CHAPTER 5

ALTERNATIVES

Introduction
Development of Alternatives
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5.0 ALTERNATIVES

5.1 INTRODUCTION

This EIR provides a discussion of alternatives to the proposed project as required by the CEQA. According to the CEQA guidelines, alternatives should include realistic measures to attain the basic objectives of the proposed 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).

5.2 DEVELOPMENT OF 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, etc.) and the 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 possible alternatives to the proposed 2003 AQMP are limited by the nature of the project. The CCAA requires the SCAQMD to reduce pollutants contributing to non-attainment by five percent per year or to the maximum extent feasible. As such, the proposed 2003 AQMP and any acceptable project alternatives must comply with this criterion to attain the basic objectives of the project. Consequently, all viable project alternatives must include all remaining 1997/1999 SIP Revision Control Measures, New Control Measures, and Contingency Measures identified in the 2003 AQMP.

Similar to previous AQMPs, the differences among the alternatives included and analyzed in this EIR appear mainly in the later years of the AQMP when implementation of potential long-term control measures is scheduled to occur. The emission reductions under the SCAQMD long-term strategy for the proposed project will be based on the development of new low-emission technologies and improvement of existing control technologies for stationary sources. In addition, future regulations to significantly reduce the VOC content or reactivity of VOC-containing consumer products will also be necessary. The long-term strategy will also require an aggressive development and commercialization of advanced mobile source control technologies. Significant penetration of low-emission retrofit technologies into in-use applications will also be needed. Examples of the potential control options for mobile sources under the long-term strategy include: (1) accelerated retirement of older vehicles, since these vehicles (12 years and older) represent 25 percent of the VMT while contributing over 75 percent of the emissions; (2) retrofit of existing vehicles such as passenger cars and light and medium-duty trucks with advanced emission controls

(e.g., OEM catalytic converters, oxygen sensors); (3) retrofitting heavy-duty diesel trucks and buses with NOx reducing catalysts; (4) repowering construction and industrial equipment with cleaner diesel engines or alternative fuels; and (5) replacing two-stroke lawn and garden equipment and recreational boats with four-stroke or electric alternatives (where feasible).

Federal sources such as planes, trains, ships, 49-state vehicles, and farm and construction equipment less than 175 horsepower, which represent about 34 percent of the NOx emissions in 2010, will also be necessary to achieve significant reductions under the long-term control strategy. The emission reductions from these sources will most likely be based on more stringent emission standards for new engines as well as retrofit controls (e.g., NOx catalyst, SCR, alternative fuels) for existing engines.

5.3 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 reason 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.

5.3.1 NO PROJECT ALTERNATIVE

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 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 (i.e., 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 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 EIR is the continued implementation of the remaining control measures from the 1997/1999 SIP (previously identified).

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. There would, however, be no further improvements in air quality if no emissions controls beyond those currently required are implemented. In fact air quality would be expected to deteriorate substantially if no further

emission controls are implemented. The projected baseline air quality would represent a no further action scenario. Further all areas within the jurisdiction of the SCAQMD would not attain state and national ambient air quality standards as required by the state and federal Clean Air Acts.

5.3.2 SEASONAL SHIFT ALTERNATIVE

VOC emissions control measures in this alternative would allow affected facilities to shift emissions from the high ozone formation season (summer) to the low ozone formations season (winter) defined as November through April. The mechanism by which this alternative could occur would be through a seasonal emissions trading program or economic incentives. Apparently, sensitivity runs were performed as part of the evaluation of the SCAQMD intercredit trading program that showed there could be some air quality benefits from shifting VOC emissions to the winter. This alternative was rejected because of the need to fully implement all feasible control measures and there was concern that it might not be consistent with the California CAA to reduce pollutants contributing to nonattainment by five percent per year or the maximum extent feasible.

5.3.3 TEMPORAL SHIFT ALTERNATIVE

This alternative would focus on shifting mobile source emissions to different periods of the day, e.g., late afternoon or night. The ides that shifting mobile source pollutant emissions to later in the day was that the emissions would undergo less photochemical reactions during the night. This alternative was rejected because of the substantial traffic congestion impacts that would result in the peak afternoon commute periods. It is also not likely that air quality dispersion modeling could be performed for this alternative.

5.4 ALTERNATIVES TO THE 2003 AQMP

Because of the substantial emission reductions necessary to bring the region into attainment with all ambient air quality standards, the SCAQMD is relatively limited with regard to the number of potential alternatives to the 2003 AQMP. As a result, with the exception of the No Project Alternative, all project alternatives include the same short-term control measures because these measures would regulate or further regulate emission sources where emission reductions are feasible.

Although all alternatives include long-term measures, the primary difference between the various alternatives is 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 lesser extent on emission reductions from some source categories (e.g., federal sources), or to a greater extent on other source categories (e.g., on-road and off-road federal sources, solvent and coatings categories). Table 5.4-1 provides a comparison of the emission reductions associated with the alternatives. Table 5.4-2 identifies the control measures included in each alternative. The following subsections provide a brief description of the alternatives.

One consideration in developing project alternatives was to evaluate whether or not varying the carrying capacities for NOx and VOC would still achieve the objectives of the 2003 AQMP, that is,

achieve the state and federal ambient air quality standards for ozone. Because the relationship between the NOx carrying capacity and the VOC carrying capacity is nonlinear, it is possible to increase or decrease one carrying capacity relative to the other carrying capacity and still meet the ozone attainment objectives. As a result, Alternative 2, 3, and 4 were developed based on varying either the NOx carrying capacity, the VOC carrying capacity, or both. Varying the carrying capacities occur as a result of relying to a greater or lesser extent on various long-term measures.

5.4.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

CEQA requires the specific alternative of no project to be evaluated. A No Project Alternative consists of what would occur if the project was not approved; in this case, not adopting the 2003 AQMP. The net effect of not adopting the 2003 AQMP would be a continuation of the existing 1997 AQMP, as well as, the 1999 amendment to the 1994 Ozone SIP. The No Project Alternative analyzed here will take into account the most current air quality setting (1997) and will include updated and refined control measures, but no new control measures.

The No Project Alternative is an extension of the existing 1997/1999 SIP that includes control measures previously identified. The No Project Alternative will implement the control measures checked in Table 5.4-2 (i.e., CTS-07, CMB-09, MSC-01, MSC-03, PRC-03, WST-01, WST-02, FSS-04, and FLX-01). 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."

5.4.2 ALTERNATIVE 2 – LESS NOX REDUCTION ALTERNATIVE

This alternative will exclude long-term NOx emission reductions from federal sources such as planes, trains, ships, 49-state vehicles, and farm and construction equipment less than 175 horsepower (under the long-term strategy). Alternative 2 is consistent with the Option 2 strategy outlined in the 2003 AQMP. Under Alternative 2, no emission reductions would be obtained from other federal sources.

5.4.3 ALTERNATIVE 3 – MORE VOC REDUCTION ALTERNATIVE

This alternative strives to attain additional VOC reductions from mobile and stationary source categories from long-term measures. This alternative is based on a lower VOC carrying capacity compared with the proposed project, representing an additional 60 tons per day of VOC reductions. This lower carrying capacity will provide an additional compliance margin and if in the event an alternative air quality model/chemistry package (i.e., CALGRID/SAPRC99) which is still under evaluation is used, it will also provide the necessary attainment demonstration. The SCAQMD's share of the additional VOC reductions will come from further penetration of zero- or near-zero coating and solvent technologies, process modifications for manufacturing type operations, and additional controls for petroleum marketing (e.g., enhanced vapor recovery). The additional VOC

emission reductions from sources under state and federal jurisdiction will be based on more aggressive penetration of retrofit controls on existing on-road and off-road mobile sources as well as further penetration of ZEVs in passenger cars and light-duty trucks and zero- or near-zero VOC consumer products.

TABLE 5.4-1

CEQA Project and Project Alternatives 2003 AQMP EIR

Emission Reductions for 2010 (Summer Planning Inventory) using the UAM Model (tons per day)

| Agency | Project | | Alt 1 – No Project | | Alt 2 – Less NOx Reduction | | Alt 3 – More VOC Reduction | | Alt 4 –More VOC and Less NOx Reduction | | Alt 5 – Least Toxics | |
|----------------------|---------|--------|-----------------------|------------------|----------------------------------|------------------|----------------------------------|-----|---|------------------|-------------------------|-----|
| | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx |
| Baseline | 659 | 764 | 659 | 764 | 659 | 764 | 659 | 764 | 659 | 764 | 659 | 764 |
| Short Term Measures | | | | | | | | | | | | |
| SCAQMD | 21.5 | 5 | | 1 | 21.5 | 5 | 21.5 | 5 | 21.5 | 5 | 21.5 | 5 |
| CARB | 49 | 37 | | 1 | 49 | 37 | 49 | 37 | 49 | 37 | 49 | 37 |
| U.S.EPA | 1 | | | | | | | | | | | |
| SCAG | 16 | 8 | | | 16 | 8 | 16 | 8 | 16 | 8 | 16 | 8 |
| Long Term | - Black | Box, T | Tier I | | | | | | | | | |
| SCAQMD | 11 | 1 | | 1 | 11 | 1 | 11 | | 11 | 1 | 11 | |
| CARB | 47 | | | | 47 | | 47 | | 47 | | 47 | |
| U.S.EPA | (18) | 1 | | 1 | 1 | 1 | | | 1 | 1 | | |
| Long Term | - Black | Box, T | Tier II | ** | | | | | | | | |
| SCAQMD | 20 | | | | 20 | | 40 | | 40 | | 20 | |
| CARB | 187 | 181 | | 1 | 187 | 113 | 218 | 181 | 218 | 113 | 187 | 181 |
| U.S.EPA | - | (68) | | | | | | | | | | |
| Carrying Capacity | 310 | 530 | 485 [∞] | 735 [∞] | 310 | 598 ^Ω | 250 | 530 | 250 | 598 ^Ω | 310 | 530 |

includes 18 tons per day of VOC anticipated from federal measures in the event the USEPA does not achieve these reductions.

For the project, there is a Scenario I (presented in the table) and a Scenario II which apportions the 218 tons per day of VOC reductions and 181 tons per day of NOx reductions to responsible agencies at a later date.

includes 68 tons per day of NOx anticipated from federal measures in the event the U.S.EPA does not achieve these reductions.

reduction from baseline due to implementation of existing 1997/1999 SIP measures, including those not adopted yet.

based on EMFAC2002, but carrying capacity from the emissions inventory used to model Alternatives 2 and 4 is 619 tpd based on the DTIM model and baseline adjustments.

TABLE 5.4-2

Applicable Control Measures for the Project and Project Alternatives - 2003 AQMP EIR

| Control Measures | Project | | Alt 1 – No Project | | Alt 2 – Less NOx Reduction | | Alt 3 – More VOC Reduction | | Alt 4 – Less NOx and More VOC Reduction | | Alt 5 – Least Toxics | |
|-------------------------------|---------|------------|-----------------------|---------|----------------------------------|------------|----------------------------------|----------|---|-------|----------------------------|-----|
| | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx |
| Carrying Capacity (tpd) | 310 | 531 | 485 | 735 | 310 | 608 | 251 | 531 | 250 | 608 | 308 | 528 |
| SCAQMD S | Short 7 | Term I | Measu | res – 1 | 997/19 | 99 SII | P Revis | ion C | ontrol 1 | Measu | ıres | |
| CTS-07 | 1 | J | V | | 1 | V | $\sqrt{}$ | | V | | V | |
| CTS-10 | 1 | $\sqrt{}$ | | | $\sqrt{}$ | | 1 | / | ١ | / | V | |
| FUG-05 | 1 | | | | 1 | V | 1 | / | ١ | / | ١ | / |
| CMB-07 | ٦ | V | | | 1 | V | ٦ | / | V | | ٦ | / |
| CMB-09 | 1 | V | V | | √ | | V | | V | | V | |
| MSC-01 | V | | V | | √ | | V | | √ | | | |
| MSC-03 | 1 | $\sqrt{}$ | | V | | $\sqrt{}$ | | V | | | | / |
| PRC-03 | 1 | V | V | | | | V | | $\sqrt{}$ | | V | |
| PRC-07 | 1 | V | | | √ | | | | | | ٦ | / |
| WST-01 | 1 | J | 1 | / | | | $\sqrt{}$ | | $\sqrt{}$ | | 1 | / |
| WST-02 | 1 | J | 1 | / | √ | | V | | V | | 1 | / |
| FSS-04 | ٦ | J | 1 | / | | | 1 | / | 1 | / | 1 | / |
| FLX-01 | ٦ | J | 1 | / | √ √ | | $\sqrt{}$ | | | | | |
| SCAQMD S | Short 7 | Term I | Measu | res – N | New Co | ontrol | Measu | res | | | | |
| CMB-10 | 1 | / * | | | √* | | √* | | √* | | $\sqrt{*}$ | |
| BCM-07 | ٦ | J | | | V | | | | | | | |
| BCM-08 | ٦ | J | | | 1 | V | 1 | / | V | | V | |
| MSC-04 | ٦ | $\sqrt{}$ | | | 1 | V | V | | V | | √ | |
| MSC-05 | ٦ | V | | | V | | $\sqrt{}$ | | | | 1 | / |
| MSC-06 | 1 | √ | | | 1 | \ | 1 | √ | √ | | 1 | |
| MSC-07 | ٦ | \ <u> </u> | | | 1 | \ <u> </u> | | | V | | 1 | / |
| MSC-08 | ٦ | √ | | | ٦ | | $\sqrt{}$ | | V | | √ √ | |
| FSS-05 | 1 | \ <u> </u> | | | | | √ | | V | | | |
| FSS-06 | ٦ | \ | | | | | √ | | | | √ | |
| FSS-07 | ٦ | $\sqrt{}$ | | | | | | | $\sqrt{}$ | | V | |
| TCB-01 | ٦ | √ | | | ٦ | $\sqrt{}$ | 1 | <i>-</i> | ٦ | _ | ٦ | 1 |

TABLE 5.4-2 (CONTINUED)

Applicable Control Measures for the Project and Project Alternatives - 2003 AQMP EIR

| Control Measures | Project | | Alt 1 – No Project | | Alt 2 – Less NOx Reduction | | Alt 3 – More VOC Reduction | | Reduction | | Alt 5 – Least Toxics | |
|------------------------------|--------------------------|-----------|-----------------------|-----|----------------------------------|-----------|----------------------------------|-----|------------|-----|----------------------------|------------|
| G | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx |
| Carrying Capacity (tpd) | 310 | 531 | 485 | 735 | 310 | 608 | 251 | 531 | 250 | 608 | 308 | 528 |
| Contingency Control Measures | | | | | | | | | | | | |
| CTY-01 | ٦ | $\sqrt{}$ | | | ٦ | $\sqrt{}$ | $\sqrt{}$ | | V | | V | |
| CTY-04 | ٦ | V | | | ٦ | V | ٦ | / | V | | 1 | / |
| CTY-14 | ٦ | V | | | ٦ | V | ٦ | / | ١ | / | 1 | / |
| CARB Short Ter | CARB Short Term Measures | | | | | | | | | | | |
| LT/MED DUTY-1 | V | | | | V | | V | | V | | V | |
| LT/MED- DUTY-2 | ٦ | V | | | V | | V | | √ | | V | |
| ON-RD HVY- DUTY-1 | 1 | J | | | 1 | J | ٦ | / | ٦ | J | ٦ | / |
| ON-RD HVY- DUTY -2 | 1 | J | | | 1 | J | ٦ | J | ٦ | J | ٦ | / |
| ON-RD HVY- DUTY -3 | 1 | J | | | 1 | J | V | | √ | | ٦ | / |
| OFF-RD CI-1 | ٦ | $\sqrt{}$ | | | ٦ | $\sqrt{}$ | V | | | | 1 | 1 |
| OFF-RD CI-2 | ٦ | √ | | | | | | | V | | | |
| OFF-RD LSI-1 | ٦ | \ | | | | | | | | | V | |
| OFF-RD LSI-2 | ٦ | J | | | ٦ | | ٦ | 1 | 1 | 1 | ٦ | 1 |
| SMALL OFF- RD-1 | ٦ | V | | | | | $\sqrt{}$ | | √ | | √ | |
| SMALL OFF- RD -2 | 7 | V | | | 1 | J | ٦ | 1 | 1 | | 1 | 1 |
| MARINE-1 | 1 | V | | | $\sqrt{}$ | | V | | V | | 1 | / |
| MARINE-2 | 1 | /* | | | √* | | √* | | v * | | γ | * |
| FUEL-1 | ٦ | \ | | | ٦ | √ | ٦ | / | 1 | / | 1 | 1 |

TABLE 5.4-2 (CONCLUDED)

Applicable Control Measures for the Project and Project Alternatives - 2003 AQMP EIR

| Control | | Alt 1 | | – No | Alt 2 – Less NOx | | Alt 3 – More VOC | | Alt 4 – Less NOx and More VOC | | Alt 5 – Least | |
|--------------------------------------|-----------|--------------|---------|--------|---------------------|-----------|---------------------|-------------|-------------------------------------|-----|------------------|-----|
| Measures | Project | | Project | | Reduction | | Reduction | | | | Toxics | |
| | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx | VOC | NOx |
| Carrying | 210 | 531 | 105 | 725 | 210 | 600 | 251 | <i>E</i> 21 | 250 | 600 | 200 | 520 |
| Capacity (tpd) | 310 | 331 | 485 | 735 | 310 | 608 | 251 | 531 | 250 | 608 | 308 | 528 |
| FUEL-2 | 1 | \downarrow | | | $\sqrt{}$ | | $\sqrt{}$ | | V | | $\sqrt{}$ | |
| CONS-1 | 1 | J | | | √ | | 1 | / | V | | √ | |
| CONS-2 | 1 | V | | | 4 | V | 1 | / | 1 | / | 1 | |
| FVR-1 | 1 | V | | | 4 | V | 1 | / | 1 | / | 1 | |
| FVR-2 | 1 | V | | | √ | | V | | V | | V | |
| FVR-3 | 1 | V | | | | V | | $\sqrt{}$ | | √ | | |
| SCAG Transportation Control Measures | | | | | | | | | | | | |
| TCM-A | $\sqrt{}$ | | | | | $\sqrt{}$ | | √ | | | | |
| TCM-B | | | | | $\sqrt{}$ | | √ | | $\sqrt{}$ | | | |
| TCM-C | 1 | V | | | √ | | | | | | | |
| Department of P | esticid | e Regi | ulation | - Sho | rt Ter | m Mea | sure | | • | | | |
| PEST-1 | 1 | V | | | $\sqrt{}$ | | 1 | / | 1 | / | 1 | |
| SCAQMD and C | CARB | Long ' | Гerm I | Measu | res – I | Black F | Box | | | | | |
| LTM-ALL | 1 | $\sqrt{}$ | | | - | V | 1 | / | ١ | / | 1 | |
| CARB LTM | 1 | $\sqrt{}$ | | | $\sqrt{}$ | | √ | | $\sqrt{}$ | | $\sqrt{}$ | |
| Toxic-PM | | | | | | | | | | | 1 | |
| U.S.EPA Long T | erm N | Ieasur | es – B | lack B | ox | | | | | | | |
| On-Road Heavy | V | 1 | | | | | V | | | | $\sqrt{}$ | |
| Duty Vehicles | , | | | | | | | | | | | |
| Off-Road Class 1 Vehicles | $\sqrt{}$ | | | | | | $\sqrt{}$ | | | | $\sqrt{}$ | |
| Ports/Marine | √ √ | | | | | | $\sqrt{}$ | | | | V | |
| Airports | √ | | | | | | $\sqrt{}$ | | | | $\sqrt{}$ | |
| Railroads/Loco motives | √ | | | | | | | | | | | |
| Fuels | V | | | | | | | $\sqrt{}$ | | | | |

^{*} not quantified in the emission inventory.

5.4.4 ALTERNATIVE 4 – MORE VOC AND LESS NOX REDUCTIONS

This alternative is a combination of Alternatives 2 and 3. It will not rely on NOx emission reductions from federal sources and is based on a lower VOC carrying capacity compared with the proposed project, representing an additional 60 tons per day of VOC reductions.

5.4.5 ALTERNATIVE 5 – LEAST TOXICS ALTERNATIVE

This alternative is included as a result of the enhancements to the Environmental Justice Program (SCAQMD, September 2002). Category II, Enhancement II-1 calls for a requirement that SCAQMD CEQA documents include a feasible project alternative with the lowest air toxics emissions, when comparing specific projects alternatives for projects that create a significant environmental impact.

This alternative will be based on the control strategies and source categories described in the long-term strategies as well as additional PM10 reduction strategies from on-road diesel trucks and buses and the electrification of marine hotelling operations and stationary agricultural pumps. The alternative will require an across-the-board penetration of 50 percent for all heavy-duty on-road vehicles (model years 1994 and newer) beginning in 2005. All retrofits will be completed by 2010. For hotelling operations and agricultural pumps using diesel engines, it is assumed that 75 percent of these units will use on-shore electric supply and electric motors by 2010.

5.5 ALTERNATIVES ANALYSIS

5.5.1 AIR QUALITY

Five alternatives are defined for the environmental impact analysis (Table 5.4-1). The Urban Airshed Model (UAM) is used to project future VOC and NOx air quality in the Basin and to determine the effectiveness of the proposed control measures for the alternatives in addition to the 2003 AQMP.

A comparison of ozone for the project and alternatives to the ozone standard are presented in Figure 5.5-1 for the peak 1-hour concentrations on four peak days in the model year 2010. The peak days modeled are based on peak meteorological conditions from August 5 and 6, 1997 and August 25 and 26, 1987. The dates presented in Figure 5.5-1 and used in the discussions below are references to the meteorological conditions and not the actual dates. The peak meteorological conditions could occur at any time during the year 2010. Since the route to attainment is similar to the project, these alternatives are predicted to have very similar results. Alternative 1 – No Project is above the standard on August 5 and August 6. Alternatives 2, 3, 4, and 5 are essentially the same as the project, and less than the standard.

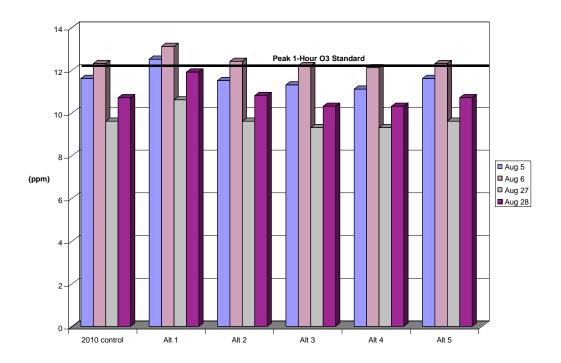


FIGURE 5.5-1

Peak Predicted Ozone Concentrations (pphm) for 2010

A comparison of PM10 emissions for the project and alternatives to the PM10 standard are presented in Figures 5.5-2 and 5.5-3 for the annual and 24-hour maximum concentrations, respectively. Since the route to attainment is similar to the project, these alternatives are predicted to have very similar results. The project and alternatives modeling predicts attainment of the annual average concentration and 24 hour average concentration in all areas of the Basin in 2010.

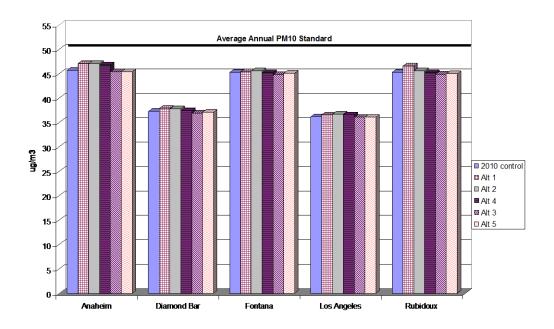


FIGURE 5.5-2
Annual Average PM10 Concentration by Area for Year 2010

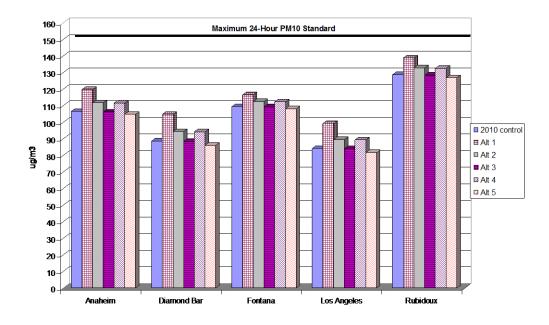


FIGURE 5.5-3

Maximum 24-Hour PM10 Concentration by Area for Year 2010

5.5.2 ENERGY

5.5.2.1 Alternative 2 – Less NOx Reduction

Alternative 2, the Less NOx Reduction Alternative includes most of the control measures presented in the project. As shown in Table 5.4-2, some long-term strategies are not included in the alternative. Control measures - MARINE-1, MARINE-2, and some of the long-term control strategies - have energy impacts associated with them. Removal of the control measures with energy impacts will result in a lower impact on energy than the proposed project. However, this alternative will increase NOx emissions relative to the project and potentially jeopardize attainment of the PM2.5 standard.

5.5.2.2 Alternative 3 – More VOC Reduction

Alternative 3, the More VOC Reduction Alternative includes most of the control measures presented in the project, as shown in Table 5.4-2. Because the control measures are essentially the same as the proposed project (only the long-term toxics control measure has been removed), the energy impacts of this Alternative are essentially the same as the proposed project.

5.5.2.3 Alternative 4 – More VOC and Less NOx Reductions

Alternative 4, the More VOC and Less NOx Reductions Alternative combines Alternatives 2 and 3. As shown in Table 5.4-2, some long-term strategies are not included in this alternative. Control measures - MARINE-1, MARINE-2, and some of the long-term control strategies - have energy impacts. Removal of the control measures with energy impacts will result in a lower energy impacts relative to the project. Overall this Alternative would have less than significant impacts on energy.

5.5.2.4 Alternative 5 – Least Toxics

Alternative 5 – Least Toxics includes the project plus the Toxic-PM control measure. Alternative 5 assumes essentially all control measures in the 2003 AQMP are implemented and assumes increased reductions from diesel engines resulting in some increased energy impacts than the proposed project. The overall significance conclusions on energy are expected to be the same as the proposed project.

5.5.3 HAZARDS

The alternatives are very similar to the project with the exception of the exclusion of some of the long-term measures. The potential long-term control options that could result in hazard impacts are expected to be limited to the potential use of NOx catalysts, SCR, and alternative fuels for existing federal emission sources (e.g., planes, trains, ships, trucks, farm equipment, and construction equipment). The absence of these long-term control measures from the alternatives may reduce the

number of sources controlled, but would be expected to have similar impacts as the proposed project.

5.5.4 HYDROLOGY/WATER QUALITY

The alternatives are very similar to the project with the exception of the exclusion of some of the long-term control measures. The potential long-term control options that could result in hydrology/water quality impacts are expected to be limited to the potential use of electric vehicles (e.g., increased use of batteries) and alternative fuels. There is no expected impact to hydrology from the affected potential long-term control options and a potential impairment to the water quality from improper disposal of batteries from electric vehicles. The absence of these long-term control measures from the alternatives may reduce the number of sources controlled, but would be expected to have similar impacts as the proposed project.

5.5.5 SOLID/HAZARDOUS WASTE

The alternatives are very similar to the project with the exception of the exclusion of some of the The potential long-term control options that could result in long-term control measures. solid/hazardous waste impacts are expected to be limited to aggressive development and commercialization of advanced mobile source control technologies. Examples of the potential control options for mobile sources under the long-term strategy that could result in solid/hazardous waste impacts include: (1) accelerated retirement of older vehicles; (2) retrofit of existing vehicles such as passenger cars and light- and medium-duty trucks with advanced emission control; (3) retrofitting heavy-duty diesel trucks and buses with NOx reducing catalysts; (4) repowering construction and industrial equipment with cleaner diesel engines or alternative fuels; and, (5) replacing 2-stroke lawn and garden equipment and recreation boats with 4-stroke or electric alternatives, where feasible. Emission reduction from federal sources such as planes, trains, ships, 49-state vehicles, and farm and construction equipment are also included in the long-term strategies. The absence of these long-term control measures from the alternatives may reduce the solid/hazardous waste impacts relative to the project since less waste would be generated than the proposed project. However, a portion of the wastes generated under the long-term control measures are expected to be recyclable so that the impacts of the alternatives are similar to the proposed project.

5.6 ENVIRONMENTALLY SUPERIOR 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. Since the no project alternative would not ultimately achieve the long-term benefits of the AQMP, would not attain the state and federal ambient air quality standards, and is not a legally viable alternative, it is not the environmentally superior alternative.

The environmentally superior alternative is considered to be Alternative 3, the More VOC Reduction Alternative. Under Alternative 3, the amount of NOx emission reductions would be the same as the proposed project (the 2003 AQMP), however, additional VOC emission reductions would be expected. Alternative 4 is expected to achieve the same VOC emission reductions as

Alternative 3, but remaining NOx emissions would be substantially higher. Thus, anticipated air quality benefits achieved under Alternative 3 would be greater than the proposed project, and Alternative 3 is considered the environmentally superior alternative.