CHAPTER 5

PROJECT ALTERNATIVES

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INTRODUCTION

This Final PEA provides a discussion of alternatives to the proposed project as discussed in the CEQA Guidelines. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. CEQA Guidelines §15126.6(c). The EIR should briefly describe the rationale for selecting the alternatives to be discussed. Id.

Additionally, the specific alternative of "No Project" shall also be evaluated along with its impact. CEQA Guidelines §15126.6(e)(1). The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. Id. This Final PEA includes an analysis of a "No Project" alternative.

It should be noted that SCAQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in an EA than is required for an EIR under CEQA. Since this PEA did not identify any significant adverse environmental impacts from implementing the proposed fleet vehicle rules, alternatives are not technically required under a certified regulatory program. CEQA Guidelines §15252(b).

ALTERNATIVES REJECTED AS INFEASIBLE

Pursuant to 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[1]. During the 30-day public comment period for the NOP/IS and at the Public Workshops held on December 21, 1999, and January 12, 2000, the SCAQMD received a comment letter identifying several potential project alternatives recommended for analysis. The reader is referred to comment letter #1 and summary of CEQA comments at Public Workshops in Appendix C.

Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. CEQA Guidelines §15126.6(c). In general most of the recommended alternatives or portions of the recommended alternatives

[1] An EIR is not required to consider alternatives, which are infeasible. CEQA Guidelines §15126.6(a).

identified by various commentators were rejected as infeasible because they do not achieve the overall goal of proposed fleet vehicle rules, which is to reduce TAC emissions and criteria pollutants from mobile sources. Some recommended alternatives were considered infeasible because they are outside the SCAQMD's regulatory authority. Some recommended alternatives or portions of recommended alternatives have been included in proposed fleet vehicle rules or project alternatives. Table 5-1 identifies alternatives recommended by the public and a brief comment on whether or not they were rejected or incorporated into the alternatives analysis.

TABLE 5-1

Description Of Alternatives Rejected As Infeasible
Or Incorporated into the Proposed Fleet Vehicle Rules Or Project Alternatives

Recommended Alternative	Description	Comment
#1 - Voluntary, Incentive-Based	Rather than adopt a rigid regulatory policy, allow for affected fleet operators to voluntarily acquire AFVs based on available funding and their needs.	After the release of the Draft PEA, staff has further evaluated the suggestion for a voluntary, incentive-based program and considers a limited incentive-based program part of the No Project Alternative. Additional incentives are not within the regulatory authority of the SCAQMD and are considered to be infeasible. See response to comment #1-15 in Appendix H.
#2 - Fuel Neutral Emission Standard	Rather than establish a rule based on alternative clean fuels, adopt a fuel neutral rule based on emission or performance standards.	In many respects, the proposed fleet vehicle rules are considered fuel neutral because affected fleet owners have a range of clean fuels they can use for compliance. The only major fuel type that has been restricted by the proposed rules is clean diesel. This restriction was based on information at the time of the release of the Draft PEA indicating that clean diesel technology could not currently or in the near future meet the SCAQMD's methanol equivalency for both NOx and PM. However, after the release of

TABLE 5-1 (CONTINUED)
Description Of Alternatives Rejected As Infeasible
Or Incorporated into the Proposed Fleet Vehicle Rules Or Project Alternatives

Recommended Alternative	Description	Comment
		the Draft PEA, the SCAQMD has received information that some clean diesel technologies may be viable for certain vehicle fleets. For example, in the its Governing Board Resolution for PR 1192 may allow transit bus operators to acquire diesel hybrid-electric buses depending on the results from CARB's investigation, which is expected to be completed by the end of this year or early next year. PR 1193 allows the acquisition of duel-fuel vehicles between the years 2001 and 2002. PR 1195 will allow school bus fleet operators to acquire a diesel-fueled bus provided they install PM traps and retire an older diesel-fueled bus. PR 1186.1 allows fleet street sweeper fleet operators to acquire diesel-fueled vehicle provided an alternative-fueled vehicle is unavailable and the newly acquired diesel vehicle has a PM trap. Accordingly, the revised fleet vehicle rules incorporate this alternative in that they allow the use of diesel under certain circumstances. See the Project Description section of Chapter 2 of this Final PEA.
#3 – Phased Approach	Phase the rule such that affected fleet operators are allowed to take into consideration availability of infrastructure, AFVs, and funding.	A phased approach alternative such as the one described in this comment, which would allow the fleet operators to evaluate fleet operations, infrastructure availability, etc., with no firm requirements for compliance with any criteria would be difficult to implement and enforce and, therefore, is not considered a feasible alternative. Alternative C would allow fleet operators additional time, however, before compliance requirements become effective. See also NOP/IS response to comment #1-16.

TABLE 5-1 (CONTINUED)

Description of Recommended Alternatives Rejected As Infeasible
Or Incorporated into the Proposed Fleet Vehicle Rules Or Project Alternatives

Recommended Alternative	Description	Comment
#4 – All Fleets	The rule should cover all fleets operated in the SCAQMD's jurisdiction – all public and private.	There are currently insufficient staff resources to identify all fleets in the district, evaluate the availability of compliant engine categories, compile all of the cost data from all potentially affected fleets, identify additional funding sources, etc., in the rule adoption timeframe advocated by the Governing Board. This recommendation may be considered in the future. See NOP/IS response to comment #1-17.
#5 – CARB Transit Bus Rule	Structure proposed fleet vehicle rules similar to CARB's Transit Bus Rule. Allow two paths for transit and school buses: alternative clean-fuels or clean diesel.	CARB's Urban Bus Rule as well as its potential future application to all HDVs affected by the proposed fleet vehicle rules is incorporated into Alternative B. See discussion below. It should be noted that the SCAQMD has revised the proposed project's air quality benefits estimates to account for NOx and PM reductions achieved under CARB's Urban Bus Rule. See the Air Quality Benefit Estimate section of Chapter 2 and Appendix E2 of this Final PEA.
# 6 – Exempt Motorcoaches	Exempt all motorcoaches from proposed fleet vehicle rules.	The proposed fleet vehicle rules and related amendments now exempt motorcoaches because CARB-certified engines are currently unavailable.
#7 – Allow Fuel Cells	Allow transit and school bus fleet operators flexibility to choose diesel now in anticipation of fuel cell technology	Commercially available fuel cell buses are not expected to be a viable option transit bus operators for several years.. In the interim, based on the SCAQMD's investigation at the release of the Draft PEA, CNG technology appeared to be the best transitional technology commercially available that could comply with the

TABLE 5-1 (CONTINUED)

Description of Recommended Alternatives Rejected As Infeasible
Or Incorporated into the Proposed Fleet Vehicle Rules Or Project Alternatives

Recommended Alternative	Description	Comment
		requirements of PRs 1192 and 1195. However, after the release of the Draft PEA, the SCAQMD. Received additional information regarding diesel hybrid-electric technology as a transitional technology. As a result, in the Governing Board Resolution for PR 1192, the SCAQMD may allow transit bus operators to acquire diesel hybrid-electric buses depending on the results from CARB's investigation, which is expected to be completed by the end of this year or early next year. PR 1193 allows the acquisition of duel-fuel vehicles between the years 2001 and 2002. As for PR 1195, the rule concept has been revised to allow school bus fleet operators to acquire a diesel-fueled bus provided they install PM traps and retire an older diesel-fueled bus. Accordingly, the revised fleet vehicle rules incorporate this alternative in that they allow the use of diesel under certain circumstances. See the Project Description section of Chapter 2 of this Final PEA.

DESCRIPTION OF ALTERNATIVES

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. CEQA Guidelines §15126.6(a). An EIR need not consider every conceivable alternative to a project. Id. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. Id. Thus, the rationale for selecting and modifying specific components of the proposed rule is to generate feasible alternatives for analysis as compared to the proposed project. Consequently, the project alternatives identified in the following subsections are based, in part, on modifying major components of proposed fleet vehicle rules and related

amendments and incorporating components or portions of components recommended by the public.

It should be noted that the following alternatives, with the exception of Alternative A – No Project Alternative, include all the current proposed fleet vehicle rules (e.g., PRs 1191, 1192, 1193, 1194, 1195, 1196, and 1186.1) and related amendments (PAR 431.2), which make up the proposed project. Where specific rule requirements vary from the proposed project, the SCAQMD has made an effort to bring this to the reader's attention.

Alternative A - No Project

This alternative assumes that the proposed project will not be adopted. As a result, TACs and criteria pollutants emitted from government and certain private fleet vehicles would remain unchanged in the near term. Thus, with the exception of some slight TAC reductions from stationary sources, the toxic exposure of inhabitants residing in the South Coast Air Basin largely due to mobile sources, especially from diesel-fueled vehicles, would remain essentially unchanged or decline slightly as the fleet of all mobile sources in the district becomes cleaner over time. In the mid-term, TAC emissions from mobile sources would, decline slightly as a result of other programs regulating mobile sources such as CARB's recently adopted Urban Transit Bus Rule, future anticipated low emissions standards for all other HDVs, and potential future standards by USEPA regulating on-road and off-road mobile sources. However, over the long-term the SCAQMD's goals and intent of contributing to the implementation of EJ Initiatives #2 and #7, implementing mobile source control measures from the Air Toxics Control Plan, and making substantial progress in meeting the PM 2006 and Ozone 2010 ambient air standards would not be fully realized.

Alternative B – USEPA Future HDV Standards

Alternative B combines features of the proposed fleet vehicle rules, which have been modified to account for CARB's low emission standards for urban transit buses recently adopted in its Transit Bus Rule, with the recently proposed and contemplated emission standards by USEPA for all other types of HDVs. Under Alternative B, the proposed PM and NOx emission standards (see Chapter 2) for all other HDVs would go into effect starting with the 2007 model year. Beginning in 2007, USEPA's HDV standards would achieve equivalency with SCAQMD's fleet vehicle rules regulating HDVs, except for PR 1192. This means that after 2007 owners or operators of affected HDV fleets would be subject to USEPA's emission standards.

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Excluding all other HDVs, all other components of Alternative B would be the same as the proposed fleet vehicle rules including types of fleet vehicles (e.g., LDVs, MDVs, and remaining HDVs), compliance dates by fleet size, acquisition rate, fuel scope, exemptions, etc.

Alternative C – Delay Rule Implementation Dates by One Year

Alternative C is identical to the proposed fleet vehicle rules and related amendments except that the overall implementation dates of this Alternative for all proposed rules would begin one year later. In other words, the implementation dates for PRs 1191, 1192, 1193, 1194, and 1186.1 indicated in Appendix A as well as the proposed implementation dates for PRs 1195 and 1996 as shown in Chapter 2 would be delayed by one year.. All other rule components of Alternative C including fleet sizes, acquisition rate, fuel scope, exemptions, etc., would be the same as the proposed project.

Alternative D – Minimum Fleet Size is $\geq$ 50 Vehicles

Alternative D is identical to proposed fleet vehicle rules except the fleet size cut-off for government and certain specific private sector fleets is 50 vehicles or greater. However, the fleet size cut-off for transit buses of 15 or greater pursuant to PR 1192 would remain the same.

Specifically, government and certain specific private sector fleets of 100 or greater would be subject to the rule starting July 1, 2001. Government and certain specific private sector fleets of 50 or greater but less than 100 would be subject to the rule starting July 1, 2002. All other rule components of Alternative D including fleet sizes for urban buses, acquisition rate, fuel scope, exemptions, etc., would be the same as the proposed project.

Alternative E – Phased Acquisition Rate

Alternative E is identical to the proposed fleet vehicle rules and related amendments except that the fleet vehicle acquisition rate of affected fleet operators is spread out over several years. The vehicle acquisition rate is the rate at which affected fleet operators must replace their existing fleet vehicles with low emission or alternative fuel vehicles. The proposed fleet vehicle rules require that for every affected fleet vehicle replaced it must be with a low emission vehicle or alternative clean-fueled vehicle depending on vehicle type. Thus, the proposed fleet vehicle rules' vehicle replacement rate is 100 percent.

Starting on the same implementation dates as the proposed fleet vehicle rules as shown in Appendix A for PRs 1191, 1192, 1193, 1194 and 1186.1 and Chapter 2 for PRs 1195 and 1996, Alternative E has a fleet vehicle acquisition rate of 50 percent. This means that 50 percent of the current fleet vehicles replaced by affected fleet operators would have to be low

emission or alternative fuel vehicles. This acquisition rate is in effect for two years after which time the acquisition rate becomes 100 percent. All other rule components of Alternative E including fleet sizes, types of fleets, fuel scope, exemptions, etc., would be the same as the proposed fleet vehicle rules.

Alternative F – School Buses

In addition to the vehicle categories already excluded under the proposed fleet vehicle rules and related amendments, Alternative F would also exclude all school bus fleets (e.g., contract and non-contract fleets). Essentially, this means that PR 1195 would not be adopted. Alternative F would include all other components of the proposed project including compliance dates/fleet sizes, acquisition rate, fuel scope, etc.

COMPARISON OF THE ALTERNATIVES

The NOP/IS (see Appendix B) identified those environmental topics where the proposed fleet vehicle rules could cause significant adverse environmental impacts. Further analysis of these environmental topics in Chapter 4 of this Final PEA revealed that short-term significant air quality impacts would result from activities associated with the simultaneous construction of alternative clean-fuel fueling stations and refinery modifications. However, no other significant adverse project-specific environmental impacts were identified are expected. The impacts are significant due to refinery modifications alone, with or without the alternative fuel refueling stations construction.

The following subsections briefly describe potential environmental impacts that may be generated by each project alternative. Each environmental topic summary contains a brief description of the environmental impacts for each project alternative compared to impacts resulting from implementing the proposed fleet vehicle rules. Potential impacts for the environmental topics are quantified, where sufficient data are available.

Air Quality

The reader is referred to Appendix F for the methodologies and assumptions used to estimate the air quality impacts associated with each project alternative.

Alternative A would not be expected to create any direct or indirect construction- or operational-related air quality impacts. However, the goals and intent of the SCAQMD's Air Toxics Control Plan and EJ Initiatives #2 and #7 to reduce toxic emissions as well as criteria pollutants from mobile sources would not be fully realized. Furthermore, the SCAQMD's ability to make progress towards meeting the PM 2006 and Ozone 2010 ambient air standards would be substantially encumbered

Alternative B takes into account the effects of USEPA adopting lower emissions standards for all other HDVs.. Under this alternative, starting 2007 the SCAQMD assumes that USEPA's PM and NOx standards (see Chapter 2) would achieve equivalency with the SCAQMD's proposed fleet vehicle rules' methanol equivalency PM and NOx criteria. Thus, the net effect of USEPA's proposed HDV standards would be to reduce the period of time that the proposed fleet vehicle rules would achieve emission reductions from other HDVs, which reduces the number of other HDVs that would be impacted by the SCAQMD's proposed fleet vehicle rules.. Accordingly, for all other HDVs, with the exception of urban transit buses, the SCAQMD estimates six individual years of PM and NOx reductions, although cumulative NOx and PM reductions continue through 2010. Under Alternative B, emission reduction estimates for LDVs and MDVs would be the same as the proposed fleet vehicle rules.

As discussed in Chapter 4, the estimated vehicle universe affected by the proposed fleet vehicle rules is approximately 120,000 fleet vehicles. Out of this total, the SCAQMD estimates that approximately 33,860 (3,500 LDVs; 540 MDVs; and 29,800 HDVs) will have to be replaced with alternative clean-fueled vehicles.

Under Alternative B, the SCAQMD estimates that approximately 18,300 vehicles (3,500 LDVs; 540 MDVs; and 14,260 HDVs) will have to be replaced with alternative clean-fueled vehicles[2]. Table 5-2 shows a breakdown of the number of vehicles replaced each year by fuel type due to the implementation of Alternative B.

As shown in Table 5-2, the effect of Alternative B compared to the proposed fleet vehicle rules (see Table 4-3) is to remove from the vehicle universe mostly HDVs. However, the majority of the HDV universe, as well as the LDV and MDV universe, is still unaffected by Alternative B. Accordingly, since the number of HDVs, which are the primary vehicle category anticipated to switch to alternative clean-fuels, are less than the proposed fleet vehicle rules, the construction-related air quality impacts for Alternative B associated with the installation of alternative clean fuel refueling stations will be less. The estimated construction-related emissions associated with Alternative B are shown in Table 5-3. These estimated peak daily emissions occur during simultaneous construction of two CNG refueling stations[3]. Similar to the analysis for the proposed fleet vehicle rules, only construction of CNG refueling stations contribute to refueling station construction-related air quality impacts because, based on the number of CNG refueling stations necessary to support Alternative B, as many as two CNG stations could be under construction concurrently.

[2] In this Final PEA, the SCAQMD has not revised the Alternative B universe. As a "worst-case" analysis and to be consistent with the proposed project impacts analysis (see Chapter 4), the SCAQMD has used the same vehicle universe for Alternative D as was used in the Draft PEA.

[3] It should be noted that the Draft PEA assumed that out of the 209 estimated alternative-fuel refueling stations that needed be constructed for this Alternative B only one was for transit buses. However, under the revised Alternative B, the number of estimated alternative-fuel refueling stations that need to be constructed for transit buses is 19. In spite of this increase of 18 stations, this will not affect the original Draft PEA estimate of two simultaneously constructed refueling stations per day for Alternative B. The increase in refueling station construction associated with transit buses is attributable to the inclusion of CARB's Transit Bus Rule into the proposed project, which is carried forward into Alternative B.

Because so few refueling stations for other types of alternative fuels are expected to be necessary to support Alternative B, it is not likely that construction of these other types of refueling stations would overlap construction of the CNG refueling stations. The reader is referred to Appendix F for the assumptions and rationale used for this approach.

TABLE 5-2

Number of Vehicles Replaced Each Year By Fuel Type
Due to the Implementation of Alternative B

Vehicle Type	Fuel Type					
	Methanol	**CNG**	**LNG**	**LPG**	**EV**	**Total**
LDV[a]	56	222	111	56	56	500
MDV[b]	9	35	18	9	9	80
HDV[c]						
Transit Buses	1	90	5	3	1	100
Non-Contract School Buses	3	243	14	8	3	270
Contract School Buses	5	486	27	16	5	540
All Other	24	2,196	122	73	24	2,440
Total	**89**	**2,454**	**137**	**88**	**60**	**3,020**
Rounded Up Total	**90**	**2,460**	**140**	**90**	**60**	**3,020**

[a] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[b] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[c] Assumed a replacement rates of:
Transit Buses - 8.3 percent per year (e.g., life expectancy of 12 years)
Non-Contracted School Buses - 5 percent per year (e.g., life expectancy of 20 years)
Contracted School Buses - 10 percent per year (e.g., life expectancy of 10 years)
All Other HDVs - 10 percent per year (e.g., life expectancy of 10 years)

TABLE 5-3

Summary of Alternative B Peak Daily Refueling Station
Construction Air Quality Impacts

Type of Station	Number Under Construction	CO (lbs/day)	VOC (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)
CNG	2	41	8	47	4	23
CEQA Significance Level	--	*550*	*75*	*100*	*150*	*150*
Significant (Yes/No)	--	No	No	No	No	No

The construction activities under Alternative B associated with refinery modifications necessary for refineries within the SCAQMD's jurisdiction to produce PAR 431.2 compliant low sulfur diesel are the same as for the proposed project (see Table 4-13). Accordingly, the simultaneous construction of refueling stations and refinery modifications under Alternative B would result in short-term significant adverse air quality impacts.

In the context of operational-related impacts, Alternative B is expected to generate less insignificant air quality impacts when compared to the proposed fleet vehicle rules. Since the universe of affected vehicles is smaller, the need for fuel delivery, infrastructure changes, and funding is less than what is needed under the proposed fleet vehicle rules.

Table 5-4 presents a summary of overlapping peak daily emissions associated with the construction and implementation of Alternative B. The results in Table 5-4 indicate that when mitigated significant construction-related emissions, insignificant operational-related emissions, and emission reductions anticipated for year 2002 are combined, Alternative B results in significant emission increases for CO, VOC and PM10. The reader is also referred to Table F-20, which summarizes peak daily emissions and emissions benefits (e.g., emissions reductions) for Alternative B for years 2001 through 2010.

TABLE 5-4

Summary Of Alternative B Peak Daily Air Quality Impacts
(Year 2002, Mitigated)

Activity	**CO** lb/day	**VOC** lb/day	**NOx** lb/day	**SOx** lb/day	**Combustion PM10** lb/day	**Fugitive PM10** lb/day	**Total PM10** lb/day
Refueling Construction	41	8	47	4	0	23	23
Refinery Construction	687	81	477	42	53	201	254
Fuel Deliveries	8	1	10	0	1	19	20
Longer Turnover Rate	0	0	303	0	17	0	17
Centralized Refueling	0	0	42	0	0	0	0
Transit Bus Removal	0	0	0	0	0	0	0
Reduced Payload	0	0	183	0	4	0	4
Total Emissions Increase	**736**	**90**	**1,062**	**46**	**76**	**243**	**319**
Total Emission Benefits[a]	**0**	**0**	**(3,028)**	**0**	**(173)**	**0**	**(173)**
Net Emission Benefits[a]	**736**	**90**	**(1,966)**	**46**	**(97)**	**243**	**146**
Threshold	*550*	*55*	*55*	*150*	--	--	*150*
Significant	**Yes**	**Yes**	No	No	--	--	**Yes**

[a] Negative emission changes () represent air quality benefits

Alternative B, however, will not achieve the same air quality benefits as the proposed fleet vehicle rules. In the near term or long term, the reduction in TACs and other criteria pollutants from affected fleet vehicles will be less compared to the proposed fleet vehicle rules (Table 5-11).

Alternative C – Delay Rule Implementation Date by One Year

Alternative C is identical to the proposed fleet vehicle rules, except that the applicable implementation dates for the various fleet categories would begin one year later for all affected vehicle categories. This has the effect of delaying construction and operation air quality impacts by one year for each fleet category. However, starting when the first implementation dates become effective and, assuming a constant turnover rate for all subsequent years, the number of clean-fuel refueling stations that need to be built to support Alternative C will be approximately the same as the proposed fleet vehicle rules except that the impacts and benefits would be delayed by one year. Thus, the peak daily air quality

impacts for construction-related activities will be the same (e.g., significant) as the proposed fleet vehicle rules (see Tables 4-13 and 4-15 in Chapter 4), although delayed by one year.

In the context of direct/indirect operational-related air quality impacts, Alternative C may have slightly lower impacts than the proposed fleet vehicle rules. Since Alternative C delays the implementation dates of the rules by one-year, the demand for infrastructure and funding sources may not be as great as for the proposed rules in the near term. Thus, affected fleet operators may have more time to plan for the acquisition of low emission vehicles, implement infrastructure changes, and secure the appropriate funding for the acquisition and operation of low emission vehicles. Furthermore, OEMs will have more notice of the future demand for low-emission vehicles giving them the opportunity to make greater numbers of compliant vehicles available within a longer timeframe.

Alternative C will achieve less air quality benefits as the proposed fleet vehicle rules. In the near term, however, the reduction in TACs and other criteria pollutants from affected fleet vehicles will be delayed by one-year as compared to the proposed rules. See Table 5-11 below. The reader is also referred to Table F-21, which summarizes peak daily emissions and emissions benefits (e.g., emissions reductions) for Alternative C for years 2001 through 2010.

Alternative D – Minimum Fleet Size is ≥ 50 Vehicles

Alternative D is identical to the proposed fleet vehicle rules except that the fleet size cut-off for government and certain affected private sector fleets is 50 vehicles or greater. Under Alternative D, the SCAQMD estimates that approximately 30,600 vehicles (3,280 LDVs; 520 MDVs; and 26,800 HDVs) will have to be replaced with alternative clean-fueled vehicles[4]. Table 5-5 shows a breakdown by fuel type of the number of vehicles replaced each year due to the implementation of Alternative D.

TABLE 5-5

Number Of Fleet Vehicles Replaced Each Year By Fuel Type
Due To The Implementation Of Alternative D

Vehicle Type	Fuel Type					
	Methanol	CNG	LNG	LPG	EV	Total
LDV[a]	52	208	104	52	52	468
MDV[b]	8	33	17	8	8	75
HDV[c]						
Transit Buses	3	270	15	9	3	300
Non-Contract School Buses	2	140	8	5	2	155

TABLE 5-5 (CONTINUED)

[4] In this Final PEA, the SCAQMD has not revised the Alternative D universe. As a "worst-case" analysis and to be consistent with the proposed project impacts analysis (see Chapter 4), the SCAQMD has used the same vehicle universe for Alternative D as was used in the Draft PEA.

Number Of Fleet Vehicles Replaced Each Year By Fuel Type
Due To The Implementation Of Alternative D

Vehicle Type	Fuel Type					
	Methanol	**CNG**	**LNG**	**LPG**	**EV**	**Total**
Contract School Buses	6	495	28	17	6	550
All Other	15	1,314	73	44	15	1,460
Total	**85**	**2,460**	**244**	**134**	**85**	**3,008**
Rounded Up Total	**90**	**2,460**	**250**	**140**	**90**	**3,010**

[a] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[b] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[c] Assumed a replacement rates of:
Transit Buses - 8.3 percent per year (e.g., life expectancy of 12 years)
School Buses - 5 percent per year (e.g., life expectancy of 20 years)
Contracted School Buses - 10 percent per year (e.g., life expectancy of 10 years)
All Other HDVs - 10 percent per year (e.g., life expectancy of 10 years)

As shown in Table 5-5, the effect of Alternative D compared to the proposed fleet vehicle rules (see Table 4-3) is to remove from the vehicle universe mostly LDVs and MDVs and some school buses. The majority of the HDV universe is still regulated by Alternative D. However, since the number of HDVs, which are the primary vehicle category anticipated to switch to alternative clean fuels, is less than the proposed project, the construction-related air quality impacts for Alternative D associated with the installation of alternative clean-fuel refueling stations will also be less. The estimated alternative clean-fuel refueling station construction-related emissions associated with Alternative D are shown in Table 5-6. Similar to the analysis for the proposed fleet vehicle rules, only construction of CNG refueling stations contribute to refueling station construction-related air quality impacts because, based on the number of CNG refueling stations necessary to support Alternative D, as many as two CNG stations could be under construction concurrently. Because so few refueling stations for other types of alternative fuels are expected to be necessary to support Alternative D, it is not likely that construction of these other types of refueling stations would overlap construction of the CNG refueling stations. The reader is referred to Appendix F for the assumptions and rationale used for this approach.

TABLE 5-6

Summary Of Alternative D Peak Daily Refueling Station
Construction Air Quality Impacts

Type of Station	Number Under Construction	CO (lbs/day)	VOC (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)
CNG	2	41	8	47	4	23
CEQA Significance Level	--	*550*	*75*	*100*	*150*	*150*
Significant (Yes/No)	--	No	No	No	No	No

The construction activities under Alternative D associated with refinery modifications necessary for refineries within the SCAQMD's jurisdiction to produce PAR 431.2 compliant

low sulfur diesel are the same as for the proposed project (see Table 4-13). Accordingly, the simultaneous construction of refueling stations and refinery modifications under Alternative D would result in short-term significant adverse air quality impacts.

In the context of operational-related impacts, Alternative D is expected to generate slightly less insignificant air quality impacts when compared to the proposed fleet vehicle rules. Since the universe of affected vehicles is smaller, the need for fuel delivery, infrastructure changes, and funding is less than what is needed under the proposed fleet vehicle rules.

Table 5-7 presents a summary of overlapping peak daily emissions associated with the construction and implementation of Alternative D. The results in Table 5-7 indicate that when mitigated significant construction-related emissions, insignificant operational-related emissions, and emission reductions anticipated for year 2002 are combined, Alternative D results in significant emission increases for CO, VOC and PM10. The reader is also referred to Table F-24, which summarizes peak daily emissions and emissions benefits (e.g., emissions reductions) for Alternative D for years 2001 through 2010..

TABLE 5-7

Summary Of Alternative D Peak Daily Air Quality Impacts
(Year 2002, Mitigated)

Activity	**CO** lb/day	**VOC** lb/day	**NOx** lb/day	**SOx** lb/day	**Combustion PM10** lb/day	**Fugitive PM10** lb/day	**Total PM10** lb/day
Refueling Construction	41	8	47	4	0	23	23
Refinery Construction	687	81	477	42	53	201	254
Fuel Deliveries	13	2	16	0	1	32	33
Longer Turnover Rate	0	0	262	0	15	0	15
Centralized Refueling	0	0	39	0	1	0	1
Transit Bus Removal	0	0	0	0	0	0	0
Reduced Payload	0	0	146	0	3	0	3
Total Emissions Increase	**741**	**91**	**986**	**46**	**73**	**256**	**329**
Total Emission Benefits[a]	**0**	**0**	**(1,976)**	**0**	**(151)**	**0**	**(151)**
Net Emission Benefits[a]	**741**	**90**	**(1,630)**	**46**	**(78)**	**256**	**178**
Threshold	*550*	*55*	*55*	*150*	--	--	*150*
Significant	**Yes**	**Yes**	No	No	--	--	**Yes**

[a] Negative emission changes () represent air quality benefits

Alternative D will not achieve the same air quality benefits as the proposed fleet vehicle rules. In the near term or long term, the reduction in TACs and other criteria pollutants from affected fleet vehicles will be substantially less compared to the proposed fleet vehicle rules (see Table 5-11).

Alternative E – Acquisition Rate

Under Alternative E, starting on the same implementation dates as the proposed fleet vehicle rules, the fleet vehicle acquisition rate for affected fleet operators is 50 percent. Two years later the acquisition rate becomes 100 percent.

Alternative E would have the effect of delaying construction of some alternative clean-fuel refueling stations in the near term since the acquisition rate of vehicles is less than under the proposed fleet vehicle rules. However, two years after rule adoption when the acquisition rate becomes 100 percent, assuming a constant turnover rate for all subsequent years, the number of clean-fuel refueling stations that would need to be built will be approximately the same as for the proposed fleet vehicle rules. Thus, the peak daily air quality impacts for construction-related activities will be the same as for the proposed fleet vehicle rules, although delayed to a certain extent in the near term. The reader is referred to Tables 4-12, 4-13, and 4-15 in Chapter 4.

In the context of direct or indirect operational air quality impacts, Alternative E may have slightly lower impacts than the proposed fleet vehicle rules. Since Alternative E allows a phased acquisition rate, the demand for infrastructure and funding sources will not be as great as for the proposed rules. Thus, affected fleet owners or operators may have more time in the near time to plan for the acquisition of low emission vehicles, implement infrastructure changes, and secure the appropriate funding for the acquisition and operation of low emission vehicles. Furthermore, OEMs will have more notice of the future demand of low emission vehicles giving them the opportunity to make greater quantities of compliant vehicles available in the near term.

Alternative E will not achieve the same air quality benefits as the proposed rules. In the near term, the reduction in TACs and other criteria pollutants from affected fleet vehicles will be approximately half compared to the proposed fleet vehicle rules (see Table 5-11). The reason for this conclusion is that for the first two years after adoption, this Alternative achieves lower emissions reductions than the proposed fleet vehicle rules because of the delayed acquisition rates. After two years, further emission reductions would be attributable to the consent decree (see discussion in Chapter 2). The reader is referred to Table F-25, which summarizes peak daily emissions and emissions benefits (e.g., emissions reductions) for Alternative E for years 2001 through 2010.

Alternative F – School Buses

Alternative F, with the exception of exclusion of school buses, would target the same vehicle population as the proposed fleet vehicle rules. Specifically, along with the current proposed rules exemptions, all school buses would also excluded under this alternative. Under Alternative F, the SCAQMD estimates that approximately 23,060 vehicles (3,500 LDVs; 560

MDVs; and 19,000 HDVs) will have to be replaced with alternative clean-fueled vehicles[5]. Table 5-8 shows a breakdown by fuel type of the number of vehicles replaced each year due to the implementation of Alternative F.

TABLE 5-8

Number of Vehicles Replaced Each Year By Fuel Type
Due to the Implementation of Alternative F

Vehicle Type	Fuel Type					
	Methanol	**CNG**	**LNG**	**LPG**	**EV**	**Total**
LDV[a]	56	222	111	56	56	500
MDV[b]	9	35	18	9	9	80
HDV[c]						
Transit Buses	3	278	15	9	3	308
Non-Contract School Buses	-	-	-	-	-	-
Contract School Buses	-	-	-	-	-	-
All Other	15	1,377	77	46	15	1,530
Total	**83**	**1,912**	**221**	**120**	**83**	**2,418**
Rounded Up Total	**90**	**1,920**	**230**	**120**	**90**	**2,420**

[a] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[b] Assumed a replacement rate of 14 percent per year (e.g., life expectancy of 7 years)
[c] Assumed a replacement rates of:
Transit Buses - 8.3 percent per year (e.g., life expectancy of 12 years)
All Other HDVs - 10 percent per year (e.g., life expectancy of 10 years)

As shown in Table 5-8, the effect of Alternative F compared to the proposed fleet vehicle rules (see Table 4-3) is to remove from the vehicle universe all school buses.

Since the HDV universe is smaller compared to the proposed fleet vehicle rules, the alternative clean-fuel refueling station construction-related air quality impacts from Alternative F would be less. Alternative F would not generate any emissions from the construction of alternative clean-fuel refueling stations for school buses. The estimated construction-related emissions associated with Alternative F are shown in Table 5-9. Similar to the analysis for the proposed fleet vehicle rules, only construction of CNG refueling stations contribute to refueling station construction-related air quality impacts because, based on the number of CNG refueling stations necessary to support Alternative F, as many as two CNG stations could be under construction concurrently. Because so few refueling stations for other types of alternative fuels are expected to be necessary to support Alternative F, it is not likely that construction of these other types of refueling stations would overlap construction of the CNG refueling stations. The reader is referred to Appendix F for the assumptions and rationale used for this approach.

[5] In this Final PEA, the SCAQMD has not revised the Alternative F universe. As a "worst-case" analysis and to be consistent with the proposed project impacts analysis (see Chapter 4), the SCAQMD has used the same vehicle universe for Alternative F as was used in the Draft PEA.

TABLE 5-9

Summary of Alternative F Peak Daily Refueling Station
Construction Air Quality Impacts

Type of Station	Number Under Construction	CO (lbs/day)	VOC (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)
CNG	2	41	8	47	4	23
CEQA Significance Level	--	*550*	*75*	*100*	*150*	*150*
Significant (Yes/No)	--	No	No	No	No	No

The construction activities under Alternative F associated with refinery modifications necessary for refineries within the SCAQMD's jurisdiction to produce PAR 431.2 compliant low sulfur diesel are the same as for the proposed project (see Table 4-13). Accordingly, the simultaneous construction of refueling stations and refinery modifications under Alternative F would result in short-term significant adverse air quality impacts.

In the context of operational-related impacts, Alternative F is expected to generate less air insignificant quality impacts when compared to the proposed fleet vehicle rules. Since the universe of affected vehicles is smaller, the need for fuel delivery, infrastructure changes, and funding is less than what is needed under the proposed fleet vehicle rules.

Table 5-10 presents a summary of overlapping peak daily emissions associated with the construction and implementation of Alternative F. The results in Table 5-10 indicate that when mitigated significant construction-related emissions, insignificant operational-related emissions, and emission reductions anticipated for year 2002 are combined, Alternative F results in significant emission increases for CO, VOC and PM10. The reader is also referred to Table F-28, which summarizes peak daily emissions and emissions benefits (e.g., emissions reductions) for Alternative F for years 2001 through 2010..

TABLE 5-10

Summary Of Alternative F Peak Daily Air Quality Impacts
(Year 2002, Mitigated)

Activity	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	Combustion PM10 lb/day	Fugitive PM10 lb/day	Total PM10 lb/day
Refueling Construction	41	8	47	4	0	23	23
Refinery Construction	687	81	477	42	53	201	254
Fuel Deliveries	10	2	12	0	1	23	24
Longer Turnover Rate	0	0	151	0	9	0	9
Centralized Refueling	0	0	29	0	1	0	1
Transit Bus Removal	0	0	0		0	0	0
Reduced Payload	0	0	183	0	4	0	4
Total Emissions Increase	**738**	**91**	**1,010**	**46**	**73**	**247**	**174**

TABLE 5-10 (CONTINUED)

Summary Of Alternative F Peak Daily Air Quality Impacts
(Year 2002, Mitigated)

Activity	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	Combustion PM10 lb/day	Fugitive PM10 lb/day	Total PM10 lb/day
Total Emission Benefits[a]	**0**	**0**	**(2,619)**	**0**	**(146)**	**0**	**(146)**
Net Emission Benefits[a]	**738**	**91**	**(1,609)**	**46**	**(73)**	**247**	**174**
Threshold	*550*	*55*	*55*	*150*	--	--	*150*
Significant	**Yes**	**Yes**	No	No	--	--	**Yes**

[a] Negative emission changes () represent air quality benefits

Alternative F will not achieve the same air quality benefits as the proposed fleet vehicle rules. In the near term or long term, the reduction in TACs and other criteria pollutants from affected fleet vehicles will be much less compared to the proposed fleet vehicle rules (see Table 5-11).

Emission Reductions from Proposed Fleet Vehicle Rules and Alternatives

It should be noted that all of the alternatives, except Alternative A, will reduce TACs and other criteria pollutant emissions from affected fleet vehicles. However, as shown in Table 5-11, in the near and long term overall, the proposed fleet vehicle rules (e.g., proposed project) achieve the greatest NOx and PM10 emission reductions when compared to the other project alternatives.

Table 5-11 represents the SCAQMD's best approximation of emission reductions taking into consideration various aspects of the proposed fleet vehicle rules and the project alternatives. It should be noted, however, that some of the alternatives discussed above may over- or underestimate emission reductions. See Appendix E2 for the methodology used to estimate emission reductions from the proposed rules as well as the project alternatives.

TABLE 5-11

Comparison of Total Emission Benefits for Year 2010
From The Proposed Project and the Project Alternatives (Pounds Per Day)

Pollutant	Prop. Proj.	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F
CO	2,132	0	2,132	2,132	1,935	2,132	2,132
VOC	52	0	52	52	47	52	52
NOx	8,973	0	6,626	6,756	7,731	7,171	8,330
SOx	0	0	0	0	0	0	0
PM10	964	0	592	846	828	855	829

[a] Assumed 250 operational days per year

Water Resources

Water Demand

The No Project Alternative, Alternative A, would not require government and specified private fleet operators to use alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Alternative A would not require any infrastructure changes to accommodate alternative fueled-vehicles. Accordingly, water demand associated with dust suppression during construction-related activities or operational needs of alternative clean-fuel refueling stations would not be required. Thus, Alternative A would not create any new or additional water demand impacts.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which is accounted for in the proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. As a result, the number of alternative clean-fuel refueling stations that would have to built and operated will be less than under the proposed fleet vehicle rules since the population of vehicles that would convert to alternative clean-fuels is smaller. Therefore, water demand impacts associated with alternative clean-fuel refueling stations attributable to dust suppression during construction or operational needs would be less than under the proposed fleet vehicle rules. Water demand impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Alternative C is identical to the proposed fleet vehicle rules except that the implementation dates of the for the various fleet categories would begin one year later. This has the effect of delaying infrastructure changes by one-year. Thus, in the near term, water demand impacts (e.g., water used for dust suppression during construction or operation activities) of Alternative C would be less than for the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time compared to the proposed rules. However, starting in 2003 when first implementation dates become effective, the number of clean-fuel refueling stations that would need to be built to meet the alternative clean-fueled vehicle demand will be the same as for the proposed fleet vehicle rules (e.g., proposed project). Accordingly, in the long term Alternative C would result in the same insignificant water demand impacts as the proposed fleet vehicle rules and related amendments.

Under Alternative D, with the exception of transit bus fleets, the fleet size cut-off for government and certain affected private sector fleets is 50 vehicles or greater. As a result, the number of alternative clean-fuel refueling stations that would have to be built and operated would be less than for the proposed rules. Therefore, water demand impacts associated with alternative clean-fuel refueling stations attributable to dust suppression during construction or operation would be less than for the proposed fleet vehicle rules.

Water demand impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Alternative E has the effect of delaying when some alternative clean-fuel refueling stations would be built since the acquisition rate of vehicles is 50 percent in the first two years of rule adoption and then becomes 100 percent thereafter. Thus, in the near term, water demand impacts (e.g., water used for dust suppression during construction or operation activities) of Alternative E would be less than for the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time compared to the proposed rules. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that would need to be built would be the same as the proposed fleet vehicle rules. Accordingly, in the long term Alternative E would result in the same insignificant water demand impacts as the proposed rules.

Alternative F along with the current exemptions in the proposed fleet vehicle rules would also exempt school buses. As a result, the number of alternative clean-fuel refueling stations that have to built and operated will be less than under the proposed rules. Accordingly, water demand impacts associated with alternative clean-fuel refueling stations attributable to dust suppression during construction or operational needs would be less than for the proposed fleet vehicle rules. Water demand impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Water Quality

Alternative A would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not create any new or additional water quality impacts.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which has been accounted for in proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. As a result, the number of alternative clean-fuel refueling stations that would need to be built and operated would be less than for the proposed fleet vehicle rules since the population of vehicles that would convert to alternative clean-fuels is smaller. Therefore, water quality impacts (e.g., potential ground or surface water contamination during construction- or operational-related activities) associated with alternative clean fuel refueling stations and alternative clean fuel vehicles would be less than for the proposed fleet vehicle rules. Water quality impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Under Alternative C, the proposed rules implementation dates would begin one year later for all affected vehicle categories. This component has the effect of delaying infrastructure changes by one year. Thus, in the near term, water quality impacts (e.g., ground/surface water contamination from a methanol spill or EV battery production or disposal) of Alternative C would be less than for the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting when the first implementation dates become effective, the number of clean-fuel refueling stations that would need to be built to meet the alternative clean-fuel vehicle demand would be the same as for the proposed fleet vehicle rules (e.g., proposed project). Consequently, in the long term Alternative C would result in the same insignificant water quality impacts as the proposed fleet vehicle rules.

With the exception of transit bus fleets, the fleet size cut-off for affected government and specified private sector fleets under Alternative D is 50 vehicles or greater. As a result, the number of alternative clean-fuel refueling stations that have to built and operated to meet the demand for alternative clean-fueled vehicles would be less than for the proposed fleet vehicle rules. Therefore, water quality impacts (e.g., potential ground or surface water contamination during construction or operation activities) associated with alternative clean-fuel refueling stations and alternative clean-fueled vehicles would be less than for the proposed fleet vehicle rules. Water quality impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Alternative E has the effect of delaying the time when some alternative clean-fuel refueling stations would be built. Upon adoption of Alternative E, when purchasing new or replacing existing fleet vehicles the low emission or alternative fuel vehicle acquisition rate would be 50 percent. Two years later it would increase to 100 percent. Consequently, in the near term, water quality impacts (e.g., ground or surface water contamination from a methanol spill or EV battery production or disposal) of Alternative E would be less than the proposed fleet vehicle rules since the amount of infrastructure changes would be spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that would need to be built to meet the demand for alternative clean-fueled vehicles would be the same as for the proposed fleet vehicle rules. Accordingly, in the long term Alternative E would result in the same insignificant water quality impacts as the proposed fleet vehicle rules.

Along with the current exemptions in the proposed fleet vehicle rules, Alternative F would exclude school bus fleets from the alternative clean-fuel vehicle replacement requirements. Consequently, the number of alternative clean-fuel refueling stations that need to built and operated to meet the demand for alternative clean-fueled vehicles would be less than for the proposed fleet vehicle rules. As a result, water quality impacts (e.g., potential ground or surface water contamination during construction or operation activities) associated with

alternative clean-fuel refueling stations and alternative clean-fueled vehicles would be less than for the proposed fleet vehicle rules. Water quality impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Transportation / Circulation

Alternative A would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not create any transportation/circulation impacts associated with the construction and operation of alternative clean-fuel refueling stations.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule , which is accounted for in the proposed project, USEPA's recently adopted 2007 and beyond emission standards for HDVs.. As a result, the number of alternative clean-fuel refueling stations that have to built and operated will be less than under the proposed fleet vehicle rules since the population of vehicles that would convert to alternative clean-fuels is smaller. Therefore, transportation/circulation impacts (e.g., construction worker commuter trips, alternative clean fuel delivery or refueling trips, or increased private sector trips due to potential loss of service) associated with the use and operation of alternative clean fuel refueling stations and alternative clean-fueled vehicles would be less than under the proposed fleet vehicle rules. Transportation/circulation impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Under Alternative C, the implementation dates for all affected categories of fleet vehicles would begin one year later. This has the effect of delaying infrastructure changes by one year. Thus, in the near term, transportation/circulation impacts (e.g., construction worker commuter trips, alternative clean fuel delivery/refueling trips, or increased private sector trips due to potential loss of service) of Alternative C would be less than under the proposed fleet vehicle rules. This is due to infrastructure changes spread out over a longer period of time compared to the proposed rules. However, starting when the first implementation dates become effective, the number of clean-fuel refueling stations that need to be built to meet the alternative clean-fueled vehicle demand will be the same as under the proposed fleet vehicle rules (e.g., proposed project). Consequently, in the long-term Alternative C would result in the same insignificant transportation/circulation impacts as the proposed fleet vehicle rules.

Alternative D, with the exception of transit bus fleets, establishes a fleet size cut-off for government and certain affected private sector fleets of 50 vehicles or greater. As a result, the number of alternative clean-fuel refueling stations that have to built and operated to meet the demand for alternative clean-fueled vehicles will be less than under the proposed fleet vehicle rules. Therefore, transportation/circulation impacts (e.g., construction worker commuter trips, alternative clean- fuel delivery/refueling trips, or increased private sector

trips due to potential loss of service) associated with the use and operation of alternative clean-fuel refueling stations and alternative clean-fueled vehicles would be less than under the proposed fleet vehicle rules. Transportation/circulation impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Alternative E has the effect of delaying the time when some alternative clean-fuel refueling stations are built. Upon Alternative E adoption, the vehicle acquisition rate would be 50 percent. Two years later it would increase to 100 percent. Consequently, in the near term, transportation/circulation impacts (e.g., construction worker commuter trips, alternative clean- fuel delivery/refueling trips, or increased private sector trips due to potential loss of service) of Alternative E would be less than under the proposed fleet vehicle rules due to infrastructure changes being spread out over a longer period of time. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that need to be built to meet the demand for alternative clean-fueled vehicles would be the same as under the proposed fleet vehicle rules. Accordingly, in the long term Alternative E would result in the same insignificant transportation/circulation impacts as the proposed fleet vehicle rules.

Along with the current exemptions in the proposed fleet vehicle rules, Alternative F would also exclude school bus fleets from the alternative fuel replacement requirements. Consequently, the number of alternative clean-fuel refueling stations that need to built and operated to meet the demand for alternative clean-fueled vehicles will be less than under the proposed fleet vehicle rules. As a result, the transportation/circulation impacts (e.g., construction worker commuter trips, alternative clean- fuel delivery/refueling trips, or increased private sector trips due to potential loss of service) of Alternative F associated with the use and operation of alternative clean-fuel refueling stations and alternative clean-fueled vehicles would be less than under the proposed fleet vehicle rules. Transportation/circulation impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

With the exception of Alternative A, the daily maximum number of worker commute trips and haul truck trips per construction site during construction of alternative clean-fuel refueling stations and refinery modifications would be the same for all the alternatives. As discussed in Chapter 4, the maximum total number of daily trips per construction site is estimated to be 26 for alternative clean-fuel refueling stations and 102 for construction of refinery modifications, which are below the trip generation significance threshold of 350. Similarly, additional daily average fuel-delivery trips for each station supplying methanol, LNG, and LPG would be the same under each alternative, since the number of stations is approximately proportional to the number of vehicles. The maximum daily increase for a single station would be one round trip, or two one-way trips. Additional trips for refueling at each centralized refueling station would also be the same under each alternative as under the

proposed fleet vehicle rules, since fewer stations would be constructed for the alternatives that regulate a smaller universe of fleet vehicles.

Public Services

The No Project Alternative, Alternative A, would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not create any need for new or altered public services.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which has been accounted for in the proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. Therefore, fewer alternative clean fuel refueling stations would be constructed and operated under Alternative B since the population of vehicles that would convert to alternative clean-fuels is smaller. Accordingly, public services associated with fire departments inspecting alternative clean fuel fueling stations or responding to accidents resulting from the storing, transporting, or handling of alternative clean-fuels would be less compared to the proposed fleet vehicle rules.

Alternative C is identical to the proposed fleet vehicle rules except that the implementation dates of the rule would begin one year later for all affected vehicle categories. Essentially, this has the effect of delaying infrastructure development by one year compared to the proposed fleet vehicle rules. As a result, in the near term, public services impacts (e.g., fire departments inspecting alternative clean-fuel refueling stations or responding to accidents resulting from the storing, transporting, or handling of alternative clean-fuels) of Alternative C would be less than under the proposed fleet vehicle rules. This is attributable to infrastructure changes being spread out over a longer period of time compared to the proposed fleet vehicle rules, which allows affected fleet operators more time to plan for infrastructure changes and the acquisition of alternative clean-fueled vehicles.

Further, starting when the first alternative fuel replacement requirements become effective, the number of clean-fuel refueling stations that would need to be built would be the same as under the proposed fleet vehicle rules (e.g., proposed project). Accordingly, in the long-term Alternative C would result in the same insignificant public services impacts as the proposed fleet vehicle rules.

Under Alternative D, with the exception of transit bus fleets, the fleet size cut-off for government and certain affected private sector fleets is 50 vehicles or greater. Consequently, the number of alternative clean-fuel refueling stations that would have to built and operated would be less than under the proposed fleet vehicle rules. Therefore, the need for fire departments to inspect alternative clean-fuel refueling stations or respond to accidents resulting from the storing, transporting, or handling of alternative clean-fuels would be less than under the proposed fleet vehicle rules.

Alternative E delays the compliance date when some alternative clean-fuel refueling stations would be built since the acquisition rate of affected fleet vehicles is 50 percent within the first two years of rule adoption and then becomes 100 percent thereafter. As a result, in the near term, public services impacts (e.g., fire departments inspecting alternative clean-fuel refueling stations or responding to accidents resulting from the storing, transporting, or handling of alternative clean-fuels) of Alternative E would be less than under the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean fuel refueling stations that would need to be built would be the same as under the proposed fleet vehicle rules. Accordingly, in the long term Alternative E would result in the same insignificant public services impacts as the proposed fleet vehicle rules.

In addition to the current exemptions in the proposed fleet vehicle rules and related amendments, Alternative F would also exclude school bus fleets from the alternative clean-fuel vehicle replacement requirements. As a result, the number of alternative clean-fuel refueling stations that have to built and operated would be less than under the proposed fleet vehicle rules. Accordingly, the need for fire departments to inspect alternative clean-fuel refueling stations or respond to accidents resulting from the storing, transporting, or handling of alternative clean-fuels would be less than under the proposed fleet vehicle rules.

Solid / Hazardous Waste

Alternative A would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not generate any solid/hazardous wastes associated with the use and operation of alternative clean-fueled vehicles.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which is accounted for in the proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. Consequently, fewer alternative clean fuel refueling stations would be constructed and operated under Alternative B since the population of vehicles that would convert to alternative clean-fuels is smaller. As a result, compared to the proposed fleet vehicle rules, less solid/hazardous wastes would be generated from the demolition and disposal of underground gasoline or diesel storage tanks associated with the construction of more alternative clean-fuel refueling stations, while the same amount of solid/hazardous wastes would be generated during refinery construction and operation as for the proposed fleet vehicle rules. Additionally, less solid/hazardous waste would be generated from disposal of EV battery packs from the increased use of EVs compared to the proposed fleet vehicle rules. Thus, overall Alternative B would result in less solid/hazardous waste impacts when compared to the proposed fleet vehicle rules.

Under Alternative C, the implementation dates of the proposed fleet vehicle rules would begin one year later for all affected vehicle categories. As a result, the required infrastructure changes would be delayed by one year compared to the proposed fleet vehicle rules. Consequently, in the near term, solid/hazardous waste impacts (e.g., demolition/disposal of underground gasoline/diesel tanks and disposal of EV battery packs) of Alternative C would be less than under the proposed fleet vehicle rules. This is due to infrastructure changes being spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting when the first alternative fuel replacement requirements go into effect, the number of clean-fuel refueling stations that would need to be built to meet the demand for alternative clean-fueled vehicles would be the same as under the proposed fleet vehicle rules (e.g., proposed project). Accordingly, in the long term Alternative C would result in the same insignificant solid/hazardous waste impacts as under the proposed fleet vehicle rules.

Under Alternative D, with the exception of transit bus fleets, the fleet size cut-off for government and certain affected private sector fleets is 50 vehicles or greater. As a result, the number of alternative clean-fuel refueling stations and alternative clean-fueled vehicles affected by Alternative D would be less than under the proposed fleet vehicle rules. Therefore, compared to the proposed fleet vehicle rules, less solid/hazardous from the removal/disposal of underground gasoline or diesel storage tanks during construction of alternative clean-fuel refueling stations would be generated from Alternative D, while the same amount of solid/hazardous wastes would be generated during refinery construction and

operation as for the proposed fleet vehicle rules. Additionally, less solid/hazardous from the disposal of EV battery packs will be generated from Alternative D when compared to the proposed fleet vehicle rules.

Alternative E is similar to the proposed fleet vehicle rules except that it contains provisions that would delay the construction of alternative clean-fuel refueling stations. For example, Alternative B would only require an acquisition rate of vehicles is 50 percent within the first two years of rule adoption, which then becomes 100 percent thereafter. Thus, in the near term, solid/hazardous waste impacts (e.g., demolition/disposal of underground gasoline/diesel tanks and disposal of EV battery packs) of Alternative E would be less than under the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that need to be built to meet the demand for alternative clean-fueled vehicles would be the same as under the proposed fleet vehicle rules. Therefore, in the long term Alternative E would result in the same insignificant solid/hazardous waste impacts as the proposed fleet vehicle rules.

Alternative F Along with the current exemptions in the proposed fleet vehicle rules would also exclude school buses from rule compliance. As a result, the number of alternative clean-fuel refueling stations that have to built and operated will be less than under the proposed fleet vehicle rules. Accordingly, Alternative F will generate less solid/hazardous from the removal/disposal of underground gasoline/diesel storage tanks during construction of alternative clean-fuel refueling stations, while the same amount of solid/hazardous wastes would be generated during refinery construction and operation as for the proposed fleet vehicle rules. Additionally, Alternative F will generate less solid/hazardous associated with the disposal of EV battery packs when compared to the proposed fleet vehicle rules.

Energy and Mineral Resources

Alternative A would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not create any additional energy/mineral resources impacts (e.g., fuel demands) associated with the construction and operation of alternative clean-fuel refueling stations (either construction or operation impacts) or alternative clean-fueled vehicles.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which has been accounted for in the proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. Therefore, since under this alternative fewer refueling stations and alternative clean-fueled vehicles would be needed, Alternative B would result in less energy/mineral resources impacts (e.g., fuel consumed during construction worker commuter trips, alternative clean- fuel delivery/refueling trips, increased

private sector trips due to potential loss of service, reduced payload, or compressor fuel consumption) as compared to proposed fleet vehicle rules. Energy/mineral resources impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

For all affected vehicle categories, Alternative C delays the proposed fleet vehicle rules' implementation dates by one year. This has the effect of delaying infrastructure changes. Thus, in the near term, energy/mineral resources impacts associated with Alternative C would be less than for the proposed fleet vehicle rules. This is due to infrastructure changes being spread out over a longer period of time when compared to the proposed fleet vehicle rules. However, starting when the first alternative fuel vehicle replacement provisions become effective, the number of clean fuel refueling stations that would need to be built to meet the alternative clean-fueled vehicle demand would be the same as proposed fleet vehicle rules (e.g., proposed project). Consequently, in the long term Alternative C would result in the same insignificant energy/mineral resources impacts as proposed fleet vehicle rules.

With the exception of transit bus fleets, Alternative D establishes a fleet size cut-off for government and specified affected private sector fleets of 50 vehicles or greater. As a result, the number of alternative clean fuel refueling stations that have to built and operated to meet the demand for alternative clean-fueled vehicles would be less than the proposed fleet vehicle rules. Therefore, energy/mineral resources impacts (e.g., fuel consumed during construction worker commuter trips, alternative clean fuel delivery/refueling trips, increased private sector trips due to potential loss of service, reduced payload, or compressor fuel consumption) associated with the use and operation of alternative clean fuel refueling stations and alternative clean-fueled vehicles would be less than proposed fleet vehicle rules. Energy/mineral resources impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

The effect of adopting Alternative E would be to delay the time when a certain portion of the alternative clean fuel refueling stations are built. Starting on the rule adoption date the vehicle acquisition rate is 50 percent. Two years later it increases to 100 percent. Consequently, in the near term, energy/mineral resources impacts (e.g., fuel consumed during construction worker commuter trips, alternative clean- fuel delivery/refueling trips, increased private sector trips due to potential loss of service, reduced payload, or compressor fuel consumption) associated with Alternative C would be less than for the proposed fleet vehicle rules due to infrastructure changes being spread out over a longer period of time. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that need to be built to meet the demand for alternative clean-fueled vehicles would be the same as for the proposed fleet

vehicle rules. Accordingly, in the long term Alternative E would result in the same insignificant energy/mineral resources impacts as proposed fleet vehicle rules.

Along with the current exemptions in proposed fleet vehicle rules, Alternative F would also exclude school bus fleets from rule compliance. Consequently, the number of alternative clean-fuel refueling stations that need to built and operated to meet the demand for alternative clean-fueled vehicles will be less than for the proposed fleet vehicle rules. As a result, the energy/mineral resources (e.g., fuel consumed during construction worker commuter trips, alternative clean fuel delivery/refueling trips, increased private sector trips due to potential loss of service, reduced payload, or compressor fuel consumption) of Alternative F associated with the use and operation of alternative clean fuel refueling stations and alternative clean-fueled vehicles would be less than for the proposed fleet vehicle rules. Energy/mineral resources impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project.

Tables 5-12, and 5-13 represent the SCAQMD's analysis of the construction- and operational-related energy/mineral resources impacts among the project alternatives. The reader is referred to Appendix G2 for the methodologies and assumptions used to estimate the energy/mineral resources impacts associated with each project alternative.

TABLE 5-12

Total Projected Fuel Usage
For Each Alternative During Refueling Station And Refinery Modifications
Construction Activities

Alternatives	**Total Fuel Usage (gallons/yr)**	
	Diesel	Gasoline
Alt. A	**0**	**0**
% Of In-Basin Fuel Supply	0	0
Significant (Yes/No)	No	No
Alt. B	**23,947**	**10,040**
% Of In-Basin Fuel Supply	0.002%	0.0002%
Significant (Yes/No)	No	No
Alt. C	**38,662**	**16,492**

TABLE 5-12 (CONTINUED)

Total Projected Fuel Usage
For Each Alternative During Refueling Station And Refinery Modifications
Construction Activities

Alternatives	**Total Fuel Usage (gallons/yr)**	
% Of In-Basin Fuel Supply	0.004%	0.0003%
Significant (Yes/No)	No	No

Alt. D	**31,837**	**13,461**
% Of In-Basin Fuel Supply	0.003%	0.0002%
Significant (Yes/No)	No	No
Alt. E	**38,662**	**16,492**
% Of In-Basin Fuel Supply	0.004%	0.0003%
Significant (Yes/No)	No	No
Alt. F	**26,108**	**10,965**
% Of In-Basin Fuel Supply	0.002%	0.0002%
Significant (Yes/No)	No	No

TABLE 5-13

Total Projected Fuel Usage for 2010
For Each Alternative During Operational-Related Activities (Direct/Indirect)

Fuel Type	Alternatives					
	Alt. A	**Alt. B**	**Alt. C**	**Alt. D**	**Alt. E**	**Alt. F**
Methanol Total (gallons/yr)	0	212,274	225,210	210,245	225,210	174,914
% Of In-Basin Fuel Supply	0	1.77%	1.88%	1.75%	1.88%	1.46%
Significant (Yes/No)	No	No	No	No	No	No
CNG/LNG Total (TCF/yr)	0	0.0127	0.0204	0.0136	0.0204	0.0134
% Of In-Basin Fuel Supply	0	1.63%	2.61%	1.75%	2.61%	1.71%
Significant (Yes/No)	No	No	No	No	No	No
LPG Total (gallons/yr)	0	621,501	669,441	625,210	669,441	483,049
% Of In-Basin Fuel Supply	0	1.59%	1.72%	1.60%	1.72%	1.24%
Significant (Yes/No)	No	No	No	No	No	No
Electricity Total (MW)	0	1.17	1.96	1.59	1.96	1.28
% Of In-Basin Fuel Supply	0	0.0251%	0.0421%	0.0342%	0.0421%	0.0274%
Significant (Yes/No)	No	No	No	No	No	No
Gasoline Total (gallons/yr)	0	33,024	33,024	33,024	33,024	33,024
% Of In-Basin Fuel Supply	0	0.001%	0.001%	0.001%	0.001%	0.001%
Significant (Yes/No)	No	No	No	No	No	No
Diesel Total (gallons/yr)	0	2,000,250	3,365,500	2,698,750	3,365,500	2,190,750

TABLE 5-13 (CONTINUED)

Total Projected Fuel Usage for 2010
For Each Alternative During Operational-Related Activities (Direct/Indirect)

Fuel Type	Alternatives					
	Alt. A	**Alt. B**	**Alt. C**	**Alt. D**	**Alt. E**	**Alt. F**
% Of In-Basin Fuel Supply	0	0.184%	0.310%	0.249%	0.310%	0.202%
Significant (Yes/No)	No	No	No	No	No	No

It should be noted that all of the alternatives, except Alternative A, will result in a gasoline and diesel fuel savings as a result of conventionally-fueled vehicles being replaced with alternative clean-fueled vehicles (e.g., methanol, CNG, LNG, LPG, and electricity).

Hazards

The No Project Alternative, Alternative A, would not require government and specified private fleet operators to obtain alternative clean-fueled vehicles when acquiring new or replacing existing fleet vehicles. Thus, Alternative A would not create any new or additional hazards associated with the use and operation of alternative clean-fuel refueling stations or alternative clean-fueled vehicles.

Alternative B takes into consideration, with the exception of CARB's urban Transit Bus Rule, which is accounted for in the proposed project, USEPA's recently proposed 2007 and beyond emission standards for HDVs.. As a result, since less refueling stations and alternative clean-fueled vehicles would be needed due to a smaller vehicle population, Alternative B would result in less hazards impacts as compared to the proposed fleet vehicle rules. Additionally, hazards impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project. Overall, the risks associated with storing, transporting, or handling alternative clean fuels would be less than under the proposed fleet vehicle rules.

Alternative C would delay the implementation dates of the proposed fleet vehicle rules one year for all affected vehicle categories. This has the effect of delaying when infrastructure changes must occur as well as the number of alternative clean-fueled vehicles acquired. Thus, in the near term, hazards impacts (e.g., risks associated with the storing, transporting, or handling of alternative clean-fuels) associated with Alternative C would be less than under the proposed fleet vehicle rules since the amount of infrastructure changes are spread out over a longer period of time. However, starting when the alternative fuel vehicle replacement requirements become effective, the number of clean-fuel refueling stations that need to be built to meet the demand for alternative clean-fueled vehicles would be the same as under the proposed fleet vehicle rules (e.g., proposed project). Accordingly, in the long term Alternative C would result in the same insignificant hazards impacts as the proposed fleet vehicle rules.

Under Alternative D, with the exception of transit bus fleets, the fleet size cut-off for government and specified affected private sector fleets is 50 vehicles or greater. As a result, the number of alternative clean-fuel refueling stations that would have to be built and operated would be less than under the proposed fleet vehicle rules. However, hazards impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the

same as under the proposed project. Overall, the risks associated with storing, transporting, or handling alternative clean fuels would be less than under the proposed fleet vehicle rules.

Alternative E has the effect of delaying when some alternative clean-fuel refueling stations would be built since the acquisition rate of vehicles is 50 percent within the first two years of rule adoption and then becomes 100 percent thereafter. Thus, in the near term, hazards impacts (e.g., risks associated with the storing, transporting, or handling of alternative clean-fuels) associated with Alternative E would be less than under the proposed fleet vehicle rules. This is attributable to infrastructure changes being spread out over a longer period of time compared to the proposed fleet vehicle rules. However, starting two years after the first implementation dates when the vehicle acquisition rate becomes 100 percent, the number of clean-fuel refueling stations that would need to be built to meet the demand for alternative clean-fueled vehicles would be the same as under the proposed fleet vehicle rules. Consequently, in the long term Alternative E would result in the same insignificant hazards impacts as the proposed fleet vehicle rules.

In addition to the current exemptions in the proposed fleet vehicle rules, Alternative F would also exclude school bus fleets from rule compliance. As a result, the number of alternative clean-fuel refueling stations that have to built and operated will be less than under the proposed fleet vehicle rules. However, hazards impacts associated with construction- and operational-related activities at refineries necessary for the production of PAR 431.2 compliant low-sulfur diesel fuel would be the same as under the proposed project. Overall, the risks associated with the storing, transporting, or handling of alternative clean-fuels would be less than under the proposed fleet vehicle rules.

CONCLUSION

The CEQA document shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. CEQA Guidelines §15126.6 (d). A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. Id. Table 5-14 lists the alternatives considered by the SCAQMD and how they compare to proposed fleet vehicle rules. Table 5-15 presents a matrix that lists the significant adverse impacts as well as the cumulative impacts associated with the proposed project and the project alternatives for all environmental topics analyzed. The table also ranks each impact section as to whether the proposed project or a project alternative would result in greater or lesser impacts relative to one another.

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 (Alternative A) would not ultimately achieve the long-term air quality benefits of the proposed fleet vehicle

rules, although it would not have short-term significant air quality impacts, it is not the environmentally superior alternative.

TABLE 5-14

Comparison Of Adverse Environmental Impacts Associated With Project Alternatives

Environmental Topic	**Alternative A** (No Project)	**Alternative B (**USEPA Future HDV Standards)	**Alternative C** (Delay Implement-ation Dates by One Year)	**Alternative D** (Minimum Fleet Size ≥50 Vehicles)	**Alternative E** (Phased Acquisition Rate)	**Alternative F** (School Buses)	**Mitigation Measures**
Air Quality Pollutants[a]	TACs, NOx, CO, VOC, PM10	TACs, NOx, CO, VOC, PM10	TACs, NOx, CO, VOC, PM10	TACs, NOx, CO, VOC, PM10	TACs, NOx, CO, VOC, PM10	TACs, NOx, CO, VOC, PM10	NOx, CO, VOC, PM10
Construction	Not Significant	Significant, less than Proposed Project[b]	Significant, equivalent to Proposed Project	Significant, slightly less than Proposed Project	Significant, equivalent to Proposed Project	Significant, less than Proposed Project	For the proposed project and Alternatives B –F, additional Watering in addition to complying with Rule 403, Proper Maintenance
Operational	Not Significant (loss of TAC/criteria pollutant emission reductions)	Not Significant, less than Proposed Project (loss of TAC/criteria pollutant emission reductions)	Not Significant, equivalent to Proposed Project (loss of TAC/criteria pollutant emission reductions)	Not Significant, less than Proposed Project (loss of TAC/criteria pollutant emission reductions)	Not Significant, equivalent to Proposed Project (loss of TAC/criteria pollutant emission reductions)	Not Significant, less than Proposed Project (loss of TAC/criteria pollutant emission reductions)	None Required
Water Resources							
Water Demand	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required
Water Quality	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required
Public Services	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required
Transportation/ Circulation	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required
Solid/Hazardous Waste	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required

TABLE 5-14 (CONTINUED)

Comparison Of Adverse Environmental Impacts Associated With Project Alternatives

Environmental Topic	**Alternative A** (No Project)	**Alternative B (**USEPA Future HDV Standards)	**Alternative C** (Delay Implementation Dates by One Year)	**Alternative D** (Minimum Fleet Size ≥50 Vehicles)	**Alternative E** (Phased Acquisition Rate)	**Alternative F** (School Buses)	**Mitigation Measures**
Energy/Mineral Resources	Not Significant, less than Proposed Project (loss of gasoline and diesel fuel savings)	Not Significant, less than Proposed Project (loss of gasoline and diesel fuel savings)	Not Significant, equivalent to Proposed Project (temporary loss of gasoline and diesel fuel savings)	Not Significant, slightly less than Proposed Project (loss of gasoline and diesel fuel savings)	Not Significant, equivalent to Proposed Project (temporary loss of gasoline and diesel fuel savings)	Not significant, less than Proposed Project (loss of gasoline and diesel fuel savings)	None Required
Hazards	Not Significant, less than Proposed Project	Not Significant, less than Proposed Project	Not Significant, equivalent to Proposed Project	Not Significant, slightly less than Proposed Project	Not Significant, equivalent to Proposed Project	Not significant, less than Proposed Project	None Required

[a] Pollutants = Emission benefits and increases associated with the proposed project.
[b] Proposed Project = The proposed fleet vehicle rules and amendments to Rule 431.2.

TABLE 5-15

Ranking Of Alternatives[a]

Project/ Alternative	**Air Quality Impacts**		**Water Demand Impacts**		**Water Quality Impacts**		**Transportation/ Circulation Impacts**		**Public Services**		**Solid/Hazardous Waste Impacts**		**Energy/Mineral Resources Impacts**		**Hazards Impacts**	
	Sign. Impacts	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*	*Sign. Impacts*	*Cum. Impacts*
Project[b]	**X (5)**	**X**	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓
A	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓	✓ **(1)**	✓
B	**X (3)**	**X**	✓ **(3)**	✓	✓ **(3)**	✓	✓ **(3)**	✓	✓ **(3)**	✓	✓ **(3)**	✓	✓ **(3)**	✓	✓ **(3)**	✓
C	**X (5)**	**X**	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓
D	**X (4)**	**X**	✓ **(4)**	✓	✓ **(4)**	✓	✓ **(4)**	✓	✓ **(4)**	✓	✓ **(4)**	✓	✓ **(4)**	✓	✓ **(4)**	✓
E	**X (5)**	**X**	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓	✓ **(5)**	✓
F	**X (2)**	**X**	✓ **(2)**	✓	✓ **(2)**	✓	✓ **(2)**	✓	✓ **(2)**	✓	✓ **(2)**	✓	✓ **(2)**	✓	✓ **(2)**	✓

[a] Rankings do not take into consideration the benefits of the proposed project or project alternative.
[b] Project = The proposed fleet vehicle rules (e.g., PRs 1191, 1192, 1193, 1194, 1195, 1196, and 1186.1) and PAR Rule 431.2.

Notes: The ranking scale is such that 1 represents the least impacts and subsequent higher number represent increasingly worse impacts.
The same two numbers in brackets for a specific Impact Section means that these proposals would have the same impacts if implemented.
An X denotes either a project-specific significant adverse impact or cumulative significant adverse impact.
A ✓ denotes no significant adverse impact or no cumulative significant adverse impact.