contribute to significant adverse cumulative construction air quality impacts generated by the 2012-2035 RTP/SCS. Since project-specific construction CO and PM10 air quality impacts from the 2012 AQMP are cumulatively considerable, cumulative project-specific construction CO and PM10 air quality impacts from the 2012 AQMP are concluded to be significant. No other construction air quality mitigation measures were identified that reduce cumulative construction CO and PM10 air quality impacts to less than significant.

With regard to project-specific secondary operational air quality impacts, a number of different types of operational air quality impacts from Alternative 3 PM2.5 and ozone control measures were identified and analyzed. Since project-specific operational air quality impacts would be significant and greater than those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative operational air quality impacts generated by the 2012-2035 RTP/SCS. Based on the analysis of operational air quality impacts, overall operational air quality impacts were concluded to be significant and greater than the 2012 AQMP.

Since anticipated project-specific operational air quality impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Since project-specific construction operational air quality impacts from the 2012 AQMP are cumulatively considerable, cumulative operational air quality impacts from the Alternative 3 are concluded to significant and greater than the 2012 AQMP.

6.5.2.6 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. The following subsections analyze potential direct air quality impacts from Alternative 4 and compare them to direct air quality impacts from the 2012 AQMP. After the direct air quality analysis, subsections include an analysis of potential secondary air quality impacts from implementing Alternative 4 are described and impacts are compared to the 2012 AQMP. For the complete analysis of direct and secondary air quality impacts from the 2012 AQMP, refer to Subchapter 4.2 – Air Quality.

6.5.2.6.1 Direct Air Quality Impacts – PM2.5 Control Measures

The 2012 AQMP control strategy targets directly emitted PM2.5, as is evident in the 58 tons per day of remaining PM2.5 emissions from the 2012 AQMP in the attainment year 2014 which is the same as the remaining PM2.5 emissions for Alternative 4 in the attainment year 2014 (Table 6-17). The reason for this result is that Alternative 4 contains the same PM2.5 reduction control measures as the 2012 AQMP, so the same strategy, reducing directly emitted PM2.5, is expected to produce the same results in the year 2014 for both Alternative 4 and the 2012 AQMP.

TABLE 6-17

Alternative 4 – PM2.5 Remaining Inventory (Tons/Day) [a]

	POLLUTANT				
SOURCE CATEGORY	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Baseline Year 2008 Average Annual Day (tpd)					
Total Stationary Sources	257	92	137	14	48
Total Mobile Sources	336	666	2,744	40	32
Total	**593**	**758**	**2,881**	**54**	**80**
Year 2014 – Alternative 4 Average Annual Day (tpd) [b]					
Total Stationary Sources	234	77 ~~1~~	164	12	38
Total Mobile Sources	217	429	1,931	6 ~~7~~	20
Total	**451**	**506 ~~0~~**	**2,095**	**18 ~~9~~**	**58**
Year 2014 – 2012 AQMP Average Annual Day (tpd) [b]					
Total Stationary Sources	234	77 ~~1~~	164	12	38
Total Mobile Sources	217	414 ~~29~~	1931	6 ~~7~~	20
Total	**451**	**491 ~~500~~**	**2,095**	**18 ~~9~~**	**58**
Year 2017 – Alternative 4 Average Annual Day (tpd) [c]					
Total Stationary Sources	240	74 ~~0~~	165	11	39
Total Mobile Sources	187	378 ~~7~~	1,702	7	19
Total	**427**	**452 ~~47~~**	**1,867**	**18**	**58**
Year 2017 – 2012 AQMP Average Annual Day (tpd) [c]					
Total Stationary Sources	237	74 ~~68~~	165	11	39
Total Mobile Sources	188	377	1702	7	19
Total	**425**	**451 ~~45~~**	**1,867**	**18**	**58**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Demonstrates attainment of the federal 24-hour PM2.5 standard.

[c] Continues to demonstrate attainment of the federal 24-hour PM2.5 standard.

TABLE 6-18

NOx Equivalent Emissions [a] Comparison Between
Alternative 4 and the 2012 AQMP (Tons/Day)

	POLLUTANT						PM2.5 CONCENTRATION
	VOC	NOx	CO [b]	SOx	PM2.5	Total [c]	
Year 2014 – Alternative 4 Attainment (tpd) [c]							
Total Remaining Inventory	451	506 ~~0~~	2,095	18 ~~9~~	58		
NOx Equivalents	212	506 ~~0~~	--	108 ~~6~~	827	1,653 ~~45~~	34.2 µg/m^3
Year 2014 – 2012 AQMP Attainment (tpd) [c]							
Total Remaining Inventory	451	491 ~~500~~	2,095	18 ~~9~~	58		
NOx Equivalents	212	491 ~~500~~	--	108 ~~6~~	827	1,638 ~~45~~	34.2 µg/m^3

[a] This table shows remaining emissions, not emission reductions.

[b] CO does not contribute to PM2.5 formation, so it does not have a NOx equivalent value.

[c] Only emissions representing NOx equivalents are added together because these are all ratios relative to NOx emissions.

6.5.2.6.2 Direct Air Quality Impacts – Ozone Control Measures

Because the 2012 AQMP also includes control measures for making expeditious progress in attaining the federal one-hour and eight-hour ozone standards by the year 2023, a comparison of the summer planning inventories for ozone was also performed. As shown in Table 6-19, Alternative 4 would continue to make progress towards attaining the federal one-hour and eight-hour ozone standards, but not to the same extent as the 2012 AQMP, because Alternative 4 contains all of the same control measures pertaining to reducing ozone concentrations as the 2012 AQMP. Even though Alternative 4 would generate NOx emission reductions sooner, by 2023 NOx emission reductions from Alternative are expected to be equivalent to NOx emission reductions from the 2012 AQMP.

6.5.2.6.3 Secondary Air Quality Impacts – PM2.5 Control Measures

Construction: Because Alternative 4 includes all of the same PM2.5 control measures as the 2012 AQMP, construction impacts from Alternative 4 PM2.5 control measures would be the same as for the 2012 AQMP, as explained here. Construction air quality impacts associated with approximately seven 2012 AQMP PM2.5 control measures were identified and evaluated. It was assumed that the following types of construction activities to implement 2012 AQMP PM2.5 control measures contribute to construction activities emission inventories: 1) additional infrastructure to support electric and alternative fuel vehicles; 2) additional infrastructure for stationary source controls; and, 3) additional infrastructure to support electrification of new sources. It was concluded that these PM2.5 control measures have the potential to contribute to significant adverse secondary air quality impacts as the increase in the construction emission inventories for CO and PM10 from the

baseline to the year 2023 would increase in an amount that would exceed the applicable construction air quality significance thresholds of 550 and 150 pounds per day, respectively (refer to Table 4.2-4). Because future construction air quality impacts were concluded to be significant, eight mitigation measures were identified to reduce potentially significant CO and PM10 construction air quality impacts. In spite of implementing these eight construction air quality mitigation measures, CO and PM10 construction air quality impacts would remain significant. This conclusion applies to Alternative 4.

TABLE 6-19

Alternative 4 – Remaining Emission Inventory for Ozone Attainment Evaluation [a]

	POLLUTANT	
SOURCE CATEGORY	**VOC**	**NOx**
Baseline Year 2008 Summer Planning Inventory (tpd)		
Total Stationary Sources	264	87
Total Mobile Sources	375	634
Total	**639**	**721**
Year 2023 – Alternative 4 Summer Planning Inventory (tpd)		
Total Stationary Sources	261	63
Total Mobile Sources	177	250
Total	**438**	**313**
Year 2023 – 2012 AQMP Summer Planning Inventory (tpd)		
Total Stationary Sources	254	60
Total Mobile Sources	177	227
Total	**431**	**287**
Year 2023 – Ozone Attainment Inventory (tpd)		
Total Carrying Capacity: 8-Hr standard [b]	**420**	**114**

[a] This table shows remaining emissions, not emission reductions. Remaining emission take into account emission reductions achieved or projected to be achieved from AQMP control measures and subtracted from the 2008 baseline.

[b] Inventory necessary to achieve 80 ppb to attain the federal eight-hour ozone standard by 2023.

Operation: Because Alternative 4 PM2.5 measures are identical to those in the 2007 AQMP, the same operation activities and associated operation emissions would occur. The analysis concluded, however, that secondary operational emissions from increased electricity demand, control of stationary sources, coatings and solvents formulated with low VOC materials, use of alternative fuels in mobile sources, increase us of fuels due to reduction in fuel economy, miscellaneous sources, non-criteria pollutants, and global warming and ozone depletion as a result of implementing the 2012 AQMP would be less than significant. Consequently, operational air quality impacts from Alternative 4 would be significant and equivalent to the operational air quality impacts from the 2012 AQMP.

6.5.2.2.4 Secondary Air Quality Impacts – Ozone Control Measures

Construction: Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2 of this Final Program EIR. As a result, construction air impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1, less than significant and, therefore, less than the 2012 AQMP.

Operation: As noted above, Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2 of this Final Program EIR. As a result, operation air impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1, less than significant.

6.5.2.6.3 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, implementing PM2.5 control measures have the potential to generate significant project-specific construction air quality impacts, while operational impacts would be less than significant. Overall air quality impacts from implementing Alternative 4 PM2.5 control measures would identical to the 2012 AQMP. No project-specific construction or operational air quality impacts were identified from implementing Alternative 4 ozone control measures. Therefore, it is presumed that Alternative 4 has the potential to generate significant adverse project-specific construction air quality impacts, which would be equivalent to the 2012 AQMP and less than significant project-specific operational air quality impacts, which would be less than project-specific impacts from the 2012 AQMP.

Since, anticipated project-specific construction air quality impacts from Alternative 4 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific construction impacts would be significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 4 would contribute to significant adverse cumulative air quality impacts generated by the 2012-2035 RTP/SCS. Since construction air quality impacts from Alternative 4 are cumulatively considerable, cumulative construction air quality impacts from Alternative 4 are significant and equivalent to the 2012 AQMP.

Alternatively, since anticipated project-specific operational air quality impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific operational air quality impacts would be less significant and less than those generated by the 2012 AQMP, Alternative 4 would also not contribute to significant adverse cumulative operational air quality impacts generated by the 2012-2035 RTP/SCS. Since operation air quality impacts from Alternative 4 are not cumulatively considerable, cumulative operational air quality impacts from Alternative 4 are significant, but less than the 2012 AQMP.

6.5.3 Energy

The potential direct and indirect energy impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide a brief summary of potential direct and indirect energy impacts from the 2012 and evaluate potential direct and indirect energy impacts from each alternative relative to the 2012 AQMP.

6.5.3.1 Proposed Project

Potential direct and indirect energy impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis of potential energy impacts from implementing the 2012 AQMP, refer to Subchapter 4.3 - Energy.

6.5.3.1.1 PM2.5 Control Measures

As shown in Table 4.3-1, there are a number of 2012 AQMP PM2.5 control measures that have the potential to generate adverse energy impacts associated with implementing the 2012 AQMP PM2.5 control measures. Potential energy impacts from increased demand for electricity natural gas, petroleum fuels, and alternative fuels as a result of implementing 2012 PM2.5 control measures, are summarized in the following paragraph.

The potential increase in electricity and natural gas use due to implementation of 2012 AQMP PM2.5 control measures is partially associated with the potential installation of add-on control equipment. The energy impacts associated with 2012 AQMP PM2.5 control measures (see Table 4.3-1) were evaluated and determined to be less than significant for electricity, natural gas, petroleum fuels, and alternative fuels impacts.

6.5.3.1.2 Ozone Control Measures

As shown in Table 4.3-1 of this Final Program EIR, there are a number of 2012 AQMP ozone control measures that have the potential to generate adverse energy impacts associated with implementing the 2012 AQMP ozone control measures. Potential energy impacts from increased demand for electricity natural gas, petroleum fuels, and alternative fuels as a result of implementing 2012 PM2.5 control measures, are summarized in the following paragraphs.

A number of ozone control measures in the 2012 AQMP, in particular mobile source control measures, are expected to increase the demand for electricity and natural gas to fuel both on-road and off-road mobile sources as a means of complying with 2012 AQMP ozone control measures. Any increases in the use of electricity or natural gas as a combustion fuel would likely result in a concurrent decrease in tradition petroleum fuels such as gasoline and diesel. The increase in demand for electricity and natural gas associated with the ozone control measures and strategies in the 2012 AQMP is considered to be significant.

Subchapter 4.3 also included an analysis of 2012 AQMP ozone control measures that may have the potential to increase demand for alternative fuels such as hydrogen, methanol, ethanol, etc. Demand for alternative fuels could increase primarily as a result of

implementing ~~3023~~ 2012 AQMP ozone control measures, especially those affecting mobile sources. However, the analysis concluded that increased demand for alternative fuels as transportation fuels is not expected to be significant since they are not widely available and their use is currently limited. Therefore, energy impacts associated with the 2012 AQMP ozone control measures (see Table 4.3-1) were evaluated and determined to be less than significant for petroleum fuels and alternative fuels.

6.5.3.1.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in Subchapter 4.1 that 2012 AQMP control measures, both PM2.5 and ozone control measures, could generate potential adverse impacts related to increased demand for electricity, natural gas, petroleum fuels, and alternative fuels. When considering overall electricity, natural gas, petroleum fuels, and alternative fuels impacts from the 2012 AQMP PM2.5 and ozone control measures, although potential adverse energy impacts were identified, none exceeded any of the energy significance thresholds identified in Subsection 4.3.3. Therefore, project-specific aesthetics impacts associated with the 2012 AQMP are less than significant.

Since, anticipated project-specific energy impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific energy impacts from the 2012 AQMP were evaluated in connection with energy impacts from SCAG's 2012-2035 RTP/SCS. Since project-specific energy impacts would be significant, the 2012 AQMP would contribute to significant adverse cumulative energy impacts generated by the 2012-2035 RTP/SCS. Since energy impacts from the 2012 AQMP are cumulatively considerable, cumulative energy impacts from the 2012 AQMP are significant.

6.5.3.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. Since the 2007 AQMP now includes only black box measures, energy impacts analysis for Alternative 1 will focus only on potential impacts identified for the black box measures. Potential energy impacts from implementing Alternative 1 are described in the following subsections.

6.5.3.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason, Alternative 1 is not expected to create any energy impacts from PM2.5 control measures.

6.5.3.2.2 Ozone Control Measures

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of

energy impacts from all control measures, including black box control measures. As a result, consistent with the assumption in Subsection 6.5.1.2 that significance determinations from the 2007 Program EIR continue to apply, it is concluded that Alternative 1 does not have the potential to generate potentially significant adverse energy impacts as shown in Table 6-10 and described in the following paragraphs.

It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-01 regulating on-road light-duty vehicles and heavy-duty vehicles could generate potentially significant adverse energy impacts because of potential increases in demand primarily for electricity, natural gas, and other alternative fuels, displacing and potentially reducing demand for gasoline and diesel fuels. Potential energy demand impacts in the future from on-road light-duty vehicles and heavy-duty vehicles were concluded to be less than significant because total demand for energy in the on-road light- and heavy-duty vehicle mobile source sectors was expected to be a small percentage of future energy demand in the district.

Similarly, it was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-02 regulating off-road heavy duty vehicles could also generate potentially significant adverse energy impacts because of potential increases in demand primarily for electricity, natural gas, and other alternative fuels, displacing and potentially reducing demand for diesel fuels. Potential energy demand impacts were concluded to be less than significant because total demand for energy in the off-road heavy duty vehicle sector was expected to be a small percentage of future energy demand in the district.

6.5.3.2.3 Project-specific and Cumulative Impacts Conclusion

As indicated in Subsection 6.4.1, the SCAQMD and CARB have adopted all short-term control measures within their authority, so that only black box control measures remain. Since Alternative 1 does not include short-term control measures, potential energy impacts would be even less compared to the 2007 AQMP when it was originally adopted. It was concluded in the 2007 Program EIR that the 2007 AQMP ozone control measures would not generate significant adverse energy impacts. Consequently, overall energy impacts from Alternative 1 are concluded to be less than significant.

Since, anticipated project-specific energy impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific energy impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative energy impacts generated by the 2012-2035 RTP/SCS. Since energy impacts from Alternative 1 are not cumulatively considerable, cumulative energy impacts from Alternative 1 are not significant.

6.5.3.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS), CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone

control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential energy impacts from implementing Alternative 2 would be the same as potential energy impacts from implementing the 2012 AQMP. For the complete analysis of energy impacts from the 2012 AQMP, refer to Subchapter 4.3 – Energy. Potential energy impacts from implementing Alternative 2 are described in the following subsections.

6.5.3.3.1 PM2.5 Control Measures

As shown in Table 4.3-1, there are a number of 2012 AQMP PM2.5 control measures that have the potential to generate adverse energy impacts associated with implementing the 2012 AQMP PM2.5 control measures. Of the two Alternative 2 PM2.5 episodic control measures affecting the Mira Loma area, only one, CMALT-2C (2012 AQMP PM2.5 Control Measure BCM-04), was identified as contributing to potential adverse energy impacts. However, 2012 AQMP PM2.5 Control Measure BCM-04 only regulates affected livestock facilities in the Mira Loma area, so it is the same as Alternative 2 PM2.5 Control Measure CMALT-2C. Consequently, energy impacts from implementing 2012 AQMP ~~or~~ Alternative 2 PM2.5 control measures would be the same and less than significant.

6.5.3.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 AQMP Control Measure ONRD-04) applies only to the Mira Loma area, energy impacts from implementing Alternative 2 ozone control measures would be the same as the energy impacts from implementing the 2012 AQMP ozone control measures. As shown in Table 4.3-1 in Subchapter 4.3, the analysis of electricity, natural gas, petroleum fuels, and alternative fuels impacts from implementing the 2012 AQMP ozone control measures indicated that they have the potential to generate adverse energy impacts. The analysis concluded that electricity and natural gas impacts associated with implementing the 2012 AQMP ozone control measures would be significant, while impacts to petroleum fuels, alternative fuels, and renewable fuels were concluded to be less than significant. This same conclusion also applies to Alternative 2 because it contains the same ozone control measures that have the potential to affect energy resources as the 2012 AQMP. Measures to mitigate significant adverse electricity and natural gas impacts were identified and would apply to Alternative 2. The analysis concluded, however, that in spite of implementing the electricity and natural gas mitigation measures, impacts would remain significant.

6.5.3.3.3 Project-specific and Cumulative Impacts Conclusion

As explained above, overall, potential project-specific adverse energy impacts from Alternative 2 would be the same as potential project-specific energy impacts from the 2012 AQMP and both would be significant.

Since, anticipated project-specific energy impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific energy impacts would be

significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would contribute to significant adverse cumulative energy impacts generated by the 2012-2035 RTP/SCS. Since energy impacts from Alternative 2 are cumulatively considerable, cumulative energy impacts from Alternative 2 are significant and equivalent to the 2012 AQMP.

6.5.3.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential energy impacts from implementing Alternative 3 would be the same as potential energy impacts from implementing the 2012 AQMP. For the complete analysis of energy impacts from the 2012 AQMP, refer to Subchapter 4.3 – Energy.

6.5.3.4.1 PM2.5 Control Measures

As shown in Table 4.3-1, there are a number of 2012 AQMP PM2.5 control measures that have the potential to generate adverse energy impacts associated with implementing the 2012 AQMP PM2.5 control measures. Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP, except for BCM-01. PM2.5 Control Measure BCM-01 was evaluated for the potential to generate adverse energy impacts, but it was concluded that this control measure did not have the potential to generate any energy impacts. It was concluded in the analysis of potential adverse energy impacts from implementing 2012 AQMP PM2.5 control measures that natural gas, petroleum fuels, and alternative fuels impacts would be less than significant. As with the 2012 AQMP, electricity impacts would be significant for the same reasons. Since Alternative 3 contains the same PM2.5 control measures as the 2012 AQMP, potential electricity, natural gas, petroleum fuels, and alternative fuels impacts would be same as energy impacts from implementing 2012 AQMP. Since all remaining PM2.5 control measures in Alternative 3 are the same as those in the 2012 AQMP, energy impacts from implementing Alternative 3 PM2.5 control measures would be significant and equivalent to energy impacts from the 2012 AQMP.

6.5.3.4.2 Ozone Control Measures

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered vehicles from the year 2014 through 2017. Energy impacts for the 2012 AQMP were analyzed by type of energy source and, since Alternative 3 Ozone Control Measures ONRD-03 and OFF-01 may

contribute adverse impacts to each type of energy source, the same approach will be used here.

Electricity: Mobile source control measures in the 2012 AQMP are expected to increase the electricity demand in the district. A number of control measures would result in an increase in electricity demand associated with the electrification of mobile sources, including Control Measure ONRD-03. (Control Measure OFFRD-03 is not expected to increase demand for electricity since electric motors are not generally available for repowering off-road vehicles.) Although it is not expected that this category of heavy-duty on-road trucks would use electricity, consistent with the analysis of the 2012 AQMP electricity impacts, a worst-case assumption was made that mobile sources could switch to battery electric or hybrid vehicles. Table 6-20 shows the anticipated energy demand from Alternative 3 compared to the 2012 AQMP for those control measures where sufficient information is available to quantify electricity impacts.

TABLE 6-20

Electricity Impacts for Los Angeles, Orange, Riverside, and San Bernardino Counties (gigawatt-hours)

Control Measure	2010	2012 AQMP 2023 [a]	ALT. 3 2023
Baseline	115,000	136,079	136,079
ONRD-01 – Incentivize light- and medium-duty trucks (9,000 vehicles) [c]	--	38.6	38.6
ONRD-02 – Accelerated retirement and replacement of pre-1992 light- and medium-duty vehicles (18,000 vehicles) [b]	--	77.1	77.1
ONRD-03 – Encourage the introduction of hybrid and zero-emission vehicles (5,000 vehicles) [c]	--	83	166
ONRD-05 – Replace 1000 trucks with zero-emission vehicles (1000 vehicles) [e]	--	49.5	49.5
ADV-01 – "Wayside" Electric Roadway Infrastructure of the I-710 and 60 Freeways		563	563
ADV-02 – "Wayside" Electric Rail Infrastructure		880	880
Total of Mobile Source Measures	--	1,774.2	1,857.2
Percent of Baseline	--	1.54%	1.61%

Source: CEC, 2012a

[a] Projections based on CEC, 2012j

[b] Based on 12,600 miles/year and 0.34 kWh/mile.

[c] Based on 16,600 miles/year and 1 kWh/mile.

[d] Based on 18,000 miles/year and 2.75 kWh/mile.

Because electricity information is not available for all ozone control measures, increased electricity demand could be greater than shown in Table 6-20. Therefore, electricity demand

impacts are concluded to be significant and greater than the 2012 AQMP. Because the primary effect of Alternative 3 would be to increase electricity demand for mobile sources, no mitigation measures were identified to reduce electricity demand impacts from this alternative. Because electricity demand impacts are concluded to be significant for Alternative 3, the same mitigation measures identified for the 2012 AQMP also apply to this alternative.

Natural Gas: A number of control measures in the 2012 AQMP may result in an increase in demand for natural gas associated with stationary sources due to the need for additional emission controls. Other control measures are expected to encourage the use of natural gas as a fuel to offset the use of petroleum fuels including ONRD-03. In addition, increased demand for electricity will require additional natural gas, as most of the power plants in California are operated using natural gas.

According to the CEC, there were about 24,819 light-duty natural gas and about 11,500 heavy-duty natural gas vehicles in California in 2009 (CEC, 2011). The CEC expects a steady increase in natural gas consumption used as an alternative fuel (see Table 4.3-4 of this Final Program EIR). As indicated in Subchapter 4.3 of this Final Program EIR, some of the control measures in the 2012 AQMP could result in an increase in the use of natural gas in medium- and heavy-duty on road vehicles. It is expected that Alternative 3 Control Measure ONRD-03 has the potential to expand the use of natural gas fuels in on-road medium-duty and heavy-duty trucks using more efficient, advanced natural gas engine technologies by approximately 750 vehicles. Although Alternative 3 Control Measure OFFRD-01 has the potential to accelerate the penetration of heavy-duty off-road vehicles by as much as 19,344 it is unknown and, therefore, speculative regarding how many of these vehicles would repower using natural gas engines. Otherwise, natural gas impacts from other Alternative 3 ozone control measures are expected to be significant and slightly greater than the 2012 AQMP. Because natural gas demand impacts are concluded to be significant, mitigation measures were identified required and would apply to Alternative 3. The analysis concluded, however, that in spite of implementing the electricity and natural gas mitigation measures, impacts would remain significant.

Petroleum Fuels: Similar to the effects of the 2012 AQMP, implementing Alternative 3 is expected to result in a decrease in the future increased demand for petroleum fuels (e.g., diesel, distillate, residual oil, and gasoline) due to mobile source control measures, as well as a potential increase in engine efficiency associated with the retrofit of new engines. Ozone control measures that are expected to result in a reduction in the demand for petroleum fuels include Control Measure ONRD-03. Table 6-21 shows the reduction in demand for petroleum fuels for Alternative 3 compared to the 2012 AQMP.

TABLE 6-21

Estimated Reduction in Petroleum Fuels Associated with 2012 AQMP Control Measures (gallons per year)

Control Measure	2012 AQMP 2013	2012 AQMP 2023	ALT.3 2013	ALT. 3 2023
ONRD-01 – Incentivize light- and medium-duty trucks (9,000 vehicles) [a]	663,157	5,968,421	663,157	5,968,421
ONRD-02 – Accelerated retirement and replacement of pre-1992 light- and medium-duty vehicles (18,000 vehicles) [a]	1,326,315	11,936,842	1,326,315	11,936,842
ONRD-03 – Encourage the introduction of hybrid and zero-emission vehicles (5,000 vehicles) [b]	3,018,122	15,091,090	3,018,122	15,091,090
ADV-02 – Electrification of 492 locomotive engines [c]	--	34,700,000	--	34,700,000
Total	**5,007,594**	**67,696,353**	**5,007,594**	**67,696,353**

[a] Based on 12,600 miles/year and 19 miles/gallon.
[b] Based on 16,600 miles/year and 11 miles/gallon.
[c] Based on 18,000 miles/year and 6 miles/gallon.
[d] Control measure ONRD-4 starts in 2015.

Construction activities that could be required to implement control measures in the 2012 AQMP would also increase the use of gasoline and diesel, including ozone Control Measure OFFRD-01. Construction activities could be required under a number of the control measures to develop transportation infrastructure (e.g., overhead catenary lines), install air pollution control equipment, and further develop electricity to support electrification of sources. OFFRD-01 has the potential to accelerate the turnover of up to 19,344 off-road mobile source vehicles. Currently, there are adequate fuel supplies in California. In fiscal year 2011, 14,728,734,063 gallons of gasoline and 2,564,017,901 gallons of diesel were sold in California[4]. Construction activities are temporary and all construction equipment will cease once construction activities are finished. As the use of petroleum fuels in other mobile sources decreases, there is likely to be an excess availability of gasoline and diesel. Even if all off-road mobile sources affected by Control Measure OFFRD-01 use diesel engines, it is unlikely that demand for diesel for these vehicles would offset the reduction in demand for diesel shown in Table 6-21. Petroleum fuel impacts from Alternative 3 for other control measures would be equivalent to the 2012 AQMP. Therefore, demand for petroleum fuels is expected to be less than significant for Alternative 3, but greater than similar impacts from the 2012 AQMP.

[4] State Board of Equalization, Fuel Taxes Statistics & Reports, http://www.boe.ca.gov/sptaxprog/spftrpts.htm.

Alternative Fuels: Electricity, natural gas (including forms such as CNG, etc.), and diesel (which would include biodiesel) have already been evaluated in the above paragraphs. As noted in Subchapter 4.3, potential alternative fuel M85 is no longer sold in California. Although ethanol is used as a fuel additive, this primarily for gasoline powered on-road passenger cars and light-duty trucks and would not likely be used in vehicles affected by Alternative 3 ozone Control Measures ONRD-03 or OFFRD-01. While hydrogen fuel cell technology is promising, its use in the future is dependent on many things (cost-effectiveness of the technology, availability of hydrogen, etc.), so that the extent to which it may be used in the future to displace petroleum fuels is currently unknown and, therefore, speculative.

Potential energy impacts associated with the Alternative 3 ozone control measures (21 control measures, see Table 4.4-1) were evaluated and determined to be less than significant for reformulated coatings, adhesives, solvents, lubricants, mold release, and consumer products. Implementing ozone control measures that result in the use of ammonia in emission control systems could generate significant adverse energy impacts from exposure to ammonia in the event of an accidental release. Mitigation measures were identified that could reduce ammonia energy impacts to less than significant. Finally, ozone control measures that increase demand for alternative fuels (LNG) have the potential to generate significant adverse energy impacts. No mitigation measures were identified that could reduce energy impacts from alternative fuels to less than significant. Since Alternative 3 ozone Control Measures ONRD-03 and OFFRD-01 have the potential to increase demand for alternative fuels to a greater extent for on-road heavy-duty vehicles and a much greater extent for off-road vehicles compared to the 2012 AQMP, energy impacts from Alternative 3 are significant and greater than significant energy impacts from the 2012 AQMP.

In general, energy demand impacts from Alternative 3 would be greater than energy demand impacts from the 2012 AQMP. The energy impacts associated with the Alternative 3 ozone control measures were evaluated and determined to be less than significant for natural gas, petroleum fuels, and alternative fuels impacts. Impacts from increased demand for electricity were concluded to be significant for Alternative 3 and for the 2012 AQMP.

6.5.3.4.3 Project-specific and Cumulative Impacts Conclusion

Based on the above information, potential project-specific adverse energy impacts from Alternative 3 for natural gas, petroleum fuels, and alternative fuels would be greater than potential project-specific natural gas, petroleum fuels, and alternative fuels impacts from the 2012 AQMP, but for both projects natural gas, petroleum fuels, and alternative fuels impacts would be less than significant. Potential project-specific adverse energy impacts from Alternative 3 for electricity would be greater than potential project-specific electricity impacts from the 2012 AQMP and for both projects electricity impacts would be significant.

Since, anticipated project-specific petroleum fuels, alternative fuels, and renewable fuels impacts from Alternative 3 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Since, anticipated project-specific electricity and natural gas demand impacts from Alternative 3 are concluded to be significant, they are considered to be cumulatively considerable as

defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific energy impacts would be significant and greater than those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative energy impacts generated by the 2012-2035 RTP/SCS. Therefore, since energy impacts (electricity and natural gas demand impacts from Alternative 3 are cumulatively considerable, cumulative energy impacts from Alternative 3 are significant and greater than the 2012 AQMP.

6.5.3.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.3, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of energy impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.3 – Energy. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2 of this Final Program EIR. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential energy impacts from implementing Alternative 4 are described in the following subsections.

6.5.3.5.1 PM2.5 Control Measures

As shown in Table 4.3-1 of this Final Program EIR, there are a number of 2012 AQMP PM2.5 control measures that have the potential to generate adverse energy impacts associated with implementing the 2012 AQMP PM2.5 control measures. It was concluded in the analysis of potential adverse energy impacts from implementing 2012 AQMP PM2.5 control measures that electricity, natural gas, petroleum fuels, and alternative fuels impacts would be less than significant. Since Alternative 4 contains the same PM2.5 control measures as the 2012 AQMP, potential electricity, natural gas, petroleum fuels, and alternative fuels impacts would be same as energy impacts from implementing 2012 AQMP. Consequently, energy impacts from implementing Alternative 4 PM2.5 control measures would also be less than significant.

6.5.3.5.2 Ozone Control Measures

Adopting Alternative 4 ozone control measures would result in the same potential adverse energy impacts as would occur under Alternative 1. It was concluded in the analysis of impacts from Alternative 1 that all remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of energy impacts from all control measures, including black box control measures. As a result, consistent with the assumption in Subsection 6.5.1.2 that significance determinations from the 2007 Program EIR continue to apply, it is concluded that Alternative 1 does not have the potential to generate potentially significant adverse energy impacts as shown in Table 6-10 and described in the following paragraphs.

It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-01 regulating on-road light-duty vehicles and heavy-duty vehicles could

generate potentially significant adverse energy impacts because of potential increases in demand primarily for electricity, natural gas, and other alternative fuels, displacing and potentially reducing demand for gasoline and diesel fuels. Potential energy demand impacts in the future from on-road light-duty vehicles and heavy-duty vehicles were concluded to be less than significant because total demand for energy in the on-road light- and heavy-duty vehicle mobile source sectors was expected to be a small percentage of future energy demand in the district.

Similarly, it was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-02 regulating off-road heavy duty vehicles could also generate potentially significant adverse energy impacts because of potential increases in demand primarily for electricity, natural gas, and other alternative fuels, displacing and potentially reducing demand for diesel fuels. Potential energy demand impacts were concluded to be less than significant because total demand for energy in the off-road heavy duty vehicle sector was expected to be a small percentage of future energy demand in the district.

6.5.3.5.3 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, when considering overall energy impacts from implementing Alternative 4, adverse energy impacts were identified from implementing ozone control measures, but these impacts were concluded to be less than significant. Potentially significant adverse electricity and natural gas impacts were identified from implementing the PM2.5 control measures, but would be less than similar impacts from the 2012 AQMP. Therefore, it is concluded that potential adverse energy impacts from implementing Alternative 4 would be significant, but less than those for the 2012 AQMP because Alternative 4 contains fewer control measures that could adversely affect electricity, natural gas, petroleum fuels, and alternative fuels resources.

Since anticipated project-specific energy impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific energy impacts would be significant, although less than those generated by the 2012 AQMP, Alternative 4 would contribute to significant adverse cumulative energy impacts generated by the 2012-2035 RTP/SCS. Since energy impacts from Alternative 4 are cumulatively considerable, cumulative energy impacts from Alternative 4 are significant.

6.5.4 Hazards and Hazardous Materials

The potential direct and indirect hazards and hazardous materials impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect hazards and hazardous materials impacts from each alternative relative to the 2012 AQMP.

6.5.4.1 Proposed Project

Potential direct and indirect hazards and hazardous materials impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.4 – Hazards and Hazardous Materials.

6.5.4.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.4 identified three 2012 AQMP PM2.5 control measures, CMB-01, IND-01, and MCS-01 that have the potential to generate the following adverse hazards and hazardous materials impacts. Use of alternative fuels and fuel additives can result in hazard impacts for some fuels (e.g., LNG and CNG) in the event of an accidental release during transport. Potential exposure to a toxic air contaminant, ammonia, used as a NOx reducing agent for SCRs and SNCR in the event of an onsite accidental release during use or storage could also occur as a result of implementing 2012 AQMP PM2.5 control measures. Reformulating coatings with more toxic or flammable solvents could cause fire, accidental release, and offsite/onsite exposure and worker risk. Hazard impacts from transport of alternative fuels (LNG) were concluded to be significant. Hazard impacts from exposure to ammonia vapor were concluded to be significant, but could be reduced to less than significant.

6.5.4.1.2 Ozone Control Measures

The analysis in Subchapter 4.7 identified a number of 2012 AQMP ozone control measures as having the potential to create the following adverse hazards and hazardous materials impacts.

- Low VOC coatings could be formulating with more toxic or flammable solvents could cause fire, accidental release, and offsite/onsite exposure and worker risk. This potential impact is considered to be significant. Mitigation measures were identified to reduce this potential hazards and hazardous materials impact to less than significant.
- Receptors could be exposed to hazardous waste that may be generated from spent carbon, use of ammonia to operate condensers, hazardous waste from operating scrubbers, and hazardous waste of spent catalyst from operating thermal oxidizers. This impact was concluded to be less than significant.
- Use of alternative fuels and fuel additives can result in hazard impacts during transport. This impact was concluded to be significant and no mitigation measures were identified that could potentially reduce hazard impacts from and accidental release of alternative fuels during transport.
- Potential exposure to toxic air contaminant (ammonia) associated with SCRs during storage, transport, use and accidental release. Hazard impacts from exposure to accidental releases of ammonia were concluded to be less than significant, except for potential onsite releases, which were concluded to be significant, but could be reduced to less than significant.

The hazard impacts associated with the ozone control measures control measures, see Table 4.4-1, were evaluated and determined to be less than significant for reformulated coatings, adhesives, solvents, lubricants, mold release, and consumer products; and all alternative fuels except LNG.

6.5.4.1.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in Subchapter 4.4 that potential hazards and hazardous materials impacts from implementing 2012 AQMP PM2.5 and ozone control measures would be less than significant for most control measures. In the case of exposure to accidental releases onsite at a commercial or industrial facility, impacts were concluded to be significant, but could be reduced to less than significant through implementing mitigation measures. Finally, hazard impacts from transporting LNG were concluded to be significant and no mitigation measures were identified that could reduce these potential hazard impacts to less than significant. Therefore, project-specific hazards and hazardous materials impacts associated with the 2012 AQMP are concluded to be significant.

Since, anticipated project-specific hazards and hazardous materials impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific hazard and hazardous materials impacts from the 2012 AQMP were evaluated in connection with hazardous materials impacts from SCAG's 2012-2035 RTP/SCS. Since project-specific hazards and hazardous materials impacts generated by the 2012 AQMP would be significant, the 2012 AQMP would contribute to significant adverse cumulative hazard and hazardous materials impacts generated by the 2012-2035 RTP/SCS. Since hazards and hazardous materials impacts from the 2012 AQMP are cumulatively considerable, cumulative hazards and hazardous materials impacts from the 2012 AQMP are significant.

6.5.4.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures.

6.5.4.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason, Alternative 1 is not expected to create any impacts to hazards and hazardous materials resources from PM2.5 control measures.

6.5.4.2.2 Ozone Control Measures

Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of hazards and hazardous materials impacts from all control measures, including black box control measures. As a result, consistent with the assumptions in Subsection 6.5.1.2 regarding the applicability of the significance determinations from the 2007 Program EIR, it is concluded that Alternative 1 does not have the potential to generate potentially significant hazard and hazardous materials impacts as shown in Table 6-10 and described in the following paragraphs.

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-01 regulating on-road light-duty vehicles and heavy-duty vehicles could generate potentially significant adverse hazards and hazardous materials impacts. In particular, one of the NOx pollution control technologies that could be used for heavy-duty on-road vehicles could consist of SCR equipment. SCR uses ammonia as a reducing agent to convert NOx to nitrogen and water. Potential hazard and hazardous materials impacts from the use of SCR on heavy-duty vehicles were concluded to be less than significant because aqueous ammonia in concentrations less than 20 percent by volume would be used. No significant adverse hazards or hazardous materials impacts were identified using aqueous ammonia in concentrations less than 20 percent by volume.

Similarly, it was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-02 regulating off-road heavy duty vehicles could also generate potentially significant adverse hazards and hazardous materials impacts for the same reason identified for SCLTM-01 (e.g., installation of SCRs on off-road mobile sources that use ammonia as a reducing agent). Potential hazards and hazardous materials impacts were concluded to be less than significant for the same reason as above, aqueous ammonia in concentrations less than 20 percent by volume would be used.

Finally, it was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-03 regulating the VOC content of consumer products could generate potentially significant adverse hazards and hazardous materials impacts. The reason for this conclusion is that future rules regulating consumer products could result in formulations that are more flammable or toxic than current formulations. This impact, however, was concluded to be less than significant if water-based formulations are used. Further, solvents are currently available such as Texanol, propylene glycol, etc., that would not generate significant adverse flammability or hazard impacts.

6.5.4.2.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in the 2007 Program EIR that all 2007 AQMP that, even with the implementation of mitigation measure HZ1, the 2007 AQMP had the potential to generate significant adverse hazards and hazardous materials impacts. Potential hazards and hazardous materials impacts could occur primarily from implementing Control Measure ARB-ONRD-03[5]/SCFUEL-01 – California Phase 3 Reformulated Gasoline Modifications. Other control measures that have the potential of affecting motor vehicle fuel formulations include: SC-ONRD-01, SCFUEL-02, ARB-ONRD-4/SCONRD-03, and ARB-OFFRD-1. As indicated in Subsection 6.4.1, the SCAQMD and CARB have adopted all short-term control measures within their authority, so that only black box control measures remain. Since Alternative 1 does not include short-term control measures, potential hazard and hazardous materials impacts would be even less compared to the 2007 AQMP when it was

[5] Short-term control measures adopted by CARB were revised and renamed, so it is not possible to identify a CARB measure identified as ARB-ONRD-03, for example.

originally adopted. Consequently, overall hazards and hazardous materials impacts from Alternative 1 are concluded to be less than significant.

Since, anticipated project-specific hazards and hazardous materials impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hazards and hazardous materials impacts would be less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative hazards and hazardous materials impacts generated by the 2012-2035 RTP/SCS. Since hazards and hazardous materials impacts from Alternative 1 are not cumulatively considerable, cumulative hazards and hazardous materials impacts from Alternative 1 are not significant.

6.5.4.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential hazards and hazardous materials impacts from implementing Alternative 2 would be the same as potential hazards and hazardous materials impacts from implementing the 2012 AQMP. For the complete analysis hazards and hazardous materials impacts from the 2012 AQMP, refer to Subchapter 4.4 – Hazards and Hazardous Materials. Potential noise impacts from implementing Alternative 2 are described in the following subsections.

6.5.4.3.1 PM2.5 Control Measures

Similar to the analysis of hazards and hazardous materials impacts for the 2012 AQMP in Subchapter 4.4, none of the two PM2.5 control measures in Alternative 2 that regulates the same sources as the episodic control measures in the 2012 AQMP was identified as contributing to construction hazards and hazardous materials impacts. However, because all other 2012 AQMP PM2.5 control measures, including those contributing to significant adverse hazards and hazardous materials impacts, are also included in Alternative 2, it has the potential to generate the same hazards and hazardous materials impacts as implementing the 2012 AQMP, which were concluded to be significant. This same conclusion applies to Alternative 2.

6.5.4.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 control measure ONRD-04) applies only to the Mira Loma area, potential hazards and hazardous materials impacts from implementing Alternative 2 ozone control measures would be similar to the hazards and hazardous materials impacts from implementing the 2012 AQMP ozone control measures: VOC coatings could be formulated~~ing~~ with more toxic or flammable solvents (not significant); exposure to hazardous waste from spent carbon, use of ammonia, and spent

catalyst from operating thermal oxidizers, etc., (not significant); and exposure to toxic air contaminant (ammonia) associated with SCRs during storage, transport, use and accidental release (mitigated to less than significant). Potential hazard and hazardous materials impacts from catastrophic releases of alternative fuels during transport (significant and unavoidable), would be slightly less because it is expected that fewer vehicles would be affected. Similar to the significance determination for potential hazards and hazardous materials impacts of the ozone control measures from the 2012 AQMP, hazards and hazardous materials impacts under Alternative 2 would also be significant, but would be slightly less compared to the 2012 AQMP. The mitigation measures (see Subchapter 4.4) identified to reduce potential hazards and hazardous materials impacts from the 2012 control measures would continue to apply to Alternative 2.

6.5.4.3.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential hazards and hazardous materials impacts from implementing Alternative 2 PM2.5 and ozone control measures could generate significant adverse hazards and hazardous materials impacts. Mitigation measures were identified that could reduce hazard impacts from exposure to onsite releases of ammonia to less than significant. No mitigation measures were identified that could reduce hazard impacts from catastrophic releases of alternative fuels during transport. Therefore, project-specific hazards and hazardous materials impacts associated with Alternative 2 are concluded to be significant and less than the 2012 AQMP.

Since, anticipated project-specific hazards and hazardous materials impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hazards and hazardous materials impacts would be significant, less than those generated by the 2012 AQMP, Alternative 2 would contribute to significant adverse cumulative hazards and hazardous materials impacts generated by the 2012-2035 RTP/SCS. Since hazards and hazardous materials impacts from the Alternative 2 are cumulatively considerable, cumulative hazards and hazardous materials impacts from the Alternative 2 are significant and less than the 2012 AQMP.

6.5.4.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential hazards and hazardous materials impacts from implementing Alternative 3 would be the same as potential hazards and hazardous materials impacts from implementing the 2012 AQMP. For the complete analysis of hazards and hazardous materials impacts from the 2012 AQMP, refer to Subchapter 4.4 – Hazards and Hazardous Materials.

6.5.4.4.1 PM2.5 Control Measures

Alternative 3 includes all of the same 2012 AQMP PM2.5 control measures, except BCM-01, so it has the potential to generate similar hazards and hazardous materials impacts as implementing the 2012 AQMP. PM2.5 control measures were identified as having the potential to generate significant adverse exposure impacts to a toxic air contaminant (ammonia) associated with SCRs and SNCR during storage, transport, use and accidental release. Mitigation measures were identified that could reduce this impact to less than significant. Use of alternative fuels and fuel additives could also result in hazard impacts, which were concluded to be significant. No mitigation measures were identified that could reduce hazard impacts from alternative fuels to less than significant. The hazard impacts associated with PM2.5 control measures (CMB-01, IND-01, and MCS-01) were evaluated and determined to be less than significant for reformulated coatings, adhesives, solvents, lubricants, mold release, and consumer products; alternative fuels; ammonia use in SCRs, and fuel additives. Since BCM-01 was not identified as a PM2.5 control measure that could generate hazards or hazardous materials impacts, hazards and hazardous materials impacts from Alternative 3 PM2.5 control measures would be equivalent to those from the 2012 AQMP.

6.5.4.4.2 Ozone Control Measures

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered vehicles from the year 2014 through 2017.

Potential hazard impacts associated with the Alternative 3 ozone control measures (21 control measures, see Table 4.4-1) were evaluated and determined to be less than significant for reformulated coatings, adhesives, solvents, lubricants, mold release, and consumer products. Implementing ozone control measures that result in the use of ammonia in emission control systems could generate significant adverse hazard impacts from exposure to ammonia in the event of an accidental release. Mitigation measures were identified that could reduce ammonia hazard impacts to less than significant. Finally, ozone control measures that increase demand for alternative fuels (LNG) have the potential to generate significant adverse hazard impacts. No mitigation measures were identified that could reduce hazard impacts from alternative fuels to less than significant. Since Alternative 3 ozone Control Measures ONRD-03 and OFFRD-01 have the potential to increase demand for alternative fuels to a greater extent for on-road heavy-duty vehicles and a much greater extent for off-road vehicles compared to the 2012 AQMP, hazard and hazardous materials impacts from Alternative 3 are significant and greater than significant hazards and hazardous materials impacts from the 2012 AQMP.

6.5.4.4.3 Project-specific and Cumulative Impacts Conclusion

Since, anticipated project-specific hazards and hazardous materials impacts from Alternative 3 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hazards and hazardous materials impacts would be significant and greater than those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative hazards and hazardous materials impacts generated by the 2012-2035 RTP/SCS. Since hazards and hazardous materials impacts from Alternative 3 are cumulatively considerable, cumulative hazards and hazardous materials impacts from Alternative 3 are significant and greater than cumulative hazards and hazardous materials impacts from the 2012 AQMP.

6.5.4.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter, which are the same as those in the 2012 AQMP. For the complete analysis of hazards and hazardous materials impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.4 – Hazards and Hazardous Materials. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential hazards and hazardous materials impacts from implementing Alternative 4 are described in the following subsections.

6.5.4.5.1 PM2.5 Control Measures

Similar to the analysis of hazards and hazardous materials impacts for the 2012 AQMP in Subchapter 4.4, because Alternative 4 includes all of the same 2012 AQMP PM2.5 control measures, including those contributing to significant adverse hazards and hazardous materials impacts, it has the potential to generate the same hazards and hazardous materials impacts as implementing the 2012 AQMP, which were concluded to be significant. This same conclusion applies to Alternative 4.

6.5.4.5.2 Ozone Control Measures

Adopting Alternative 4 ozone control measures would result in the same potential adverse hazards and hazardous materials impacts as would occur under Alternative 1. It was concluded in the analysis of impacts from Alternative 1 that all remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of hazards and hazardous materials impacts from all control measures, including black box control measures. The 2007 AQMP Program EIR included analyses of the following types of hazards and hazardous materials impacts.

- Low VOC coatings could be formulating with more toxic or flammable solvents could cause fire, accidental release, and offsite/onsite exposure and worker risk. This potential impact is considered to be less than significant.
- Use of alternative fuels and fuel additives can result in hazard impacts during transport, handling and storage. This impact was concluded to be less than significant.
- Potential exposure to toxic air contaminant (ammonia) associated with SCRs during storage, transport, use and accidental release. Hazard impacts from exposure to accidental releases of ammonia were concluded to be less than significant.

As a result, consistent with the assumption in Subsection 6.5.1.2 that significance determinations from the 2007 Program EIR continue to apply, it is concluded that Alternative 1 does not have the potential to generate potentially significant adverse hazards and hazardous materials impacts as shown in Table 6-10 and described in the following paragraphs.

6.5.4.5.3 Project-specific and Cumulative Impacts Conclusion

Because Alternative 4 includes all of the same 2012 AQMP PM2.5 control measures, including those contributing to significant adverse hazards and hazardous materials impacts, it has the potential to generate the same hazards and hazardous materials impacts as implementing the 2012 AQMP, which were concluded to be significant. Potential hazards and hazardous materials impacts from Alternative 4 ozone control measures would be the same as those identified for Alternative 1. Since Alternative 1 does not include short-term control measures, potential hazard and hazardous materials impacts would be even less compared to the 2007 AQMP when it was originally adopted. Consequently, overall hazards and hazardous materials impacts from Alternative 4 are concluded to be significant, less than significant.

Since, anticipated project-specific hazards and hazardous materials impacts from Alternative 4 are concluded to be significant, but less than those generated by the 2012 AQMP, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hazards and hazardous materials impacts would be significant, but less than those generated by the 2012 AQMP, Alternative 4 would contribute to significant adverse cumulative hazards and hazardous materials impacts generated by the 2012-2035 RTP/SCS. Since hazards and hazardous materials impacts from Alternative 4 are cumulatively considerable, cumulative hazards and hazardous materials impacts from Alternative 4 are significant.

6.5.5 Hydrology and Water Quality

The potential direct and indirect hydrology and water quality impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect hydrology and water quality impacts from each alternative relative to the 2012 AQMP.

6.5.5.1 Proposed Project

Potential direct and indirect hydrology and water quality impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.5 – Hydrology and Water Quality.

6.5.5.1.1 PM2.5 Control Measures

The hydrology and water quality impacts associated with PM2.5 control measures (e.g., BCM-03, IND-01, MCS-01, etc.) were analyzed and the following impacts were identified: water demand and wastewater discharge from operating wet ESPs or wet scrubbers, water quality impacts from the use of alternative fuels and fuel additives, water demand and water quality impacts from wastewater discharges from increased use of water-based formulations. Of the potential hydrology and water quality impacts analyzed, water demand impacts associated with the manufacture and use of waterborne and add-on air pollution control technologies were concluded to be significant. While mitigation measures were identified, water demand impacts are expected to remain significant. The hydrology and water quality impacts associated with wastewater generation and related wastewater quality are less than significant. Further, the use and application of SBS (BCM-04) on water quality is also expected to be less than significant.

6.5.5.1.2 Ozone Control Measures

Hydrology and water quality impacts associated with Ozone Control Measures are potentially significant for water demand (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01). The water quality impacts associated with wastewater generation and related wastewater quality from 2012 AQMP ozone control measures (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01) are less than significant. No significant adverse hydrology and water quality impacts are expected from the increased use of alternative fuels (IND-01, MSC-01, ONRD-01, ONRD-02, 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). No significant adverse water quality impacts associated with increase battery use in EV and hybrid vehicles are expected (ONRD-01, ONRD-03, ONRD-04, ONRD-05, ADV-01, ADV-02, ADV-03, ADV-04, ADV-06, and ADV-07). 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.

6.5.5.1.3 Project-specific and Cumulative Impacts Conclusion

Water demand impacts from some types of air pollution control equipment (wet ESPs) and reformulating coatings with water-based coatings associated with 2012 AQMP PM2.5 and ozone control measures are potentially significant as indicated in the subsections above. No other hydrology or water quality impacts from 2012 AQMP PM2.5 or ozone control measures were identified. Further, it was concluded in Subchapter 4.5 that in spite of identifying water demand mitigation measures, implementing 2012 AQMP PM2.5 and ozone control measures has the potential to generate significant adverse water demand

impacts. Therefore, project-specific water demand impacts from implementing 2012 AQMP PM2.5 and ozone control measures are concluded to be significant and unavoidable.

Since, anticipated project-specific water demand impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific hydrology or water quality impacts from the 2012 AQMP were evaluated in connection with hydrology or water quality impacts from SCAG's 2012-2035 RTP/SCS. Further, since project-specific hydrology or water quality impacts (water demand impacts) generated by the 2012 AQMP would be significant, the 2012 AQMP would contribute to significant adverse cumulative hydrology or water quality impacts generated by the 2012-2035 RTP/SCS. Other hydrology or water quality impacts from implementing 2012 AQMP PM2.5 and ozone control measures were identified, but concluded to be less than significant. Since water demand impacts from the 2012 AQMP are cumulatively considerable, cumulative water demand impacts from the 2012 AQMP are significant. No measures beyond those identified in Subchapter 4.5 were identified to mitigate significant adverse cumulative water demand impacts.

6.5.5.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures.

6.5.5.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason, Alternative 1 is not expected to create any hydrology and water quality impacts from PM2.5 control measures.

6.5.5.2.2 Ozone Control Measures

Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of hydrology and water quality impacts from all control measures, including black box control measures. As a result, consistent with the assumptions in Subsection 6.5.1.2 regarding the applicability of the significance determinations from the 2007 Program EIR, it is concluded that Alternative 1 does not have the potential to generate potentially significant hydrology and water quality impacts as shown in Table 6-10 and described in the following paragraphs.

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-01B regulating on-road heavy duty vehicles could generate potentially significant water quality impacts because potential emission reduction technologies such as alternative fuels or fuel additives, if accidentally

released could readily dissolve in water and create adverse groundwater and surface water impacts. As indicated in the 2007 AQMP Program EIR, potential water quality impacts were concluded to be less than significant because alternative fuels and fuel additives would not generate greater water quality impacts in the event of an accidental release than accidental releases of gasoline and diesel fuels.

It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-03 regulating the VOC content of consumer products could generate potentially significant adverse water demand impacts. The reason for this conclusion is that future rules regulating consumer products could result in greater use of water-based formulation, thus, increasing water demand to supply these types of products. This impact, however, was concluded to be less than significant because the projected future increase in water demand from implementing 2007 AQMP control measures did not exceed the SCAQMD's water demand significance threshold in effect at that time.

6.5.5.2.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in the 2007 Program EIR that water quality impacts from implementing all 2007 AQMP control measures would not be significant. However, the following three mitigation measures were identified to ensure that water quality impacts would remain less than significant.

HWQ-1: To ensure that users of reformulated solvents are aware of the proper disposal methods for reformulated solvents, the SCAQMD will provide an outreach and education program for affected parties. The SCAQMD will coordinate the outreach program with POTWs, the DTSC, and other appropriate agencies.

HWQ-2: The Sanitation Districts and other sewage agencies must increase their surveillance programs to quantify measurable effects resulting from this control measure and take appropriate action as necessary.

HWQ-3: CARB will monitor the use and limit or prohibit the use of toxic air contaminants, including perchloroethylene and methylene chloride, in reformulated consumer products.

Because Control Measure SCLTM-03 contributed to water quality impacts identified in the 2007 AQMP, the above mitigation measures would continue to be applicable under Alternative 1.

Potentially significant water quality impacts from illegal disposal of spent batteries resulting in battery acid leaking into the environment were also identified in the 2007 AQMP. As a result, mitigation measures HWQ-4 and HWQ-5 were identified to mitigate this type of potential water quality impact. It was concluded that implementing these two mitigation measures would reduce potential water quality impacts from illegal disposal of spent batteries to less than significant. However, because no 2007 AQMP black box control measures contributed to this water quality impact, the mitigation measures are no longer applicable. As indicated in Chapter 2 of this Final Program EIR, the SCAQMD and CARB have adopted all short-term control measures within their authority, so that only black box

control measures remain. Since Alternative 1 does not include short-term control measures, potential hydrology and water quality materials impacts would be even less compared to the 2007 AQMP when it was originally adopted. Consequently, overall hydrology and water quality impacts from Alternative 1 are concluded to be less than significant and less than hydrology and water quality impacts from the 2012 AQMP.

Since, anticipated project-specific hydrology and water quality impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hydrology or water quality impacts would be less significant and less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative hydrology or water quality impacts generated by the 2012-2035 RTP/SCS. Since hydrology and water quality impacts from Alternative 1 are not cumulatively considerable, cumulative hydrology and water quality impacts from Alternative 1 are not significant and are less than cumulative hydrology and water quality impacts from the 2012 AQMP.

6.5.5.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, hydrology and water quality impacts from implementing Alternative 2 would be the same as potential hydrology and water quality impacts from implementing the 2012 AQMP. For the complete analysis of hydrology and water quality impacts from the 2012 AQMP, refer to Subchapter 4.5 – Hydrology and Water Quality. Potential hydrology and water quality impacts from implementing Alternative 2 are described in the following subsections.

6.5.5.3.1 PM2.5 Control Measures

Because Alternative 2 contains most of the same PM2.5 control measures as the 2012 AQMP, it has the potential generate the same hydrology and water quality impacts. Potential hydrology and water quality impacts associated with Alternative 2 PM2.5 control measures (e.g., BCM-03, IND-01, MCS-01, etc.) were analyzed and the following impacts were identified: water demand and wastewater discharge from operating wet ESPs or wet scrubbers, water quality impacts from the use of alternative fuels and fuel additives, water demand and water quality impacts from wastewater discharges from increased use of water-based formulations. Of the potential hydrology and water quality impacts analyzed, water demand impacts associated with the manufacture and use of waterborne and add-on air pollution control technologies were concluded to be significant. While mitigation measures are available, they can vary from jurisdiction to jurisdiction, and may remain significant. The hydrology and water quality impacts associated with wastewater generation and related wastewater quality are less than significant. Further, the use and application of SBS (BCM-04) on water quality is also expected to be less than significant. Consequently, water

demand impacts from Alternative 2 PM2.5 control measures are the same as water demand impacts from 2012 AQMP PM2.5 controls and are concluded to be significant.

6.5.5.3.2 Ozone Control Measures

Water demand impacts associated with Alternative 2 ozone control measures (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01) are potentially significant for water demand. Under Alternative 2, water quality impacts associated with wastewater generation and related wastewater quality from the same 2012 AQMP ozone control measures (see Subsection 6.5.5.1.2) are less than significant. Similarly, under Alternative 2 no significant adverse hydrology and water quality impacts are expected from the increased use of alternative fuels (see Subsection 6.5.5.1.2). No significant adverse water quality impacts associated with increase battery use in EV and hybrid vehicles are expected (see Subsection 6.5.5.1.2). 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. Overall, water demand impacts from Alternative 2 are concluded to be significant and equivalent to the 2012 AQMP. Water quality impacts from Alternative 2 are concluded to be less than significant and equivalent to the 2012 AQMP.

6.5.5.3.3 Project-specific and Cumulative Impacts Conclusion

Under Alternative 2, water demand impacts from some types of air pollution control equipment (wet ESPs) and reformulating coatings with water-based coatings would be the same as water demand impacts from the 2012 AQMP PM2.5 and ozone control measures and are potentially significant. As a result, the water demand mitigation measures identified in Subchapter 4.5 of thise Final Program EIR would be applicable to Alternative 2. Similarly, in spite of applying the 2012 AQMP water demand mitigation measures, implementing Alternative 2 PM2.5 and ozone control measures has the potential to generate significant adverse water demand impacts. No other hydrology or water quality impacts from Alternative 2 PM2.5 or ozone control measures were identified. Therefore, project-specific water demand impacts from implementing Alternative 2 PM2.5 and ozone control measures are equivalent to water demand impacts from the 2012 AQMP and are concluded to be significant and unavoidable.

Since, anticipated project-specific water demand impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Other hydrology or water quality impacts from implementing Alternative 2 PM2.5 and ozone control measures were identified, but concluded to be less than significant. Further, since project-specific hydrology or water quality (water demand) impacts would be significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would contribute to significant adverse cumulative hydrology or water quality (water demand) impacts generated by the 2012-2035 RTP/SCS. Since water demand impacts from Alternative 2 are cumulatively considerable, cumulative water demand impacts from Alternative 2 are significant. No measures beyond those identified in Subchapter 4.5 were identified to mitigate significant adverse cumulative water demand impacts.

6.5.5.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential hydrology and water quality impacts from implementing Alternative 3 PM2.5 control measures would be the same as potential hydrology and water quality impacts from implementing the 2012 AQMP. It is expected, however, that potential hydrology and water quality impacts from Alternative 3 ozone control measures would be greater than those from the 2012 AQMP.

6.5.5.4.1 PM2.5 Control Measures

Alternative 3 contains all of the same PM2.5 control measures as the 2012 AQMP, except BCM-01, however. BCM-01 was evaluated and it was concluded that it does not have the potential to contribute to hydrology and water quality impacts. Consequently Alternative 3 PM2.5 measures would generate hydrology water quality impacts equivalent to the 2012 AQMP. The analysis indicated that the 2012 AQMP has the potential generate potential hydrology and water quality impacts associated with PM2.5 control measures (e.g., BCM-03, IND-01, MCS-01, etc.) which were analyzed and the following impacts were identified: water demand and wastewater discharge from operating wet ESPs or wet scrubbers, water quality impacts from the use of alternative fuels and fuel additives, water demand and water quality impacts from wastewater discharges from increased use of water-based formulations. The hydrology and water quality impacts associated with wastewater generation and related wastewater quality are less than significant. Further, the use and application of SBS (BCM-04) on water quality is also expected to be less than significant. Consequently, water demand impacts from Alternative 3 PM2.5 control measures are the same as water demand impacts from 2012 AQMP PM2.5 controls and are concluded to be significant.

6.5.5.4.2 Ozone Control Measures

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered or replaced vehicles from the year 2014 through 2017. Hydrology and water quality impacts associated with Ozone control measures are potentially significant for water demand (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01). The water quality impacts associated with wastewater generation and related wastewater quality from 2012 AQMP control measures (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01) are less than significant. Less than significant adverse hydrology and water quality impacts are expected from the increased use of alternative fuels (IND-01, MSC-01, ONRD-01, ONRD-02, 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). Similarly, less than significant adverse water quality impacts associated with increase battery use in EV and hybrid vehicles are expected (ONRD-01, ONRD-03, ONRD-04, ONRD-05, ADV-01, ADV-02, ADV-03, ADV-04, ADV-06, and ADV-07). 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.

Although it is expected that ozone Control Measure ONRD-03 would result in double the number of trucks complying with the 2010 engine exhaust standards and OFFRD-01 would likely affect approximately three times as many vehicles, water quality impacts could be greater than for the 2012 AQMP, but they are not expected to be significant because the use of alternative fuels is not expected to result in any greater adverse water quality impacts than the use of conventional fuels like diesel or gasoline. Similarly, since none of the alternative fuels typically require water as part of their manufacturing or distribution processes, any increased use of alternative fuels under Alternative 3 would not likely be greater than under the 2012 AQMP.

Mitigation measures to reduce water demand impacts were identified for the 2012 AQMP and would apply to Alternative 3 as well. In spite of implementing the water demand mitigation measures, water demand impacts from Alterative 3 are expected to remain significant and equivalent to the 2012 AQMP and water quality impacts are expected to be less than significant and equivalent to the 2012 AQMP.

6.5.5.4.3 Project-specific and Cumulative Impacts Conclusion

Based on the above information, like the 2012 AQMP, Alternative 3 PM2.5 and ozone control measures are not expected to create significant adverse project-specific water quality impacts, but would be expected to generate water demand impacts equivalent to the 2012 AQMP. To ensure that water demand impacts remain significant, four mitigation measures were identified. Because Alternative 3 Control Measures ONRD-03 and OFFRD-01 would affect more on- and off-road sources than the comparable measures in the 2012 AQMP, project-specific impacts would be expected to be greater than impacts from the 2012 AQMP, but still less than significant.

Since, anticipated project-specific hydrology and water quality impacts from Alternative 3 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hydrology or water quality impacts would be significant and greater than those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative hydrology or water quality impacts generated by the 2012-2035 RTP/SCS. Since hydrology and water quality impacts from Alternative 3 are cumulatively considerable, cumulative hydrology and water quality impacts from Alternative 3 are significant and greater than cumulative hydrology and water quality impacts from the 2012 AQMP.

6.5.5.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of hydrology and water quality impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.5 – Hydrology and Water Quality. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential hydrology and water quality impacts from implementing Alternative 4 are described in the following subsections.

6.5.5.5.1 PM2.5 Control Measures

Because Alternative 4 contains all of the same PM2.5 control measures as the 2012 AQMP, it has the potential generate the same hydrology and water quality impacts. Potential hydrology and water quality impacts associated with Alternative 4 PM2.5 control measures (e.g., BCM-03, IND-01, MCS-01, etc.) were analyzed and the following impacts were identified: water demand and wastewater discharge from operating wet ESPs or wet scrubbers, water quality impacts from the use of alternative fuels and fuel additives, water demand and water quality impacts from wastewater discharges from increased use of water-based formulations. Of the potential hydrology and water quality impacts analyzed, water demand impacts associated with the manufacture and use of waterborne and add-on air pollution control technologies were concluded to be significant. While mitigation measures are available, they can vary from jurisdiction to jurisdiction, and may remain significant. The hydrology and water quality impacts associated with wastewater generation and related wastewater quality are less than significant. Further, the use and application of SBS (BCM-04) on water quality is also expected to be less than significant. Consequently, water demand impacts from Alternative 4 PM2.5 control measures are the same as water demand impacts from 2012 AQMP PM2.5 controls and are concluded to be significant.

6.5.5.5.2 Ozone Control Measures

Water demand impacts associated with Alternative 4 ozone control measures (CTS-01, CTS-02, CTS-03, CTS-04, and FUG-01) are potentially significant for water demand. Under Alternative 4, water quality impacts associated with wastewater generation and related wastewater quality from the same 2012 AQMP ozone control measures (see Subsection 6.5.5.1.2) are less than significant. Similarly, under Alternative 4 no significant adverse hydrology and water quality impacts are expected from the increased use of alternative fuels (see Subsection 6.5.5.1.2). No significant adverse water quality impacts associated with increase battery use in EV and hybrid vehicles are expected (see Subsection 6.5.5.1.2). 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.

6.5.5.5.3 Project-specific and Cumulative Impacts Conclusion

Because Alternative 4 does not specifically include any ozone control measures, like Alternative 1, it relies on the ozone portion of the 2007 AQMP. It was concluded in the 2007 Program EIR that water quality impacts from implementing all 2007 AQMP control measures would not be significant. However, the mitigation measures HWQ1, HWQ2, and HWQ3 were identified to ensure that water quality impacts would remain less than significant (see Subsection 6.5.5.2.3 for a description of these control measures).

Because Control Measure SCLTM-03 contributed to water quality impacts identified in the 2007 AQMP, the same mitigation measures would continue to be applicable under Alternative 4.

Potentially significant water quality impacts from illegal disposal of spent batteries resulting in battery acid leaking into the environment were also identified in the 2007 AQMP. As a result, mitigation measures HWQ4 and HWQ5 were identified to mitigate this type of potential water quality impact. It was concluded that implementing these two mitigation measures would reduce potential water quality impacts from illegal disposal of spent batteries to less than significant. However, because no 2007 AQMP black box control measures contributed to this water quality impact, the mitigation measures are no longer applicable. As indicated in Chapter 2 of this Final Program EIR, the SCAQMD and CARB have adopted all short-term control measures within their authority, so that only black box control measures remain. Since Alternative 4 does not include short-term control measures, potential hydrology and water quality materials impacts would be even less compared to the 2007 AQMP when it was originally adopted. Consequently, overall hydrology and water quality impacts from Alternative 4 are concluded to be less than significant and less than hydrology and water quality impacts from the 2012 AQMP.

Since, anticipated project-specific hydrology and water quality impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific hydrology or water quality (water demand) impacts would be significant, but less than those generated by the 2012 AQMP, Alternative 4 would contribute to significant adverse cumulative hydrology or water quality impacts generated by the 2012-2035 RTP/SCS. Since hydrology and water quality impacts from Alternative 4 are cumulatively considerable, cumulative hydrology and water quality impacts from Alternative4 are significant, but are less than significant cumulative hydrology and water quality impacts from the 2012 AQMP.

6.5.6 Land Use and Planning

The potential direct and indirect land use and planning impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect land use and planning impacts from each alternative relative to the 2012 AQMP.

6.5.6.1 Proposed Project

Potential direct and indirect land use and planning impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.6 - Land Use and Planning.

6.5.6.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.6 indicated that no 2012 AQMP PM2.5 control measures were identified that have the potential to significantly adversely affect land use and planning decisions by local land use agencies. Therefore, potential impacts to land use and planning are concluded to be less than significant.

6.5.6.1.2 Ozone Control Measures

The analysis in Subchapter 4.6 identified the following 2012 AQMP ozone control measures as having the potential to create significant adverse land use and planning impacts, including visual impacts and impacts to scenic highways, ozone Control Measures ONRD-05, ADV-01, and ADV-2. These control measures identify construction of "wayside" power (such as electricity from overhead wires) as one of the zero emission technologies that could be used to reduce emissions from heavy-duty trucks and locomotives. Wayside power technologies include overhead catenary lines, where power is delivered from the electrical grid through the overhead wire to a pantograph on the vehicle itself. Catenary systems are well-established and efficient in light-rail applications, trolley cars and buses, and even mining trucks.

Control Measure ADV-01 indicates that the I-710 corridor was selected as high priority for introduction of zero-emission technology[6]. The 2012-2035 RTP/SCS also designates a route along the State Route 60 freeway as an east-west freight corridor[7]. In addition, there is currently a pilot project under consideration to install catenary lines at one of two sites, a site along the Terminal Island Freeway and on Navy at the Port of Los Angeles. Construction activities to install catenary lines at these locations would be expected to occur along heavily travelled roadways such as those identified above and possibly on other roads near the ports, such as Sepulveda Boulevard, Terminal Island Freeway, and Alameda Street.

Installation of electric and/or magnetic infrastructure will not change the existing condition (i.e., there will be limited opportunities to cross these major transportation corridors); however, the installation of the electric and/or magnetic infrastructure is not expected to create any new barriers or physically divide an established community. Further, the electric and/or magnetic infrastructure would be expected to be construction within or adjacent to the existing rights-of-way of existing streets and freeways, so no conflict with existing land

---

[6] Los Angeles County Metropolitan Transportation Authority, *Alternative Goods Movement Technology Analysis-Initial Feasibility Study Report, Final Report: I-710 Corridor Project EIR/EIS*. Prepared by URS. January 6, 2009.

[7] Los Angeles County Metropolitan Transportation Authority, *Alternative Goods Movement Technology Analysis-Initial Feasibility Study Report, Final Report: I-710 Corridor Project EIR/EIS*. Prepared by URS. January 6, 2009.

uses, general plans, specific plans, local coastal program, zoning ordinance, or other policies would be expected. Therefore, land use and planning impacts from the 2012 AQMP are concluded to be less than significant.

6.5.6.1.3 Project-specific and Cumulative Impacts Conclusion

Overall, it was concluded in Subchapter 4.6 that 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 project-specific land use impacts are expected.

Since, anticipated project-specific land use and planning impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific land use and planning impacts from the 2012 AQMP were evaluated in connection with land use and planning impacts from SCAG's 2012-2035 RTP/SCS. Further, since project-specific land use and planning impacts would be less than significant for the 2012 AQMP, the 2012 AQMP would not contribute to significant adverse cumulative land use and planning impacts generated by the 2012-2035 RTP/SCS. Since aesthetics impacts from the 2012 AQMP are not cumulatively considerable, cumulative aesthetics impacts from the 2012 AQMP are not significant.

6.5.6.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, land use and planning impacts for Alternative 1 will focus only on potential impacts identified for the black box measures. Potential land use and planning impacts from implementing Alternative 1 are described in the subsection.

6.5.6.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason and the fact that land use and planning was not an environmental topic identified in the NOP/IS for the 2007 AQMP that could be adversely affected by that AQMP, Alternative 1 is not expected to create any land use and planning impacts.

6.5.6.2.2 Ozone Control Measures

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. The analysis of potential land use and planning impacts from the 2012 AQMP was not originally identified as a topic that would be adversely affected by the 2012 AQMP. However, public comments received on the 6/28/12 NOP/IS requested that land use and planning be added to the analysis of impacts in the 2012

AQMP Final Program EIR because it was suggested that construction and operation fixed guideway systems contemplated as part of Control Measure ONRD-05 "may impact established communities."

As shown in Table 6-4, like Control Measure ONRD-05, 2007 AQMP Control Measure Off-Road Vehicles (SCLTM-02) would also regulate heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies. However, fixed guideway systems were not identified as a possible method of reducing heavy-duty truck emissions. The NOP/IS for the 2007 AQMP concluded that since the 2007 AQMP did not require construction of structures or new land uses in any areas of the district, no land use and planning impacts would be generated and land use and planning impacts would be less than would occur for the 2012 AQMP.

6.5.6.2.3 Project-specific and Cumulative Impacts Conclusion

The NOP/IS for the 2007 AQMP concluded that the 2007 AQMP would not generate any land use and planning impacts. Therefore, consistent with the assumptions in Subsection 6.5.1.2.1, it is presumed that Alternative 1 would not generate significant adverse project-specific land use and planning impacts.

Since, anticipated project-specific land use and planning impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific land use and planning impacts would be less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative land use and planning impacts generated by the 2012-2035 RTP/SCS. Since land use and planning impacts from Alternative 1 are not cumulatively considerable, cumulative land use and planning impacts from Alternative 1 are not significant and would be less than cumulative land use and planning impacts from the 2012 AQMP.

6.5.6.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential land use and planning impacts from implementing Alternative 2 would be the same as potential land use and planning impacts from implementing the 2012 AQMP. For the complete analysis of land use and planning impacts from the 2012 AQMP, refer to Subchapter 4.6 – Land Use and Planning. Potential land use and planning impacts from implementing Alternative 2 are described in the following subsections.

6.5.6.3.1 PM2.5 Control Measures

Similar to the analysis of land use and planning impacts for the 2012 AQMP in Subchapter 4.6, no PM2.5 control measures were identified from implementing Alternative 2 that have the potential to significantly adversely affect land use and planning by local land use agencies. The three episodic control measures in this alternative that would apply only to the Mira Loma area do not contain any provisions for constructing wayside electricity such as catenary electric lines. Therefore, potential land use and planning impacts from implementing 2012 AQMP PM2.5 control measures were concluded to be less than significant. This same conclusion applies to Alternative 2.

6.5.6.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 Control Measure ONRD-04) applies only to the Mira Loma area, land use and planning impacts from implementing Alternative 2 ozone control measures would be the same as the land use and planning impacts from implementing the 2012 AQMP ozone control measures. As shown in the analysis of land use and planning impacts for the 2012 AQMP in Subchapter 4.6, implementing ozone control measures from Alternative 2 (e.g., ozone Control Measures ONRD-05, ADV-01, and ADV-2) has the potential to generate adverse land use and planning impacts, such impacts would be less than significant. No other 2012 AQMP ozone control measures were identified that could affect land use and planning. This same conclusion applies to Alternative 2 because it contains the same three ozone control measures that have the potential to affect aesthetics resources.

6.5.6.3.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential project-specific adverse land use and planning impacts from Alternative 2 would be the same as potential project-specific land use and planning impacts from the 2012 AQMP and less than significant, because construction of the catenary or overhead power lines would not expected to conflict with applicable land use plans, policies, or regulations or physically divide an established community.

Since, anticipated project-specific land use and planning impacts from Alternative 2 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific land use and planning impacts would be less than those generated by the 2012 AQMP, Alternative 2 would not contribute to significant adverse cumulative land use and planning impacts generated by the 2012-2035 RTP/SCS. Since land use and planning impacts from Alternative 2 are not cumulatively considerable, cumulative land use and planning impacts from Alternative 2 are not significant and equivalent to the 2012 AQMP.

6.5.6.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP

Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential land use and planning impacts from implementing Alternative 3 would be the same as potential land use and planning impacts from implementing the 2012 AQMP. For the complete analysis of land use and planning impacts from the 2012 AQMP, refer to Subchapter 4.6 – Land Use and Planning.

6.5.6.4.1 PM2.5 Control Measures

Similar to the analysis of land use and planning impacts for the 2012 AQMP in Subchapter 4.6, no PM2.5 control measures were identified from implementing Alternative 3 that have the potential to significantly adversely affect land use and planning by local land use agencies. Potential land use and planning impacts from implementing the 2012 AQMP were concluded to be less than significant (see Subchapter 4.6 of this Final Program EIR). This same conclusion applies to Alternative 3.

6.5.6.4.2 Ozone Control Measures

Similar to the analysis of land use and planning impacts for the 2012 AQMP in Subchapter 4.1, implementing ozone control measures from Alternative 3 (e.g., ozone Control Measures ONRD-05, ADV-01, and ADV-2) has the potential to generate adverse land use and planning impacts. No other 2012 AQMP ozone control measures were identified that could affect land use and planning by local land use agencies. This same conclusion applies to Alternative 3 because it contains the same three ozone control measures that have the potential to generate land use and planning impacts. Consequently, land use and planning impacts from Alternative 3 would be the same as for the 2012 AQMP and both would be less than significant.

6.5.6.4.3 Project-specific and Cumulative Impacts Conclusion

As explained above, potential project-specific adverse land use and planning impacts from implementing Alternative 3 PM2.5 and ozone control measures would be the same as potential project-specific land use and planning impacts from implementing 2012 AQMP PM2.5 and ozone control measures and less than significant.

Since, anticipated project-specific land use and planning impacts from Alternative 3 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific land use and planning impacts would be less than those generated by the 2012 AQMP, Alternative 3 would not contribute to significant adverse cumulative land use and planning impacts generated by the 2012-2035 RTP/SCS. Since land use and planning impacts from Alternative 3 are not cumulatively considerable, cumulative land use and planning impacts from Alternative 3 are not significant and equivalent to the 2012 AQMP.

6.5.6.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of land use and planning

impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.6 – Land Use and Planning. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential land use and planning impacts from implementing Alternative 4 are described in the following subsections.

6.5.6.5.1 PM2.5 Control Measures

Similar to the analysis of land use and planning impacts for the 2012 AQMP in Subchapter 4.6, no PM2.5 control measures were identified from implementing Alternative 4 that have the potential to significantly adversely affect land use and planning by local land use agencies. Potential land use and planning impacts from implementing the 2012 AQMP were concluded to be less than significant (see Subchapter 4.6 of this Final Program EIR). This same conclusion applies to Alternative 4.

6.5.6.5.2 Ozone Control Measures

Adopting Alternative 4 means that the ozone SIP portion of the 2007 AQMP would remain in effect. As shown in Table 6-2 and discussed in subsection 6.5.1.2.3, 2012 AQMP Control Measure ONRD-05 would regulate the same emissions sources as 2007 AQMP Control Measure On-road Heavy-duty Vehicles (SCLTM-01B) (e.g., heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies). However, catenary systems were not identified as a possible method of reducing heavy-duty truck emissions. In fact, it was concluded in the NOP/IS for the 2007 AQMP that some control measures may have beneficial effects on scenic resources by improving visibility as well as improving air quality, preventing smoke, limiting opening burning and wood burning; and minimizing fugitive dust emissions. Therefore, it is concluded that Alternative 4 does not have the potential to generate significant adverse aesthetics impacts.

6.5.6.5.3 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, when considering overall land use and planning impacts from implementing Alternative 4, no significant adverse land use and planning impacts were identified from implementing PM2.5 or ozone control measures. Therefore, it is presumed that Alternative 4 would not generate significant adverse land use and planning impacts. Finally, it is concluded that potential adverse land use and planning impacts from implementing Alternative 4 would be less than for the 2012 AQMP because unlike the 2012 AQMP, Alternative 4 does not contain any control measures that adversely affect land use and planning.

Since, anticipated project-specific land use and planning impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific

land use and planning impacts would be less than those generated by the 2012 AQMP and less than significant, Alternative 4 would not contribute to significant adverse cumulative land use and planning impacts generated by the 2012-2035 RTP/SCS. Since land use and planning impacts from Alternative 4 are not cumulatively considerable, cumulative land use and planning impacts from Alternative 4 are not significant and less than the 2012 AQMP.

6.5.7 Noise

The potential direct and indirect noise impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect noise impacts from each alternative relative to the 2012 AQMP.

6.5.7.1 Proposed Project

Potential direct and indirect noise impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.7 - Noise.

6.5.7.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.7 identified three 2012 AQMP PM2.5 control measures, BCM-03, IND-01, and MCS-01 that have the potential to generate the adverse construction noise/vibration impacts. The analysis of noise impacts in Subchapter 4.7 indicated that three control measures identified here may result in construction activities associated with air pollution control equipment and other control strategies that could generate construction noise/vibration impacts. However, potential adverse construction noise/vibration impacts from implementing PM2.5 control measures were concluded to be less than significant because construction noise/vibration impacts associated with installing control equipment would occur within appropriately zoned industrial and commercial areas, impacts would be temporary and limited to construction activities, and construction noise/vibration impacts to sensitive receptors would not be expected.

6.5.7.1.2 Ozone Control Measures

The analysis in Subchapter 4.7 identified a number of 2012 AQMP ozone control measures as having the potential to create the following adverse construction noise/vibration impacts. Ozone control measures from the 2012 AQMP have the potential to generate adverse noise impacts as a result of construction activities associated with: installing emission control technologies onto stationary source equipment; installing battery charging or fueling infrastructures, as well as transportation infrastructure, constructing wayside power, catenary lines or other similar technologies. Potential noise/vibration impacts of the ozone control measures during the construction phases were determined to be significant. Nine mitigation measures (see Subchapter 4.7, Section 4.7.5) were identified to reduce potential construction noise/vibration, however, construction noise/vibration impacts could remain significant in areas where sensitive receptors are located near transportation corridors.

6.5.7.1.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in Subchapter 4.7 that potential construction noise/vibration impacts from implementing 2012 AQMP PM2.5 control measures would be significant. However, in spite of identifying construction noise/vibration mitigation measures, potential construction noise/vibration impacts were concluded to remain significant. Therefore, project-specific construction noise/vibration impacts associated with the 2012 AQMP are concluded to be significant.

Since, anticipated project-specific construction noise/vibration impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific noise and vibration impacts from the 2012 AQMP were evaluated in connection with noise and vibration impacts from SCAG's 2012-2035 RTP/SCS. Further, since project-specific construction noise and vibration impacts would be significant, the 2012 AQMP would contribute to significant adverse cumulative noise and vibration impacts generated by the 2012-2035 RTP/SCS. Since construction noise/vibration impacts from the 2012 AQMP are cumulatively considerable, cumulative construction noise/vibration impacts from the 2012 AQMP are significant.

6.5.7.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures.

6.5.7.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason and the fact that noise was not an environmental topic identified in the NOP/IS for the 2007 AQMP that could be adversely affected by that AQMP, Alternative 1 is not expected to create any noise impacts.

6.5.7.2.2 Ozone Control Measures

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. The analysis of potential noise impacts from the 2012 AQMP was not originally identified as a topic that would be adversely affected by the 2012 AQMP. However, public comments received on the 6/28/12 NOP/IS requested that noise impacts be added to the analysis of impacts in the 2012 AQMP Final Program EIR because of the potential for noise impacts "from the construction and operation of control measures in support of the 2012 AQMP. In particular it was asserted that construction and operation of Control Measure ONRD-05 could create potential noise impacts to nearby sensitive receptors.

As shown in Table 6-4, most Alternative 1 control measures would regulate mobile sources, although there is one control measure that would regulate consumer products. These control measures do not typically require construction activities and it is unlikely that operation would noticeably affect noise levels because control technologies that control emissions from mobile sources do not typically have movable parts that could generate noise.

Like Control Measure ONRD-05, 2007 AQMP Control Measure Off-Road Vehicles (SCLTM-02) would also regulate heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies. However, fixed guideway systems were not identified as a possible method of reducing heavy-duty truck emissions. The NOP/IS for the 2007 AQMP concluded that installing air pollution control equipment would not substantially increase ambient [operational] noise levels in the area, either permanently or intermittently, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels. Further, it was not expected that affected facilities would exceed noise standards established in local general plans, noise elements, or noise ordinances currently in effect. Consequently noise impacts from Alternative 1 would not be significant and would be less than the 2012 AQMP.

6.5.7.2.3 Project-specific and Cumulative Impacts Conclusion

As a result, the NOP/IS for the 2007 AQMP concluded that the 2007 AQMP would not generate any noise impacts. Therefore, consistent with the assumptions in Subsection 6.4.1, it is presumed that Alternative 1 would not generate significant adverse noise impacts.

Since, anticipated project-specific noise impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific noise and vibration impacts would be less than those generated by the 2012 AQMP, would be less than significant and less than the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative noise and vibration impacts generated by the 2012-2035 RTP/SCS. Since noise impacts from Alternative 1 are not cumulatively considerable, cumulative noise impacts from Alternative 1 are not significant and less than noise impacts from the 2012 AQMP.

6.5.7.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential noise impacts from implementing Alternative 2 would be the same as potential noise impacts from implementing the 2012 AQMP. For the complete analysis of solid and hazardous waste impacts from the 2012 AQMP, refer to Subchapter 4.7 – Noise. Potential noise impacts from implementing Alternative 2 are described in the following subsections.

6.5.7.3.1 PM2.5 Control Measures

Similar to the analysis of construction noise/vibration impacts for the 2012 AQMP in Subchapter 4.7, none of the three PM2.5 control measures in the 2012 AQMP that regulates the same sources as the episodic control measures in Alternative 2 was identified as contributing to construction noise/vibration impacts. However, because all other 2012 AQMP PM2.5 control measures, including those contributing to adverse construction noise/vibration impacts, are also included in Alternative 2, it has the potential to generate the same construction noise/vibration impacts as implementing the 2012 AQMP, which were concluded to be less than significant. This same conclusion applies to Alternative 2.

6.5.7.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 control measure ONRD-04) applies only to the Mira Loma area, potential construction noise/vibration impacts from implementing Alternative 2 ozone control measures would be the same as the solid and hazardous waste impacts from implementing the 2012 AQMP ozone control measures (e.g., noise from construction activities associated with: installing emission control technologies onto stationary source equipment; installing battery charging or fueling infrastructures, as well as transportation infrastructure, constructing wayside power, catenary lines or other similar technologies). Similar to the significance determination for potential construction noise/vibration impacts of the ozone control measures from the 2012 AQMP, construction noise/vibration during construction phases under Alternative 2 would also be significant. The nine mitigation measures (see Subchapter 4.7, Section 4.7.5) identified to reduce potential construction noise/vibration impacts from the 2012 ozone control measures would continue to apply to Alternative 2; however, construction noise/vibration impacts could remain significant in areas where sensitive receptors are located near transportation corridors.

6.5.7.3.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential construction noise/vibration impacts from implementing Alternative 2 PM2.5 control measures would be less than significant. However, implementing Alternative 2 ozone control measures could generate significant adverse construction noise/vibration impacts. In spite of applying construction noise/vibration mitigation measures, potential construction noise/vibration impacts were concluded to be significant. Therefore, project-specific construction noise/vibration impacts associated with Alternative 2 are concluded to be significant.

Since, anticipated project-specific construction noise/vibration impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific noise and vibration impacts would be significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would contribute to significant adverse cumulative noise and vibration impacts generated by the 2012-2035 RTP/SCS. Since construction noise/vibration impacts from the Alternative 2 are cumulatively considerable, cumulative construction

noise/vibration impacts from the Alternative 2 are significant and equivalent to the 2012 AQMP.

6.5.7.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential noise impacts from implementing Alternative 3 would be the same as potential noise impacts from implementing the 2012 AQMP. For the complete analysis of noise impacts from the 2012 AQMP, refer to Subchapter 4.7 – Noise.

6.5.7.4.1 PM2.5 Control Measures

Similar to the analysis of construction noise/vibration impacts for the 2012 AQMP in Subchapter 4.7, no PM2.5 control measures were identified from implementing Alternative 3 that have the potential to generate significant adverse construction noise/vibration impacts. Potential construction noise/vibration impacts from implementing the 2012 AQMP were concluded to be less than significant (see Subchapter 4.7 of this Final Program EIR). This same conclusion applies to Alternative 3.

6.5.7.4.2 Ozone Control Measures

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Alternative 3 ozone Control Measure OFFRD-01 was evaluated and it was concluded that it did not have the potential to generate noise impacts.

The analysis of the 2012 AQMP ozone control measures, including Control Measure ONRD-03, indicated that the 2012 AQMP has the potential to create adverse noise impacts as a result of construction activities associated with: installing emission control technologies onto stationary source equipment; installing battery charging or fueling infrastructures, as well as transportation infrastructure, constructing wayside power, catenary lines or other similar technologies. Potential noise/vibration impacts of the ozone control measures during the construction phases were determined to be significant. Although Alternative 3 ozone Control Measure ONRD-03 is expected to double the number of trucks complying with the year 2010 engine exhaust standards, they would use the same sources of electricity as trucks under the 2102 AQMP. Consequently, no additional construction noise impacts would occur under Alternative since no additional sources of electricity would need to be constructed. Nine mitigation measures (see Subchapter 4.7, Section 4.7.5) were identified to reduce potential construction noise/vibration, however, construction noise/vibration impacts

from Alternative 3 could remain significant in areas where sensitive receptors are located near transportation corridors and equivalent to the 2012 AQMP.

6.5.7.4.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential construction noise/vibration impacts from implementing Alternative 3 PM2.5 control measures would be less than significant. However, implementing Alternative 3 ozone control measures could generate significant adverse construction noise/vibration impacts. In spite of applying construction noise/vibration mitigation measures, potential construction noise/vibration impacts were concluded to be significant. Therefore, project-specific construction noise/vibration impacts associated with Alternative 3 are concluded to be significant.

Since, anticipated project-specific construction noise/vibration impacts from Alternative 3 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific noise and vibration impacts would be significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative noise and vibration impacts generated by the 2012-2035 RTP/SCS. Since construction noise/vibration impacts from the Alternative 3 are cumulatively considerable, cumulative construction noise/vibration impacts from the Alternative 3 are significant and equivalent to the 2012 AQMP.

6.5.7.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of noise impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.7 – Noise. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential noise impacts from implementing Alternative 4 are described in the following subsections.

6.5.7.5.1 PM2.5 Control Measures

Similar to the analysis of construction noise/vibration impacts for the 2012 AQMP in Subchapter 4.7, no PM2.5 control measures were identified from implementing Alternative 4 that have the potential to generate significant adverse construction noise/vibration impacts. Potential construction noise/vibration impacts from implementing the 2012 AQMP were concluded to be less than significant (see Subchapter 4.7 of this Final Program EIR). This same conclusion applies to Alternative 4.

6.5.7.5.2 Ozone Control Measures

Adopting Alternative 4 means that the ozone SIP portion of the 2007 AQMP would remain in effect. The NOP/IS for the 2007 AQMP concluded that the 2007 AQMP may require existing commercial or industrial owners/operators of affected facilities to install air

pollution control equipment or modify their operations to reduce stationary source emissions. Potential modifications would occur at facilities typically located in appropriately zoned industrial or commercial areas. Further, ambient noise levels in commercial and industrial areas are typically driven primarily by freeway and/or highway traffic in the area and any heavy-duty equipment used for materials manufacturing or processing at nearby facilities. It was concluded in the 2007 AQMP NOP/IS that, since modifications to install air pollution control equipment would not substantially increase ambient [operational] noise levels in the area, either permanently or intermittently or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels, noise impacts from the 2007 AQMP would be less than significant. Therefore, consistent with the assumptions in Subsection 6.4.1, it is presumed that implementing Alternative 4 ozone control measures would not generate significant adverse noise impacts and noise impacts would be less than noise impacts from the 2012.

6.5.7.5.3 Project-specific and Cumulative Impacts Conclusion

Based on the above information, implementing Alternative 4 PM2.5 control measures would not generate significant adverse noise impacts. As indicated in the 2007 AQMP NOP IS, the 2007 AQMP would not generate any adverse noise impacts. Therefore, consistent with the assumptions in Subsection 6.4.1, it is presumed that Alternative 4 would not generate significant adverse project-specific noise impacts, which means that noise impacts would be less than for the 2012 AQMP, which were concluded to be significant.

Since, anticipated project-specific noise impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific construction noise and vibration impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 4 would not contribute to significant adverse cumulative noise and vibration impacts generated by the 2012-2035 RTP/SCS. Since noise impacts from Alternative 4 are not cumulatively considerable, cumulative noise impacts from Alternative 4 are not significant and less than noise impacts from the 2012 AQMP.

6.5.8 Solid and Hazardous Waste

The potential direct and indirect solid and hazardous waste impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect aesthetics impacts from each alternative relative to the 2012 AQMP.

6.5.8.1 Proposed Project

Potential direct and indirect solid and hazardous waste impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.8 – Solid and Hazardous Waste.

6.5.8.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.8 identified three 2012 AQMP PM2.5 control measures, BCM-03, IND-01, and MCS-01 that have the potential to generate the following adverse solid hazardous waste impacts. PM2.5 Control Measures BCM-01 and MCS-01 have the potential to generate solid waste associated with air pollution control equipment (e.g., filters). PM2.5 Control Measure IND-01 was also identified as having the potential generate solid waste impacts due to early retirement of equipment, solid was associated with air pollution control equipment, and EV battery disposal. However, potential adverse solid and hazardous waste impacts from implementing PM2.5 control measures were concluded to be less than significant.

6.5.8.1.2 Ozone Control Measures

The analysis in Subchapter 4.8 identified a number of 2012 AQMP ozone control measures as having the potential to create the following adverse solid and hazardous waste impacts. Potential solid and hazardous waste impacts from ozone control measures could occur due to burner replacement and SCR catalyst disposal. Similarly, potential solid and hazardous waste impacts from implementing ozone control measures from combustion equipment replacement, generation of solid waste from air pollution control equipment (e.g., used filters), and EV battery disposal. Finally, solid and hazardous waste impacts from implementing ozone control measures could potentially result in an increase in solid waste generation from early retirement of vehicles and EV battery disposal. However, potential adverse solid and hazardous waste impacts from implementing ozone control measures were concluded to be less than significant.

6.5.8.1.3 Project-specific and Cumulative Impacts Conclusion

Overall, it was concluded in Subchapter 4.8 that potential solid and hazardous waste impacts from implementing the 2012 AQMP would be less than significant. Therefore, project-specific solid and hazardous waste impacts associated with the 2012 AQMP are less than significant.

Since anticipated project-specific solid and hazardous waste impacts from the 2012 AQMP are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific solid and hazardous waste impacts from the 2012 AQMP were evaluated in connection with air quality impacts from SCAG's 2012-2035 RTP/SCS. Further, since project-specific solid and hazardous waste impacts would be less than significant, the 2012 AQMP would not contribute to significant adverse cumulative solid and hazardous waste impacts generated by the 2012-2035 RTP/SCS. Since solid and hazardous waste impacts from the 2012 AQMP are not cumulatively considerable, cumulative solid and hazardous waste impacts from the 2012 AQMP are not significant.

6.5.8.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final

Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures.

6.5.8.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason, Alternative 1 is not expected to create any solid and hazardous waste impacts from PM2.5 control measures.

6.5.8.2.2 Ozone Control Measures

Potential impacts from adopting the 2007 AQMP were evaluated in the 2007 Program EIR. The 2007 Program EIR included an analysis of solid and hazardous waste impacts from all control measures, including black box control measures. As a result, consistent with the assumptions in Subsection 6.5.1.2 regarding the applicability of the significance determinations from the 2007 Program EIR, it is concluded that Alternative 1 does not have the potential to generate potentially significant solid and hazardous waste impacts as shown in Table 6-10 and described in the following paragraphs.

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. It was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-01 regulating on-road light-duty passenger vehicles and heavy-duty vehicles could generate potentially significant adverse solid and hazardous waste impacts. The reason for this conclusion was that accelerated penetration of low or zero emission vehicles could generate solid waste impacts from disposal of old batteries and replaced vehicles. This impact, however, was concluded to be less than significant.

Similarly, it was concluded in the Program EIR for the 2007 AQMP that the black box Control Measure SCLTM-02 regulating off-road heavy duty vehicles could also generate potentially significant adverse solid and hazardous waste impacts for the same reason identified for SCLTM-01 (e.g., accelerated penetration of low or zero emission vehicles could generate solid wasted impacts from disposal of old batteries and replaced vehicles). This impact, however, was concluded to be less than significant. Therefore, solid and hazardous waste impacts from Alternative 1 are less than significant and less than the solid and hazardous waste impacts from the 2012 AQMP.

6.5.8.2.3 Project-specific and Cumulative Impacts Conclusion

It was concluded in the 2007 Program EIR that all 2007 AQMP control measures would not generate significant adverse solid and hazardous waste impacts. As indicated in Subsection 6.4.1, the SCAQMD and CARB have adopted all short-term control measures within their authority, so that only black box control measures remain. Since Alternative 1 does not include short-term control measures, potential solid and hazardous waste impacts would be even less compared to the 2007 AQMP when it was originally adopted. Consequently,

overall solid and hazardous waste impacts from Alternative 1 are concluded to be less than significant.

Since, anticipated project-specific solid and hazardous waste impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific solid and hazardous waste impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative solid and hazardous waste impacts generated by the 2012-2035 RTP/SCS. Since solid and hazardous waste impacts from Alternative 1 are not cumulatively considerable, cumulative solid and hazardous waste impacts from Alternative 1 are not significant and less than the solid and hazardous waste impacts from the 2012 AQMP.

6.5.8.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, potential solid and hazardous waste impacts from implementing Alternative 2 would be the same as the potential solid and hazardous waste impacts from implementing the 2012 AQMP. For the complete analysis of the solid and hazardous waste impacts from the 2012 AQMP, refer to Subchapter 4.8 – Solid and Hazardous Waste. Potential solid and hazardous waste impacts from implementing Alternative 2 are described in the following subsections.

6.5.8.3.1 PM2.5 Control Measures

Similar to the analysis of solid and hazardous waste impacts for the 2012 AQMP in Subchapter 4.8, none of the three PM2.5 control measures in the 2012 AQMP that regulates the same sources as the episodic control measures in Alternative 2 was identified as contributing to solid and hazardous waste impacts. However, because all other 2012 AQMP PM2.5 control measures, including those contributing to adverse solid and hazardous waste impacts, are also included in Alternative 2, it has the potential to generate the same solid and hazardous waste impacts as implementing the 2012 AQMP, which were concluded to be less than significant. This same conclusion applies to Alternative 2.

6.5.8.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 Control Measure ONRD-04) applies only to the Mira Loma area, potential solid and hazardous waste impacts from implementing Alternative 2 ozone control measures would be the same as the solid and hazardous waste impacts from implementing the 2012 AQMP ozone control measures. As shown in the analysis of solid and hazardous waste impacts for the 2012 AQMP in Subchapter 4.8, implementing ozone control measures from Alternative 2 (CMB-01, CMB-

02, CMB-03, INC-01, ONRD-01, ONRD-02, 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), have the potential to generate adverse impacts to solid and hazardous waste impacts. No other 2012 AQMP ozone control measures were identified that could affect aesthetic resources. Such impacts associated with implementing the 2012 AQMP ozone control measures were concluded to be less than significant. This same conclusion applies to Alternative 2 because it contains the same ozone control measures identified above that have the potential to affect solid and hazardous waste resources.

6.5.8.3.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential project-specific adverse solid and hazardous waste impacts from Alternative 2 would be the same as potential project-specific solid and hazardous waste impacts from the 2012 AQMP and less than significant, because wastes generated by Alternative 2 (e.g., spent batteries) are required to be, and are largely recycled. For equipment that may be retired before the end of its useful life, that equipment may be reused in areas outside the district.

Since, anticipated project-specific solid and hazardous waste impacts from Alternative 2 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific solid and hazardous waste impacts would be less than those than significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would not contribute to significant adverse cumulative solid and hazardous waste impacts generated by the 2012-2035 RTP/SCS. Since solid and hazardous waste impacts from Alternative 2 are not cumulatively considerable, cumulative solid and hazardous waste impacts from Alternative 2 are not significant and equivalent to the 2012 AQMP.

6.5.8.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential solid and hazardous waste impacts from implementing Alternative 3 would be the same as potential solid and hazardous waste impacts from implementing the 2012 AQMP. For the complete analysis of solid and hazardous waste impacts from the 2012 AQMP, refer to Subchapter 4.8 – Solid and Hazardous Waste.

6.5.8.4.1 PM2.5 Control Measures

Similar to the analysis of solid and hazardous waste impacts for the 2012 AQMP in Subchapter 4.8, no PM2.5 control measures were identified from implementing Alternative 3 that have the potential to generate significant adverse solid and hazardous waste impacts. Potential solid and hazardous waste impacts from implementing the 2012 AQMP were

concluded to be less than significant (see Subchapter 4.8 of this Final Program EIR). This same conclusion applies to Alternative 3.

6.5.8.4.2 Ozone Control Measures

Alternative 3 ozone control measures were evaluated for the potential to generate solid or hazardous wastes. The following potential solid or hazardous waste impacts were identified: combustion equipment replacement, generation of solid waste from air pollution control equipment (e.g., used filters), early retirement and replacement of on- and off-road vehicles, and EV battery disposal. The analysis concluded that Alternative 3 ozone control measure would not be expected to generate significant adverse solid and hazardous waste generation from the control measures evaluated (CMB-01, CMB-02, CMB-03, INC-01, ONRD-01, ONRD-02, 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). The analysis indicated that the solid and hazardous waste impacts associated with spent batteries are required to be and are largely recycled. Further, for equipment that may be retired before the end of its useful life, it would likely be reused in areas outside the district. Equipment with no remaining useful life is expected to be recycled for metal content.

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of 19,344 additional repowered vehicles from the year 2014 through 2017. Although it is possible that Alternative 3 Control Measures ONRD-03 and OFFRD-01 could generate greater solid waste impacts than the 2012 AQMP, for the same reason identified above for the 2012 AQMP, solid waste impacts from Alternative 3 concluded to be less than significant.

6.5.8.4.3 Project-specific and Cumulative Impacts Conclusion

Overall, potential project-specific adverse solid and hazardous waste impacts from Alternative 3 would be greater than potential project-specific solid and hazardous waste impacts from the 2012 AQMP, but would still be less than significant, because wastes generated by Alternative 3 (e.g., spent batteries) are required to be, and are largely recycled. For equipment that may be retired before the end of its useful life, that equipment may be reused in areas outside the district.

Since, anticipated project-specific solid and hazardous waste impacts from Alternative 3 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Although project-specific solid and hazardous waste impacts would be less than significant, but greater than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative solid and hazardous waste impacts generated by the 2012-2035 RTP/SCS. Since solid and hazardous waste impacts from Alternative 3 are not cumulatively considerable, cumulative

solid and hazardous waste impacts from Alternative 3 are not significant and greater than those generated by the 2012 AQMP.

6.5.8.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of solid and hazardous waste impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.8 – Solid and Hazardous Waste. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential solid and hazardous waste impacts from implementing Alternative 4 are described in the following subsections.

6.5.8.5.1 PM2.5 Control Measures

The analysis of 2012 AQMP PM2.5 control measures identified three 2012 AQMP PM2.5 control measures, BCM-03, IND-01, and MCS-01, that have the potential to generate the following adverse solid hazardous waste impacts. PM2.5 Control Measures BCM-01 and MCS-01 have the potential to generate solid waste associated with air pollution control equipment (e.g., filters). PM2.5 Control Measure IND-01 was also identified as having the potential generate solid waste impacts due to early retirement of equipment, solid was associated with air pollution control equipment, and EV battery disposal. However, potential adverse solid and hazardous waste impacts from implementing PM2.5 control measures were concluded to be less than significant. Because Alternative 4 includes all of the same PM2.5 control measures as the 2012 AQMP, solid and hazardous waste impacts would be the same.

6.5.8.5.2 Ozone Control Measures

Adopting Alternative 4 means that the ozone SIP portion of the 2007 AQMP would remain in effect. As shown in Table 6-2, there are a number 2012 AQMP ozone control measures that would regulate similar sources to those regulated by the remaining 2007 AQMP black box measures that have the potential to generate adverse solid and hazardous waste impacts (Table 6-22). However, the same reasons solid and hazardous waste impacts from the 2012 AQMP would be less than significant would apply to Alternative 4. Therefore, it is concluded that Alternative 4 does not have the potential to generate significant adverse solid and hazardous waste impacts and impacts would be less than solid and hazardous waste impacts from the 2012 AQMP because more ozone control measures with the potential to generate adverse solid and hazardous waste impacts were identified.

TABLE 6-22

Long-Term (Black Box) Control Measures from the 2007 AQMP

SOURCE CATEGORY	2012 AQMP CONTROL MEASURES AFFECTING SAME SOURCE
Light Duty Vehicles (SCLTM-01A)	ONRD-01 & ADV-01
On-Road Heavy Duty Vehicles (SCLTM-01B)	ONRD-03, ONRD-05 & ADV-06
Off-Road Vehicles (SCLTM-02)	OFFRD-01 & ADV-06
Marine Vessels	IND-01, OFFRD-05 & ADV-05
Locomotives	OFFRD-02, OFFRD-03 & ADV-02
Aircraft	ADV-07

6.5.8.5.3 Project-specific and Cumulative Impacts Conclusion

Based upon the above conclusions, when considering overall solid and hazardous waste impacts from implementing Alternative 4, although some 2007 black box measures have the potential to generate adverse solid and hazardous waste impacts, no significant adverse solid and hazardous waste impacts were identified from implementing PM2.5 or ozone control measures. Finally, it is concluded that potential adverse solid and hazardous waste impacts from implementing Alternative 4 would be less than for the 2012 AQMP because more ozone control measures with the potential to generate adverse solid and hazardous waste impacts were identified. As a result, Alternative 4 would not generate significant adverse solid and hazardous waste impacts and solid and hazardous waste impacts would be less than those from the 2012 AQMP.

Since, anticipated project-specific solid and hazardous waste impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific solid and hazardous waste impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 4 would not contribute to significant adverse cumulative solid and hazardous waste impacts generated by the 2012-2035 RTP/SCS. Since solid and hazardous waste impacts from Alternative 4 are not cumulatively considerable, cumulative solid and hazardous waste impacts from Alternative 4 are not significant and less than the 2012 AQMP.

6.5.9 Transportation and Traffic

The potential direct and indirect transportation and traffic impacts from implementing the proposed project and the project alternatives were evaluated. The following subsections provide brief discussions of direct and indirect hazards and hazardous materials impacts from each alternative relative to the 2012 AQMP.

6.5.9.1 Proposed Project

Potential direct and indirect transportation and traffic impacts from the 2012 AQMP are summarized in the following subsections. For the complete analysis, refer to Subchapter 4.9 – Transportation and Traffic.

6.5.9.1.1 PM2.5 Control Measures

The analysis in Subchapter 4.9 – Transportation and Traffic, indicated that no 2012 AQMP PM2.5 control measures were identified that have the potential to significantly adversely affect transportation and traffic. Therefore, potential impacts to transportation and traffic are concluded to be less than significant.

6.5.9.1.2 Ozone Control Measures

The analysis in Subchapter 4.9 identified the following three 2012 AQMP ozone control measures as having the potential to create significant adverse transportation and traffic impacts: ONRD-05, ADV-01, and ADV-02. It was determined that these three 2012 AQMP ozone control measures could generate potential traffic impacts due to construction and operation of wayside sources of electricity, such as overhead catenary lines; battery charging stations; alternative fuel fueling infrastructure; and magnetic infrastructure. The potential transportation and traffic impacts of these ozone control measures were determined to be significant and mitigation measures would be required. It is not feasible to identify project- and site-specific mitigation measures for future traffic and transportation projects in this Final Program EIR. Instead, appropriate project-specific mitigation measures would to be identified by the appropriate lead agency[8] in the CEQA/NEPA document prepared for each future project that may be proposed. However, standard traffic construction mitigation measures, such as a traffic management plan containing mitigation measures such as those identified in transportation traffic Subchapter 4.9 would likely be implemented[9]. The analysis of 2012 AQMP ozone control measures concluded that the potential exists for future traffic and transportation impacts to be significant and unavoidable (i.e., significant even after standard types of roadway construction mitigation measures are identified and imposed).

6.5.9.1.3 Project-specific and Cumulative Impacts Conclusion

Overall, it was concluded in Subchapter 4.9 that in spite of identifying a roadway construction mitigation measure, implementing 2012 AQMP ozone control measures has the potential to generate significant adverse traffic impacts from construction future wayside sources of energy. Although temporary in nature, traffic impacts during construction are still considered to be significant. Similarly, traffic impacts during the operation of roadways dedicated as truck lanes for vehicles using the overhead catenary electrical lines or fixed guideway systems are also considered to be significant because traffic patterns and

[8] The SCAQMD has no jurisdiction over constructing and operating roadways.

[9] The traffic construction mitigation measure identified in Subchapter 4.9 is from SCAG's 2012 – 2035 RTP/SCS.

congestion may be adversely affected. Therefore, project-specific transportation and traffic impacts from implementing 2012 AQMP ozone control measures are concluded to be significant and unavoidable.

Since, anticipated project-specific transportation and traffic impacts from the 2012 AQMP are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). In Chapter 5 potential project-specific transportation and traffic impacts from the 2012 AQMP were evaluated in connection with transportation and traffic impacts from SCAG's 2012-2035 RTP/SCS. Further, since project-specific transportation and traffic impacts were concluded to be significant, the 2012 AQMP would contribute to significant adverse cumulative transportation and traffic impacts generated by the 2012-2035 RTP/SCS. Since transportation and traffic impacts from the 2012 AQMP are cumulatively considerable, cumulative transportation and traffic impacts from the 2012 AQMP are significant. No measures beyond that identified in Subchapter 4.9 were identified to mitigate significant adverse cumulative transportation and traffic impacts.

6.5.9.2 Alternative 1 – No Project Alternative

The Program EIR for the 2007 AQMP included environmental analyses for all control measures, including the black box control measures. As discussed in Chapter 2 of this Final Program EIR, all of the SCAQMD's and CARB's short- and mid-term control measures have been adopted. The only remaining control measures are the black box measures. Since the 2007 AQMP now includes only black box measures, environmental impacts for Alternative 1 will focus only on potential impacts identified for the black box measures.

6.5.9.2.1 PM2.5 Control Measures

As discussed in Subsection 6.4.1, Alternative 1 has no control measures that are considered to be PM2.5 control measures. For this reason and the fact that transportation and traffic was not an environmental topic identified in the NOP/IS for the 2007 AQMP that could be adversely affected by that AQMP, Alternative 1 is not expected to create any transportation and traffic impacts.

6.5.9.2.2 Ozone Control Measures

All remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. The analysis of potential transportation and traffic impacts from the 2012 AQMP was not originally identified as a topic that would be adversely affected by the 2012 AQMP. However, public comments received on the 6/28/12 NOP/IS requested that transportation and traffic impacts be added to the analysis of impacts in the 2012 AQMP Final Program EIR because of the potential for transportation and traffic impacts on major traffic corridors from the use of catenary systems that could affect heavy-duty truck lane choice by trucks and traffic flow patterns. The only control measures from the 2012 AQMP that include catenary systems as a means of reducing emissions are ONRD-05 and ADV-01.

As shown in Table 6-4, like Control Measures ONRD-05 and ADV-01, 2007 AQMP Control Measure On-road Heavy-duty Vehicles (SCLTM-01B) would also regulate heavy-

duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies. However, fixed guideway systems were not identified as a possible method of reducing heavy-duty truck emissions. Consequently, implementing the black box measures of the 2007 AQMP would not generate any transportation and traffic impacts, so transportation and traffic impacts would be less than those for the 2012 AQMP.

6.5.9.2.3 Project-specific and Cumulative Impacts Conclusion

The NOP/IS for the 2007 AQMP concluded that, overall, controlling emissions at existing commercial or industrial facilities and establishing mobile source exhaust and fuel specifications would not impede traffic patterns in any way. Further, the 2007 AQMP included TCMS, which were expected to reduce vehicle trips and vehicle miles traveled and result in greater reliance on mass transit, ridesharing, telecommunications, etc., resulting in reduced traffic congestion, a beneficial effect. As a result, the NOP/IS for the 2007 AQMP concluded that the 2007 AQMP would not generate any transportation and traffic impacts. Therefore, consistent with the assumptions in Subsection 6.4.1, it is presumed that Alternative 1 would not generate significant adverse transportation and traffic impacts, which means that transportation and traffic impacts would be less than for the 2012 AQMP, which were concluded to be significant.

Since, anticipated project-specific transportation and traffic impacts from Alternative 1 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Although project-specific transportation and traffic impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 1 would not contribute to significant adverse cumulative transportation and traffic impacts generated by the 2012-2035 RTP/SCS. Since transportation and traffic impacts from Alternative 1 are not cumulatively considerable, cumulative transportation and traffic impacts from Alternative 1 are not significant.

6.5.9.3 Alternative 2 – Localized PM Emissions Control

As explained in Subsection 6.4.2, with the exception of the two episodic PM2.5 control measures for Mira Loma, CMALT-2B (formerly MCS-04B in the 6/28/12 NOP/IS) and CMALT-2C (formerly MCS-04C in the 6/28/12 NOP/IS), and one episodic ozone control measure, CMALT-2A (formerly MCS-04A in the 6/28/12 NOP/IS), Alternative 2 includes all of the same PM2.5 and ozone control measures as the 2012 AQMP, except for PM2.5 Control Measure BCM-02 – Open Burning. As explained in the following subsections, transportation and traffic impacts from implementing Alternative 2 would be the same as potential transportation and traffic impacts from implementing the 2012 AQMP. For the complete analysis of transportation and traffic impacts from the 2012 AQMP, refer to Subchapter 4.9 – Transportation and Traffic. Potential transportation and traffic impacts from implementing Alternative 2 are described in the following subsections.

6.5.9.3.1 PM2.5 Control Measures

Similar to the analysis of potential transportation and traffic impacts for the 2012 AQMP in Subchapter 4.9, no PM2.5 control measures were identified from implementing Alternative 2 that have the potential to significantly adversely affect transportation and traffic. The three episodic control measures in this alternative that would apply only to the Mira Loma area do not contain any provisions for constructing wayside electricity such as catenary electric lines. Therefore, potential transportation and traffic impacts from implementing 2012 AQMP PM2.5 control measures were concluded to be less than significant. This same conclusion applies to Alternative 2.

6.5.9.3.2 Ozone Control Measures

Because Alternative 2 contains the same ozone control measures as the 2012 AQMP, except that ozone Control Measure CMALT-2A (similar to 2012 Control Measure ONRD-04) applies only to the Mira Loma area, transportation and traffic impacts from implementing Alternative 2 ozone control measures would be the same as the transportation and traffic impacts from implementing the 2012 AQMP ozone control measures. As shown in the analysis of transportation and traffic impacts for the 2012 AQMP in Subchapter 4.9, implementing ozone control measures from Alternative 2 (e.g., ozone Control Measures ONRD-05, ADV-01, and ADV-2), has the potential to generate significant adverse transportation and traffic impacts from the construction and operation of wayside sources of electricity, such as overhead catenary lines; battery charging stations; alternative fuel fueling infrastructure; and magnetic infrastructure. Because implementing the three Alternative 2 ozone control measures identified above has the potential to generate significant adverse transportation and traffic impacts from constructing and operating of wayside sources of electricity, the standard traffic construction mitigation measure (e.g., the traffic management plan measures identified in the transportation and traffic Subchapter 4.9) would also apply to Alternative 2.

6.5.9.3.3 Project-specific and Cumulative Impacts Conclusion

Based on the above information, it is concluded that, in spite of identifying a roadway construction mitigation measure, implementing Alternative 2 ozone control measures has the potential to generate significant adverse traffic impacts from constructing future wayside sources of energy. Although temporary in nature, traffic impacts during construction are still considered to be significant. Similarly, traffic impacts during the operation of roadways dedicated as truck lanes for vehicles using the overhead catenary electrical lines or fixed guideway systems are also considered to be significant because traffic patterns and congestion may be adversely affected. Therefore, project-specific transportation and traffic impacts from implementing Alternative 2 ozone control measures are concluded to be significant and unavoidable and are equivalent to transportation and traffic impacts from the 2012 AQMP.

Since, anticipated project-specific transportation and traffic impacts from Alternative 2 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific transportation and traffic

impacts would be significant and approximately equivalent to those generated by the 2012 AQMP, Alternative 2 would contribute to significant adverse cumulative transportation and traffic impacts generated by the 2012-2035 RTP/SCS. Since project-specific transportation and traffic impacts from Alternative 2 are cumulatively considerable, cumulative transportation and traffic impacts from Alternative 2 are significant and would be equivalent to transportation and traffic impacts from the 2012 AQMP. No measures beyond that identified in Subchapter 4.9 were identified to mitigate significant adverse cumulative transportation and traffic impacts.

6.5.9.4 Alternative 3 – Greater Reliance on NOx Emissions Reductions

As explained in Subsection 6.4.3, Alternative 3 includes all of the same PM2.5 control measures as the 2012 AQMP except it does not include 2012 AQMP Control Measure BCM-01. With regard to ozone control measures, with the exceptions of 2012 AQMP Control Measures ONRD-03 and OFFRD-01, all other ozone control measures are the same as those in the 2012 AQMP. As explained in the following subsections, potential transportation and traffic impacts from implementing Alternative 3 would be the same as potential transportation and traffic impacts from implementing the 2012 AQMP. For the complete analysis of transportation and traffic impacts from the 2012 AQMP, refer to Subchapter 4.9 – Transportation and Traffic.

6.5.9.4.1 PM2.5 Control Measures

Similar to the analysis of transportation and traffic impacts for the 2012 AQMP in Subchapter 4.9, no PM2.5 control measures were identified from implementing Alternative 3 that have the potential to significantly adversely affect transportation and traffic. Therefore, potential transportation and traffic impacts from implementing 2012 AQMP PM2.5 control measures were concluded to be less than significant. This same conclusion applies to Alternative 3.

6.5.9.4.2 Ozone Control Measures

All ozone control measures in Alternative 3 are identical to those in the 2012 AQMP, except that 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 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year) 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. Because the remaining Alternative 3 ozone control measures are the same as the 2012 AQMP, transportation and traffic impacts from implementing Alternative 3 ozone control measures would be the same as the transportation and traffic impacts from implementing the 2012 AQMP ozone control measures. As shown in the analysis of transportation and traffic impacts for the 2012 AQMP in Subchapter 4.9, implementing ozone control measures from Alternative 3 (e.g., ozone Control Measures ONRD-05 and ADV-01) has the potential to generate significant

adverse transportation and traffic impacts from the construction and operation of wayside sources of electricity, such as overhead catenary lines; battery charging stations; alternative fuel fueling infrastructure; and magnetic infrastructure. Because implementing the two Alternative 3 ozone control measures identified above has the potential to generate significant adverse transportation and traffic impacts from constructing and operating of wayside sources of electricity, the standard traffic construction mitigation measure (e.g., the traffic management plan measures identified in the transportation and traffic Subchapter 4.9) would also apply to Alternative 3. In spite of implementing these traffic mitigation measures, transportation and traffic impacts from Alternative 3 remain significant and greater than the 2012 AQMP.

6.5.9.4.3 Project-specific and Cumulative Impacts Conclusion

Based on the above information, it is concluded that, in spite of identifying a roadway construction mitigation measure, implementing Alternative 3 ozone control measures has the potential to generate significant adverse traffic impacts from constructing future wayside sources of energy. Although temporary in nature, traffic impacts during construction are still considered to be significant. Similarly, traffic impacts during the operation of roadways dedicated as truck lanes for vehicles using the overhead catenary electrical lines or fixed guideway systems are also considered to be significant because traffic patterns and congestion may be adversely affected. Therefore, project-specific transportation and traffic impacts from implementing Alternative 3 ozone control measures are concluded to be significant and unavoidable and are equivalent to transportation and traffic impacts from the 2012 AQMP.

Since, anticipated project-specific transportation and traffic impacts from Alternative 3 are concluded to be significant, they are considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific transportation and traffic impacts would be significant and greater than those generated by the 2012 AQMP, Alternative 3 would contribute to significant adverse cumulative transportation and traffic impacts generated by the 2012-2035 RTP/SCS. Since transportation and traffic impacts from Alternative 3 are cumulatively considerable, cumulative transportation and traffic impacts from Alternative 3 are significant and greater than transportation and traffic impacts from the 2012 AQMP. No measures beyond that identified in Subchapter 4.9 were identified to mitigate significant adverse cumulative transportation and traffic impacts.

6.5.4.5 Alternative 4 – PM2.5 Reduction Strategies Only

As explained in Subsection 6.4.4, Alternative 4 would only include the PM2.5 control measures in Table 6-4 of this chapter. For the complete analysis of transportation and traffic impacts from 2012 AQMP PM2.5 control measures, refer to Subchapter 4.9 – Transportation and Traffic. Because Alternative 4 does not address attaining either the federal one-hour or eight-hour ozone standards, the ozone SIP portion of the 2007 AQMP would remain in effect, which includes only the black box measures in Table 6-2. As a result, impacts from implementing 2007 AQMP black box control measures would be the same as for Alternative 1. Potential transportation and traffic impacts from implementing Alternative 4 are described in the following subsections.

6.5.9.4.1 PM2.5 Control Measures

Similar to the analysis of transportation and traffic impacts for the 2012 AQMP in Subchapter 4.9, no PM2.5 control measures were identified from implementing Alternative 4 that have the potential to significantly adversely affect transportation and traffic. Therefore, potential transportation and traffic impacts from implementing 2012 AQMP PM2.5 control measures were concluded to be less than significant. This same conclusion applies to Alternative 4.

6.5.9.4.2 Ozone Control Measures

As already indicated, all remaining black box measures from the 2007 AQMP that comprise Alternative 1 are assumed to be ozone control measures. This assumption also applies to the ozone control measures of Alternative 4.

As shown in Table 6-4, like Control Measures ONRD-05 and ADV-01, 2007 AQMP Control Measure On-road Heavy-duty Vehicles (SCLTM-01B) would also regulate heavy-duty trucks using control technologies such as: expanded modernization and retrofit of heavy-duty trucks and buses; expanded inspection and maintenance program; and advanced near-zero and zero-emitting cargo transportation technologies. However, fixed guideway systems were not identified as a possible method of reducing heavy-duty truck emissions. Consequently, implementing the black box measures of the 2007 AQMP would not generate any transportation and traffic impacts.

6.5.9.4.3 Project-specific and Cumulative Impacts Conclusion

The NOP/IS for the 2007 AQMP concluded that, overall, controlling emissions at existing commercial or industrial facilities and establishing mobile source exhaust and fuel specifications would not impede traffic patterns in any way. Further, the 2007 AQMP included TCMs, which were expected to reduce vehicle trips and vehicle miles traveled and result in greater reliance on mass transit, ridesharing, telecommunications, etc., resulting in reduced traffic congestion, a beneficial effect. As a result, the NOP/IS for the 2007 AQMP concluded that the 2007 AQMP would not generate any transportation and traffic impacts. This conclusion also applies to Alternative 4, which means that transportation and traffic impacts from Alternative 4 would be less than for the 2012 AQMP, which were concluded to be significant.

Since, anticipated project-specific transportation and traffic impacts from Alternative 4 are concluded to be less than significant, they are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064 (h)(1). Further, since project-specific transportation and traffic impacts would be less than significant and less than those generated by the 2012 AQMP, Alternative 4 would not contribute to significant adverse cumulative transportation and traffic impacts generated by the 2012-2035 RTP/SCS. Since transportation and traffic impacts from Alternative 4 are not cumulatively considerable, cumulative transportation and traffic impacts from Alternative 1 are not significant.

6.6 COMPARISON OF THE PROJECT ALTERNATIVES TO THE 2012 AQMP

Pursuant to CEQA Guidelines §15126.6 (d), "The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed." The sections above provide a comprehensive analysis of potential impacts generated by each project alternative and compares impacts to those generated by the 2012 AQMP. Table 6-23 provides a matrix displaying the major characteristics and significant environmental effects of each alternative compared to the 2012 AQMP.

TABLE 6-23

Comparison of the Project Alternatives to the Proposed 2012 AQMP

	PROJECT				
Environmental Topic	**2012 AQMP**	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
Aesthetics					
PM2.5	**NS**	**NS (=)**	**NS (=)**	**NS (=)**	**NS (=)**
Ozone	**NS**	**NS (=)**	**NS (=)**	**NS (=)**	**NS (-)**
Cumulative	**NS**	**NS (=)**	**NS (=)**	**NS (=)**	**NS (-)**
Direct Air Quality Impacts - PM2.5 Attainment year					
	2014	**2019**	**2017**	**2017**	**2014**
Secondary Air Quality Impacts					
PM2.5 Construction	**S**	**NS (-)**	**S (=)**	**S (=)**	**S (=)**
PM2.5 Operation	**NS**	**NS (-)**	**NS (-)**	**NS (-)**	**NS (=)**
Ozone Construction	**S**	**NS (-)**	**S (=)**	**S (=)**	**NS (-)**
Ozone Operation	**NS**	**NS (-)**	**NS (-)**	**S (=)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (-)**	**S (=)**	**NS (-)**

TABLE 6-23 (Continued)

Comparison of the Project Alternatives to the Proposed 2012 AQMP

	PROJECT				
Environmental Topic	**2012 AQMP**	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
Energy					
PM2.5	**S**	**NS (-)**	**S (=)**	**S (=)**	**S (=)**
Ozone	**S**	**NS (-)**	**S (=)**	**S (+)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (=)**	**S (+)**	**S (-)**
Hazards and Hazardous Materials					
PM2.5	**S**	**NS (-)**	**S (-)**	**S (=)**	**S (=)**
Ozone	**S**	**NS (-)**	**S (-)**	**S (+)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (-)**	**S (+)**	**S (-)**
Hydrology and Water Quality					
PM2.5	**S**	**NS (-)**	**S (=)**	**S (=)**	**S (=)**
Ozone	**S**	**NS (-)**	**S (=)**	**S (=)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (=)**	**S (=)**	**S (-)**
Land Use and Planning					
PM2.5	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (=)**
Ozone	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (-)**
Cumulative	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (-)**
Noise					
PM2.5	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (=)**
Ozone	**S**	**NS (-)**	**S (=)**	**S (=)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (=)**	**S (=)**	**NS (-)**
Solid and Hazardous Waste					
PM2.5	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (=)**
Ozone	**NS**	**NS (-)**	**NS (=)**	**NS (+)**	**NS (-)**
Cumulative	**NS**	**NS (-)**	**NS (=)**	**NS (+)**	**NS (-)**

TABLE 6-23 (Concluded)

Comparison of the Project Alternatives to the Proposed 2012 AQMP

	PROJECT				
Environmental Topic	**2012 AQMP**	**Alternative 1**	**Alternative 2**	**Alternative 3**	**Alternative 4**
Traffic Transportation					
PM2.5	**NS**	**NS (-)**	**NS (=)**	**NS (=)**	**NS (=)**
Ozone	**S**	**NS (-)**	**S (=)**	**S (+)**	**NS (-)**
Cumulative	**S**	**NS (-)**	**S (=)**	**S (+)**	**NS (-)**

Notes:
S = Significant
NS = Not Significant
(-) = Potential impacts are less than the proposed project.
(+) = Potential impacts are greater than the proposed project.
(=) = Potential impacts are approximately the same as the proposed project.

6.7 ENVIRONMENTALLY SUPERIOR AND LOWEST TOXIC ALTERNATIVE

Pursuant to CEQA Guidelines §15126.6 (e)(2), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Alternative 1 – No Project Alternative, continued implementation of the 2007 AQMP is considered to be the environmentally superior alternative because it is not expected to generate any significant adverse impacts to any environmental topic areas. Alternative 1 (the 2007 AQMP) was originally drafted to demonstrate compliance with the federal eight-hour ozone and PM2.5 standards and does not specifically address attaining the federal 24-hour PM2.5 standard. Although Alternative 1 would ultimately achieve the federal 24-hour PM2.5 standard by the year 2019, it is not clear at this point if it would be approvable by U.S. EPA.

Based on the above, since the No Project Alternative was deemed the environmentally superior alternative, an alternative from the remaining alternatives must be selected. Based on the analysis of potential impacts from each of the project alternatives, it is concluded that Alternative 4 – PM2.5 Emissions Reduction Strategies Only, is the environmentally superior alternative. This conclusion is based on the fact that the ozone portion of Alternative 4 relies on continued implementation of the ozone portion of the 2007 AQMP. The 2007 AQMP has fewer ozone control measures and the ozone control measures are less likely to cause significant adverse impacts because they do not affect as many sources or control technologies do not produce as many secondary impacts.

In accordance with SCAQMD's policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends that all SCAQMD CEQA documents required to include an alternatives analysis, also include and identify a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a

"least harmful" perspective with regard to hazardous or toxic air pollutants. It is expected that potential energy, hazards and hazardous materials, hydrology and water quality, and solid waste impacts associated with earlier penetration of on-road and off-road fleets using alternative fuels, would be less under Alternative 1 – No Project Alternative because it would avoid significant adverse impacts to all environmental topic areas evaluated compared to the remaining alternatives. Thus, from an air toxics perspective, when compared to the proposed project and the other alternatives under consideration, if implemented, Alternative 1 is considered the lowest toxic alternative.

6.8 CONCLUSION

Of the project Alternatives, Alternative 1 would generate the least severe and fewest number of environmental impacts compared to the 2012 AQMP. However, of the project alternatives it would achieve the fewest of the project objectives, namely only project objective 7 – Update planning assumptions and the best available information such as SCAG's 2012 RTP, CARB's latest EMFAC2011 for the on-road mobile source emissions inventory, and CARB's OFF-ROAD 2011 model; 8 – Update emission inventories using 2008 as the base year and incorporate emission reductions achieved from all applicable rules and regulations and the latest demographic forecasts; and 11 – Continue to work closely with businesses and industry groups to identify the most cost-effective and efficient path to meeting clean air goals while being sensitive to their economic concerns; would not attain them as effectively as the 2012 AQMP, project objectives 4 – Continue making expeditious progress towards attaining the federal eight-hour ozone standard and demonstrate attainment of the federal one-hour ozone standard (revoked) by 2022 – 2023; 5 – Reduce population exposure to ozone through continued progress towards attaining the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023; and 6 – Reduce nonattainment pollutants at a rate of five percent per year, or include all feasible measures and an expeditious adoption schedule, or would not achieve them at all, project objectives 1 – Reduce PM2.5 nonattainment pollutants and their precursors on an expeditious implementation schedule; 2 – Demonstrate attainment of the 24-hour PM2.5 national ambient air quality standard at the earliest possible date; 3 – Reduce population exposure to PM2.5 achieving the 24-hour PM2.5 national ambient air quality standard; 9 – Update any remaining control measures from the 2007 AQMP and incorporated into the 2012 AQMP as appropriate; and 10 – Compliance with federal contingency measure requirements.

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 because it is projected to achieve the federal 24-hour PM2.5 standard in 2017, two years later than 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 accelerated penetration of approximately 5,000 additional medium-heavy-duty trucks for the years 2013 through 2017 (750 trucks per year that would be diesel or diesel-hybrids that comply with the year 2010 exhaust emission standards and 250 trucks per year that would use CNG engines for a total of 1,000 trucks per year). Similarly, Alternative 3 OFFRD-01 could result in a total of

19,344 additional repowered or replaced 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 as shown in Table 6-23. Consequently, Alternative 3 does meet the CEQA requirement to reduce environmental impacts compared to the proposed project.

As shown in Table 6-23, Alternative 4 would generate fewer environmental impacts or less severe impacts than the 2012 AQMP. It would achieve all but three ~~four~~ of the project objectives, objectives 4 – Continue making expeditious progress towards attaining the federal eight-hour ozone standard and demonstrate attainment of the federal one-hour ozone standard (revoked) by 2022 – 2023; 5 – Reduce population exposure to ozone through continued progress towards attaining the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023; and 9 – Update any remaining control measures from the 2007 AQMP and incorporated into the 2012 AQMP as appropriate. As shown in the air quality Table 6-19, Alternative 4 would not be as effective as the 2012 AQMP in making expeditious progress toward attaining the federal one-hour ozone standard (revoked) or the federal eight-hour ozone standard. Similarly, because a large amount of emission reductions from the ozone control measures are from stationary sources, in addition to obtaining NOx and VOC emission reductions, they would also obtain PM emission reductions, thus, further enhancing the SCAQMD's ability, not only to attain the federal 24-hour PM2.5 standard, but to maintain the standard in the future. Similarly, since Alternative 4 focuses primarily on PM2.5 emission reductions, it would not likely be as effective as the 2012 AQMP achieving project objective 6 – Reduce nonattainment pollutants at a rate of five percent per year, or include all feasible measures and an expeditious adoption schedule.

Based on the above information, the 2012 AQMP is the most effective project that achieves the project objectives relative to environmental impacts generated.