

5.0

OTHER CEQA CONSIDERATIONS ALTERNATIVES ANALYSIS

Section 15126.6 of the State CEQA Guidelines requires an EIR to evaluate a "...range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project." Alternatives discussion should focus on those "capable of eliminating any significant adverse impacts or reducing them to below a level of significance, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly." Alternatives are to include a "no project" alternative that would allow decision makers to compare a project's impacts to those that would result from not approving the project. The guidelines further direct that alternatives' environmental impacts "shall be discussed, but in less detail than the significant effects of the project as proposed." An EIR must identify an "environmentally superior" alternative; if the "no project" alternative is the environmentally superior alternative, then the EIR must identify which of the other alternatives is environmentally superior.

Alternatives are intended to be feasible, as determined by such factors as site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the availability of potential alternative sites. However, inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact feasible.¹ Rather, the final decision regarding alternatives' respective feasibility lies with the project's decision-making body, which must make the necessary findings addressing the potential feasibility of reducing the severity of significant environmental impacts. (Public Resources Code, §21081; see also CEQA Guidelines, §15091)

This alternatives analysis considers the environmental implications of implementing the No Project Alternative (Alternative 1) and the Phaseout with Stage 3 and Stage 4

¹ CEQA Guidelines define *feasible* to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." When making the decision as to whether an alternative is feasible or infeasible, the decision-making body may consider the stated project objectives in an EIR in light of any relevant economic, environmental, social, and technological factors.

Exemptions Alternative (Alternative 2). The latter alternative represents a variation in the project's phase-out program for noise reduction, adding an exemption for all Stage 3 and Stage 4, allowing them to continue to operate at VNY despite their takeoff noise levels.

5.1.1 Alternatives Determined to Be Infeasible

For this project, the range of potential alternatives is fairly limited. Project alternatives cannot include alternative locations in this instance, as the project is inherent to reducing noise at VNY, the first project objective. Alternative diversion airports cannot be selected, because the list of diversion airports analyzed in this Draft EIR was determined by qualified professionals' best estimates of how aircraft operations will redistribute themselves, and not by any authority that LAWA has or will have for redirecting flights and specifying diversion airports. Therefore, there are legal factors that make this alternative infeasible, and it is not analyzed in detail in this EIR.

Another prospective alternative would be implementing a phaseout ordinance similar to that proposed by the project, but adding to it the requirement that the planes prohibited from operating at VNY under the ordinance be grounded and retired. This would preclude their shifting to any diversion airports. The noise and air quality effects of this alternative would be identical to those of the project at VNY. Because aircraft operations would not be diverted to the five diversion airports, this alternative would not result in any air quality impacts at the diversion airports. Significant project-level impacts assessed at CMA (see Section 4.3 above) would be avoided, as would considerable contributions to significant cumulative impacts assessed at CMA and WJF (see Section 5.2.3 below.) However, LAWA has no authority to ground aircraft that depart from VNY. Therefore, there are legal factors that make this alternative infeasible, and it is not analyzed in detail this EIR.

5.1.2 Alternative 1 – No Project

Under Alternative 1, the phased program of noise limitations proposed in the project would not be imposed. Flight activity would generally continue to increase at VNY and the diversion airports as they are anticipated to occur under forecast conditions, though certain types of operations at some airports are anticipated to remain the same or decrease between the baseline and forecast timeframes.² Tables 5.1-1 through 5.1-6 present estimates of operations at VNY and the diversion airports, comparing the 2007 baseline to anticipated increases or decreases under forecast conditions.³

² Alternative 1 assumes that the U. S. Senate Bill S.1300 and House Bill H. R. 2881—two legislative proposals to phase out Stage 2 aircraft nationwide—would not be approved, as neither of those bills had passed at the time of this EIR's publication, and the assumption of those bills' approval would be speculative. The proposed legislation would impose a nation-wide phaseout of Stage 2 aircraft operations. As currently proposed, the House version of the bill would prohibit Stage 2 aircraft effective December 31, 2012, allowing an exemption for "transport of

Table 5-1. Baseline and Forecast Operations at VNY: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	0	0	0
Business Jet	48,143	83,449	97,335
GA Non-Jet Itinerant	166,169	212,026	219,945
GA Non-Jet Local	98,715	90,354	92,485
Military	980	952	952
Total	314,007	386,781	410,717

Source: SH&E, personal communication, 2008

Table 5-2. Baseline and Forecast Operations at BUR: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	70,448	79,086	81,741
Business Jet	18,863	32,744	37,439
GA Non-Jet Itinerant	26,174	30,626	31,446
GA Non-Jet Local	5,060	5,332	5,413
Military (active and former)	265	265	265
Total	120,810	148,053	156,303

Source: HMMH & SH&E, 2008

persons and goods in relieve of emergency situations,” and does not include an option for airports to opt out of the Stage 2 prohibition. The Senate version of the bill would prohibit Stage 2 aircraft three years following enactment of the bill, with no exemption for emergency-related operations, and including an opt-out option for airports desiring to allow Stage 2 aircraft to continue.

³ Anticipated changes in operations at the subject airports were determined by SH&E’s forecasting analysis that utilized FAA tower counts and local and industry-wide trends to project future increases or decreases in various types of aircraft operations. The tables presenting the diversion airport forecasts are based on information provided in Appendix B. The VNY table is based on email communication with SH&E. In the tables provided in this section, “itinerant” operations include aircraft that arrive from or depart to airports located beyond a 20-mile radius of the respective airport; “local” operations arrive from and depart to airports within that radius. “Military” operations in these tables include those of active military aircraft and former, privately-owned military aircraft.

Table 5-3. Baseline and Forecast Operations at LAX: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	642,337	808,002	856,874
Business Jet	21,013	28,454	31,131
GA Non-Jet Itinerant	11,981	13,035	13,352
GA Non-Jet Local	—	—	—
Military (active and former)	2,573	2,502	2,482
Total	677,904	851,992	903,839

Source: HMMH & SH&E, 2008

Table 5-4. Baseline and Forecast Operations at CMA: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	—	—	—
Business Jet	4,883	8,764	10,395
GA Non-Jet Itinerant	74,601	90,386	92,157
GA Non-Jet Local	63,860	64,781	64,781
Military (active and former)	1,740	1,740	1,740
Total	145,083	165,671	169,073

Source: HMMH & SH&E, 2008

Table 5-5. Baseline and Forecast Operations at CNO: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	—	—	—
Business Jet	2,037	2,132	2,349
GA Non-Jet Itinerant	67,590	74,983	76,567
GA Non-Jet Local	96,376	101,121	101,121
Military (active and former)	594	594	594
Total	166,596	178,830	180,631

Source: HMMH & SH&E, 2008

Table 5-6. Baseline and Forecast Operations at WJF: 2007, 2014, and 2016

Activity Type	2007 Baseline	2014 Forecast	2016 Forecast
Air Carrier/Commuter	—	—	—
Business Jet	508	583	606
GA Non-Jet Itinerant	31,738	35,048	35,304
GA Non-Jet Local	32,291	32,394	32,716
Military (active and former)	1,513	1,513	1,513
Total	66,049	69,537	70,139

Source: HMMH & SH&E, 2008

As shown in the tables, aircraft operations are anticipated to increase at VNY and all of the diversion airports between 2007 and the forecast years. The noise and air quality implications of implementing Alternative 1, compared with those of the project, are discussed below, including impacts at VNY and the diversion airports. As discussed in section 4.1, the project is anticipated to have no impact or a less than significant impact on aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, population/housing, public services, recreation, transportation/traffic, and utilities/service systems. There is little or no difference between project impacts and Alternative 1 impacts for these environmental issue areas.

Alternative 1 would not attain the main project objective listed in Section 2.3 of this EIR, which is to reduce aircraft noise near VNY, primarily for residential receptors. The other objectives would be met. Without the proposed ordinance, there would be no limit on takeoff noise, thereby eliminating the burden on aircraft owners and operators; and there would be no burden on maintenance providers. Without the proposed ordinance, there would be no program of penalties for violators. Without the proposed ordinance, military aircraft older than 1950 would continue to be accommodated at VNY, supporting the objective for achieving this accommodation stated in the VNY Master Plan.

Alternative 1 would avoid both of the significant project-level air quality impact identified for the project and all three of the significant cumulative air quality impacts identified for the project. Alternative 1 is the environmentally superior alternative, but because it is the No Project Alternative, CEQA requires that another alternative be identified as such.

5.1.2.1 Noise

Section 4.2 includes a comparison of the project's noise impacts to Alternative 1 noise impacts. This comparison is summarized below.

Under Alternative 1, increases in aircraft operations—which will occur with or without the project—are estimated to increase the community noise equivalent level (CNEL) in the vicinity of VNY by 0.8 decibels (dB) between the 2007 baseline conditions and the 2014 forecast conditions, as shown in Table 4.2-48 of this EIR. This is 0.4 dB greater than the 0.4-dB increase that would result if the project's noise limits were imposed. The area within the airport's 65-dB contour is anticipated to increase by 13.3% during that same timeframe, 6.7% greater than estimated for the project. Noise increases and expansion of the noise contours by 2014 under Alternative 1 would require noise insulation for an estimated 2,497 additional residences within the 65- to 70-dB contour, and 61 additional residences within the 70- to 75-dB contour, compared to 2,399 and 1, respectively, under the project. Increases in operations are also anticipated to continue at VNY between 2014 and 2016 without implementation of the project. If the proposed phaseout program is not put in place, then aircraft noise at VNY would be higher in 2016 than it would under the proposed project. Therefore, Alternative 1 would result in greater noise impacts at VNY than the project, however these impacts would be less than significant.

At BUR, future increases in aircraft operations under Alternative 1 are anticipated to increase the CNEL by 0.9 dB over existing conditions and increase the 65-dB contour area by 14.6% in 2014, as shown in Table 4.2-53 of this EIR. This is less than the 1.0 dB CNEL increase and the 16.3% increase that was assessed for the project. Without the addition of project-related diversion operations in 2016, noise levels at BUR would also be lower in 2016 under Alternative 1 than they would be under the project. Therefore, BUR noise impacts of Alternative 1 would be less than those of the project and would be less than significant.

At LAX, future increases in aircraft operations under Alternative 1 are anticipated to increase the CNEL in 2014 by 1 dB over existing conditions and increase the 65-dB contour area by 6.0%, as shown in Table 4.2-57 of this EIR. These numbers are the same as assessed for the project, indicating the imperceptible noise change between the estimated project conditions and no-project conditions. Noise under Alternative 1 is anticipated to continue beyond 2014, through the 2016 planning year and beyond. The Alternative 1 numbers in 2016 would generally be the same as those of the project. Therefore, LAX noise impacts of Alternative 1 would be the same as those of the project and would be less than significant.

At CMA, future increases in aircraft operations under Alternative 1 are anticipated to increase the CNEL by 0.8 dB over existing conditions and increase the 65-dB contour area by 13.8% in 2014, as shown in Table 4.2-60 of this EIR. This is less than the 1.1 dB CNEL increase and the 19.8% increase that was assessed for the project. Without the addition of project-related diversion operations in 2016, noise levels at CMA would also be lower in 2016 under Alternative 1 than they would be under the project. Therefore, CMA noise impacts of Alternative 1 would be less than those of the project, and would be less than significant.

At CNO, future reductions in aircraft operations under Alternative 1 are anticipated to *decrease* the CNEL by 0.1 dB over existing conditions and *decrease* the 65-dB contour area by 1.5% in 2016, as shown in Table 4.2-63 of this EIR. The project is anticipated to increase both of these measurements, by 0.4 dB and 5.9%, respectively.

Therefore, CNO noise impacts of Alternative 1 would be less than those of the project, and would be less than significant.

At WJF, future reductions in aircraft operations under Alternative 1 are also anticipated to *decrease* the CNEL by 0.5 dB and the 65-dB contour area by 8.5%, in 2016, as shown in Table 4.2-66. The project would also reduce the CNEL and the 65-dB contour area, but the reduction would be less, at 0.3 dB and 4.9%, respectively. Therefore, WJF noise impacts of Alternative 1 would be less than those of the project, and would be less than significant.

In summary, when compared to the proposed project, Alternative 1 would have a greater noise impact at VNY and lesser noise impacts at the five diversion airports. The lesser impacts of Alternative 1 at the diversion airports would be beneficial but very minor; furthermore, significant impacts were not identified at any of the diversion airports for the project, so implementing Alternative 1 would not serve to avoid any significant impacts.

5.1.2.2 Air Quality

Under Alternative 1, increases in aircraft operations would continue to occur as they would without project implementation at VNY and all diversion airports, as described above and shown in Tables 5.1-1 through 5.1-6. Air-pollutant emissions would increase at VNY and the diversion airports between the 2007 and the 2014 and 2016 forecast years due to the overall increase in operations activity that is anticipated to occur. Because Alternative 1 would preclude the phased restrictions at VNY, more aircraft operations would occur at VNY under Alternative 1 than under the proposed project, and emissions would be slightly higher at VNY under Alternative 1 than they would be under the project. Because no aircraft operations would be added to the diversion airports, the project-related increases in pollutant emissions would not occur at the five diversion airports under Alternative 1, and Alternative 1 would result in fewer air pollutant emissions at the diversion airports than under the proposed project.

Alternative 1 would avoid the significant project-level air quality impact identified for the project: Significant Impact AQ-1, the excess at CMA of VCAQMD standards for VOC and NO_x. Alternative 1 would also avoid the three significant cumulative impacts identified for the project: Significant Impact CAQ-1, new contribution at WJF of air pollutants to the Mojave Desert Air Basin; Significant Impact CAQ-2, new contribution at CMA of air pollutants to the South Central Coast Air Basin; and Significant Impact CAQ-3, excess at CMA of VCAPCD thresholds.

5.1.3 Alternative 2 – Phaseout with Stage 3 and Stage 4 Exemptions

Alternative 2 would implement a phased program of noise limitations similar to that proposed in the project, but would also include an exemption (in addition to the maintenance and former military aircraft exemptions) allowing continued operation at VNY of Stage 3 and Stage 4 aircraft. The version of the phaseout ordinance proposed in Alternative 2 is included as Appendix A.1 of this EIR. Under Alternative 2, all aircraft certified as either Stage 3 or Stage 4, regardless of their takeoff noise levels, would be allowed to operate out of VNY. In terms of the aircraft types forecast to operate at VNY, Alternative 2 would only affect Boeing 727 models. This alternative was included in response to a scoping comment submitted on behalf of the National Business Aviation Association, which noted that the 77-dBA limit proposed for 2016 might unfairly restrict some recertified Stage 3 aircraft, and is consistent with the BOAC's original intent, as defined in its September 27, 1989 request that the Executive Director investigate and prepare proposals to phase out Stage 2 aircraft from VNY.

Operations under Alternative 2 would be the same as in the project up to December 31, 2013, the day before the allowable takeoff noise level limit is reduced to 80 dB. In 2014, the additional exemption would allow an estimated 32 more business-jet operations at VNY than under the project during the same planning year. All 32 of these operations were anticipated to shift to LAX under the project, and would remain at VNY under Alternative 2 because of the proposed exemption. Aircraft operations activity would also continue to increase at VNY and the diversion airports as they would under the project's estimated forecast conditions, which would result in increases in non-project-related noise and air pollutant emissions. The noise and air quality implications of implementing Alternative 2, compared with those of the project, are discussed below, including impacts at VNY and the diversion airports. As discussed in section 4.1 for the project, Alternative 2 is anticipated to have no impact or negligible less-than-significant impact on aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, population/housing, public services, recreation, transportation/traffic, and utilities/service systems.

Alternative 2 would attain the main project objective of reducing aircraft noise near VNY, although slightly less successfully than the project, and would meet all other objectives of reducing burden on various existing operators, providing a feasible penalty program for violators, and allowing military aircraft older than 1950 to be accommodated at VNY, in support of the VNY Master Plan goal for achieving this accommodation.

Alternative 2 does not completely avoid any significant project-level or cumulative impacts identified for the project; however, it would result in lower noise levels and fewer pollutant emissions at LAX. Therefore, Alternative 2 is considered the environmentally superior alternative—though it should be noted that the benefit is limited, because Alternative 2's lower noise and emissions levels at LAX, when

compared to those of the project, equate to higher noise and emissions levels at VNY than in the project.

5.1.3.1 Noise

Section 4.2 includes a comparison of the project's noise impacts to Alternative 2 noise impacts. This comparison is summarized below.

Under Alternative 2, increases in aircraft operations—which will occur with or without the project—are estimated to increase the CNEL in the vicinity of VNY by 1.1 dB between the 2007 baseline conditions and the 2014 planning-year conditions. Noise levels in 2016 would be greater than in 2007 at VNY, but these would be slightly less than the 2014 levels due to anticipated, non-project-related retirement of older aircraft. This is the same as was assessed to the project. Under Alternative 2, the area within the airport's 65-dB contour is anticipated to increase by 19.8% during that same timeframe, also the same as in the project. Generally speaking, the difference between the noise increases at VNY for the project and Alternative 2 would be imperceptible. Noise increases and expansion of the noise contours by 2014 under Alternative 2 would require noise insulation for an estimated 2,400 additional residences within the 65- to 70-dB contour (one more than under the project), and 1 additional residence within the 70- to 75-dB contour (the same as under the project). Figure 4.2-4 depicts the imperceptible difference between the project CNEL contour and that of Alternative 2. Overall, Alternative 2 would result in very similar—although slightly greater—noise impacts at VNY than under the project by allowing an additional 32 annual operations (estimated) to continue at VNY that otherwise would have been restricted by the 2014 noise limitation. As under the proposed project, Alternative 2 noise impacts at VNY would be less than significant.

The only diversion airport anticipated to be affected by the Alternative 2 exemption is LAX, where approximately 32 aircraft operations per year—all associated with privately owned Boeing 727s—would not occur. LAX was determined to be the likely recipient of these Boeing 727 operations because LAX possesses appropriate facilities for accommodating operations at servicing for these types of aircraft, and because its close proximity and short driving distance to VNY make it the most convenient alternative to the affected operators. At LAX, future increases in aircraft operations under Alternative 2 are anticipated to increase the CNEL by 1 dB over existing conditions and increase the 65-dB contour area by 6.0% in 2014. As with the project, this change is imperceptible when compared to the estimated 2014 baseline conditions, as the amount of air traffic generated by Alternative 2 (and the project) is inconsequential when viewed in light of the heavy commercial air traffic LAX accommodates on a daily basis. Therefore, LAX noise impacts of Alternative 2 would be virtually identical to those of the project, and would be less than significant. Impacts at the other four diversion airports under Alternative 2 would be identical to those of the proposed project, and would also be less than significant.

In summary, Alternative 2 would have noise impacts that are almost the same as those of the project. Comparing Alternative 2 and the project, there is no perceptible difference in CNEL levels or in the percentage increase in 65-dB contour area. Alternative 2's noise impacts would be slightly greater because the minimally larger 65-dB contour would include one residence not included under the project. Neither Alternative 2 nor the project would result in significant noise impacts, but the project's level of noise impact would be slightly less than that of Alternative 2.

5.1.3.2 Air Quality

Under Alternative 2, increases in aircraft operations would continue to occur as they would regardless of project implementation at VNY and all diversion airports; Alternative 2 would contribute to this increase at the diversion airports, but would result in a smaller emissions increase at VNY than without project implementation. Air-pollutant emissions would increase at VNY and the diversion airports between the 2007 and the 2014 and 2016 forecast years due to the overall increase in operations activity that is anticipated to occur. Implementing the Alternative 2 phase-out plan would keep an estimated 32 Boeing 727 operations at VNY that are anticipated to transfer to LAX from VNY under the proposed project. No other diversion airports are affected by the Alternative 2 exemption. According to estimations presented in Section 4.3, Boeing 727 operations in the 2014 peak day analyzed for project impacts would emit 57 pounds per day of carbon monoxide (CO), 5 pounds per day of sulfur oxides (SO_x), 2 pounds per day of particulate matter of 10 microns or less (PM₁₀), and 2 pounds per day of particulate matter of 2.5 microns or less (PM_{2.5}). Under Alternative 2, emissions of these local pollutants would occur at VNY instead of LAX, and VNY emissions would be higher than they would be under the project. Even with these additional emissions, however, levels at VNY under Alternative 2 would still be less than emissions estimated for no-project conditions because of the ordinance-related diversion to other identified airports. LAX emissions would be lower with Alternative 2 in comparison to the project, as shown below in Table 5-7.

Table 5-7. Aircraft-Related Peak Daily Emission Increases at LAX under the Project and Alternative 2 (2014)

	Peak Daily Emission Increases (pounds per day)			
	CO	SO _x	PM ₁₀	PM _{2.5}
Project	131	9	2	2
Significance Threshold	550	150	150	55
Threshold Exceeded?	No	No	No	No
Alternative 2	74	4	<1	<1
Significance Threshold	550	150	150	55
Threshold Exceeded?	No	No	No	No

As with the project, the Alternative 2 diversions from VNY to LAX would result in transferring emissions from one location within the South Coast Air Basin to another; therefore, Alternative 2 would have no effect on the emissions of the regional pollutants VOC and NO_x, and they are not specifically addressed in Table 5-7 above. The analysis concentrates on the local pollutants CO, SO_x, PM₁₀, and PM_{2.5}, as the effects of those pollutants are experienced closer to the emissions source, and transferring them from one location to another within a particular air basin would be relevant. As Table 5-7 shows, Alternative 2 emissions of the local pollutants do not exceed the respective emissions thresholds established by SCAPCD; therefore, the impact is less than significant.

Alternative 2 would have no bearing on the emissions at any of the other diversion airports, and Significant Impact AQ-1—the excess of VCAQMD thresholds for VOC and NO_x—would occur with implementation of this alternative; and Alternative 2 would also not avoid the significant cumulative impacts CAQ-1, CAQ-2, and CAQ3, as discussed below in Section 5.2.3. Although Alternative 2 would slightly reduce emissions at LAX, there is no considerable air quality benefit to implementing Alternative 2 because pollutants not transferring to LAX would continue to be emitted at VNY.

5.1.4 Alternatives Impact Comparison

Table 5-8 lists the significant project-level and cumulative air quality impacts that have been identified for the project (see Section 4.3 and 5.2.3), and compares how implementing the two alternatives would affect these impacts. Instances where the alternatives would avoid the respective impacts are shown in italicized text.

Table 5-8. Comparison of Significant Impacts Occurring Under the Project and Alternatives

Significant Impact	Alternative	Level of Significance
AQ-1: Exceedance of Ventura County Air Quality Management District Daily Emissions Thresholds at CMA	Proposed Project	Significant
	<i>Alternative 1</i>	<i>No Impact</i>
	Alternative 2	Significant
CAQ-1: Contribution of air pollutants to the Mojave Desert Air Basin	Proposed Project	Significant
	<i>Alternative 1</i>	<i>No Impact</i>
	Alternative 2	Significant
CAQ-2: Contribution of air pollutants to the South Central Coast Air Basin	Proposed Project	Significant
	<i>Alternative 1</i>	<i>No Impact</i>
	Alternative 2	Significant
CAQ-3: Exceedance of Ventura County Air Pollution Control District Thresholds at CMA	Proposed Project	Significant
	<i>Alternative 1</i>	<i>No Impact</i>
	Alternative 2	Significant

5.2 Cumulative Impacts

Section 15130 of the State CEQA Guidelines provides guidance for analyzing a project's cumulative impacts, or those impacts of a project that may not be considerable when viewed individually, but that combine with the impacts of other projects to produce more substantial effects on the environment. According to this section, the discussion of cumulative impacts "...need not provide as great a detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness." The discussion should also focus only on significant effects resulting from the project's incremental effects and the effects of other projects. If the environmental conditions would essentially be the same with or without the proposed project's contribution, then it may be concluded that the effect is not significant. According to Section 15130(a)(1), "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR." The basis for the analysis of cumulative impacts is dependent on the nature of the issue. Cumulative impact analysis may be conducted and presented by either of two methods: 1) itemizing past, present, and probable activities producing related or cumulative impacts; or 2) summarizing projections contained in an adopted general plan or related planning document. .

5.2.1 Cumulative Methodology

Cumulative analysis for this project relied on the projections method. Cumulative growth at VNY and the five diversion airports was estimated based on growth projections published in the FAA's Terminal Area Forecasts (December 2006), and augmented by information from several available data sources, including the U.S. Department of Transportation's T100 database and Aircraft Situation Display to Industry data stream; the FAA's Air Traffic Activity Data System and Enhanced Traffic Management System Counts; modeling inputs in the FAA's Integrated Noise Model (for LAX); and individual airport master plans.⁴ Using these tools, forecasts for future growth at the project-related airports were estimated for 2014 and 2016, the years in which the proposed phaseout would have the greatest impact. These forecast projections were an integral part of the noise analysis provided in Section 4.2 of this Draft EIR, which considers the project's incremental effects as noise limits are phased in and compares project conditions to non-project-related forecast conditions in 2014 and 2016. Detail on the cumulative growth in aircraft operations at the project-related airports is presented above in Section 5.1.2.

Though the project does not propose structural development or land use modification at VNY or any of the diversion airports, it is important to note that the environmental effects associated with the project would occur within areas that are developed (to varying degrees) and that, as a result, currently experience varying degrees of urban conditions due to past projects. The area surrounding VNY is built out—developed with a combination of residential, commercial, industrial, and public uses. BUR is located in an area that is primarily developed, and the airport is immediately surrounded by industrial and commercial development to the east, residential development to the west, industrial development and a cemetery to the south, and industrial and residential development to north. LAX is located in a primarily built out area, with the surrounding lands developed with a mixture of residential, commercial, industrial, and public uses, and with the undeveloped Los Angeles/El Segundo dunes and the Pacific Ocean located west of the airport. CMA is located just outside the City of Camarillo, southwest of the city's incorporated boundaries. Land surrounding the airport is primarily used for agricultural and industrial purposes, though residential and commercial development within the city is located further northeast. CNO is located approximately three miles southeast of central Chino, within an area characterized by open space, active agricultural land, and industrial development, with some scattered residential development located south of the airport. Land south and southeast of CNO is designated for future residential and commercial development. WJF is located in a primarily undeveloped area approximately 3 miles northeast of the developed center of Lancaster, with a few scattered residential uses located closer to the airport.

The Southern California Association of Governments (SCAG) compiles and publishes population forecasts for the growing Southern California region, including growth projections within the jurisdictional boundaries each city and county. The latest SCAG population forecasts for cities and counties are the 2008 Regional

⁴ See Section 8.1 of the Noise Report (Appendix B) for additional explanation.

Transportation Growth Forecasts, which are available on the SCAG website.⁵ To depict how the areas around each of the project-related airports are anticipated to accommodate future growth, Table 5-9 shows SCAG's latest population projections for the city and county jurisdictional areas within which the airports are located.

⁵ <http://www.scag.ca.gov/forecast/index.htm>

Table 5-9. Population Growth Projections in Areas Surrounding Project-Related Airports

Relevant Airport	Jurisdiction	2005	2010	2015	2020	2025	2030	2035
VNY	City of Los Angeles	3,955,392	4,057,484	4,128,125	4,204,329	4,277,732	4,348,281	4,415,772
BUR	City of Burbank	106,493	112,103	116,430	120,890	125,213	129,390	133,391
BUR	City of Glendale	206,047	210,950	214,200	217,744	221,154	224,431	227,561
BUR	City of Pasadena	145,726	149,854	152,719	155,786	158,759	161,648	164,433
LAX	City of El Segundo	16,944	17,268	17,495	17,500	17,505	17,510	17,515
LAX	City of Inglewood	117,789	118,466	120,185	120,678	121,065	121,669	122,200
CMA	City of Camarillo	63,302	68,622	73,030	75,072	76,800	78,311	79,284
CNO	City of Chino	77,146	81,998	87,313	93,823	100,142	106,220	112,038
WJF	City of Lancaster	135,672	160,650	181,493	202,406	222,761	242,523	261,501
WJF	Unincorporated Northern LA County	132,797	194,704	244,463	294,120	342,578	389,595	434,773

As the table shows, population is expected to increase in the areas surrounding each of the project-related airports. Population increases will accompany additional development, leading the jurisdictions to expand the limits of their built area and increase the density within existing developed areas. This in turn will bring the increases in traffic, noise, air pollutant emissions, and demand on public services and utilities that generally accompany urban growth.

Discussion of the project's contribution to cumulative impacts on noise, air quality, hazards and hazardous materials, public services, traffic and transportation, and utilities and service systems is provided below. As stated in Section 4.1, the project would have no impact on aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hydrology/water quality, land use/planning, mineral resources, population and housing, and recreation. Therefore, the project would not contribute to any cumulative impacts related to those issue areas, and a cumulative discussion for those areas is not warranted.

5.2.2 Cumulative Noise

Existing aircraft operational noise at VNY and the diversion airports currently contributes to noise conditions received in the vicinity of the airports. Around the airports that are located within densely developed urban settings (VNY, BUR, and LAX), this aircraft noise combines with other sources of common urban noise—primarily vehicular traffic noise—to create cumulatively noisy conditions. Around the airports located less developed areas (CMA, CNO, and WJF), there are fewer cumulative noise sources and, therefore, less cumulative noise. Anticipated growth in the areas surrounding all of the project-related airports is likely to increase this urban noise.

As discussed in Section 4.2, the project's proposed phaseout plan would decrease noise levels generated at VNY and increase noise levels generated at the diversion airports, though the project's effect is very minor and were found to be less than significant on a project level. . At VNY, the project would lead to smaller increases in future aircraft noise received by the surrounding area than is anticipated without the implementation of the project's noise-reduction program. As shown in Table 4.2-48, the 2014 project conditions, including noise from project-specific and cumulative operations, are anticipated to increase noise by 0.4 dB compared to 2007 baseline conditions. This is 0.4 dB lower than the 0.8 dB that would occur if the project were not implemented. Therefore, the project would have a beneficial contribution to cumulative noise by reducing future noise levels emitted by aircraft at VNY, and reducing the cumulative noise received by residents of the densely developed surrounding area. The project's contribution would not be cumulatively considerable.

Table 5-10 shows the estimated increases or decreases due to cumulative operations, including a comparison of the project conditions to depict the project's contribution to these cumulative conditions. Noise levels at three of the five diversion airports—BUR, LAX, and CMA—are anticipated to rise between the 2007 baseline and the 2014 forecast years due to project-related and cumulative increases in aircraft

operations. Increases would continue into the 2016 forecast year due to expected increases in non-project-related aircraft. These cumulative aircraft-related noise increases would add to increases in vehicular noise and noise from other urban sources that are likely to occur in the areas surrounding each of the project-related airports. At CNO and WJF, noise levels are anticipated to lower between the 2007 baseline and the 2016 forecast years, despite the fact that the numbers of cumulative and project-related aircraft operations are expected to increase. This is due to the retirement of older, noisier aircraft that is anticipated to occur independent of the project. As with the areas near BUR, LAX, and CMA, non-aircraft noise is likely to increase in these areas due to the growth that is anticipated to occur.

Table 5-10. Changes in Cumulative Noise at Diversion Airports (in), Compared to 2007 Baseline

Airport	2014/2016 Forecast Conditions (Cumulative without project)	2014/2016 Project Conditions (Cumulative with project)	Project Contribution
BUR (2014)	+0.9 dB	+1.0 dB	+0.1 dB
LAX (2014)	+0.4 dB	+0.4 dB	+0.0 dB
CMA (2014)	+0.8 dB	+1.1 dB	+0.3 dB
CNO (2016)	-0.1 dB	+0.4 dB	+0.5 dB
WJF (2016)	-0.5 dB	-0.3	+0.2 dB

As shown in the table, the cumulative increases in aircraft operational noise are all well below 1.5 dB, the threshold used to indicate significant noise impacts for this project (as explained in Section 4.2.4.1 of this EIR). Therefore, there are no significant cumulative impacts to which the project would contribute.

5.2.3 Cumulative Air Quality

As with noise, air pollutant emissions are anticipated to increase in the areas surrounding the project-related airports due to projected growth, and emissions from aircraft operations at the project-related airports generally contribute to this. As discussed in Section 4.3, the project would reduce emissions at VNY and increase emissions at BUR, LAX, CMA, CNO, and WJF. When considered on a regional level, the project would neither add new emissions nor reduce existing emissions, but rather would transfer emissions from one location to another. This includes emissions transfers within the South Coast Air Basin (VNY, BUR, LAX, and CNO) and reallocation of emissions from the South Coast Air Basin to the Mojave Desert Air Basin (new operations at WJF) and South Central Coast Air Basin (new operations at CMA).

Generally speaking, air pollutant emissions are expected to increase at all three of these affected air basins due to the cumulative growth depicted above in Table 5-9,

and anticipated increases in aircraft operations at the project-related airports— independent of the project—play a role in this growth. All of the project-related air basins have non-attainment status for ozone and particulate matter, and future increases (independent of the project) are anticipated to exacerbate these conditions. Therefore, significant cumulative impacts occur in each of these air basins. For this cumulative analysis, any project-related net increase in emissions in these non-attainment air basins would be a considerable contribution to significant cumulative impacts.

Section 4.3.2.4 discusses the significance thresholds established by the three air pollution control districts potentially affected by the project. These districts have established their respective thresholds in acknowledgement of a cumulative impact within their respective basins and in an attempt at future reduction of these cumulative impacts. Where the project would transfer emissions from the South Coast Air Basin to other basins (South Central Coast and Mojave Desert), any exceedance of the respective districts' thresholds (Tables 4.3-5 and 4.3-6), would constitute the project's considerable contribution to significant cumulative emissions impacts in the respective basins.

By diverting aircraft from VNY to BUR, LAX, and CNO, the project would transfer emissions to different locations within the South Coast Air Basin. Therefore, the project would not result in a net increase in pollutants within the South Coast Air Basin and would not contribute to cumulative impacts in this basin.

By diverting aircraft from VNY to WJF and CMA, however, the project would transfer emissions from the South Coast Air Basin to the Mojave Desert Air Basin and South Central Coast Air Basin, respectively. The respective air quality management districts have established air quality management plans for each of the basins in an attempt to reduce emissions and achieve attainment of the relevant standards. Airport emissions and projected increases in aircraft operations are factored into these air quality management plans, but the project would increase emissions in the Mojave Desert and South Central Coast Air Basins beyond the growth factored into the plans. The project would contribute to cumulative impacts because these emissions are not accounted for in the respective air quality management plans.

Significant Impact CAQ-1: New Cumulatively Considerable Contribution of Air Pollutants to the Mojave Desert Air Basin

The project would add emissions of ozone precursors (VOCs and NOx) and particulate matter into the Mojave Desert Air Basin as a result of diversions to WJF, contributing to the basin's continued non-attainment status for ozone and particulate matter. The basin's existing and future non-attainment status is the result of past, present, and future regional pollutant emissions, and represents a significant cumulative impact. As shown in Tables 4.3-28 and 4.3-29, project-related increases in this basin are not considered significant on a project level. However, the project's minor additions are significant on a cumulative level because of the project's cumulatively considerable contribution to non-attainment status, causing an excess of levels incorporated into the respective air quality

management plan. There is no feasible mitigation that would reduce these impacts to less-than-significant levels, as further discussed below.

Alternative 1 would avoid this significant contribution to air quality impacts by avoiding the project-related increase in emissions to the Mojave Desert Air Basin. However, because these operations would remain at VNY, the pollutant emissions that would be transferred as part of the project would continue to be emitted in the South Coast Air Basin under Alternative 1, continuing to contribute to that basin's pollutant non-attainment status. Therefore, there is no overall air quality benefit to implementing Alternative 1. Alternative 2 would not affect the project's transfer of emissions to the Mojave Desert Air Basin because the alternative's exemption would have no bearing on operational diversions to WJF. Therefore, Alternative 2 would result in a considerable contribution to a significant air quality impact in the Mojave Desert Air Basin.

Significant Impact CAQ-2: New Cumulatively Considerable Contribution of Air Pollutants to the South Central Coast Air Basin

The project would add emissions of ozone precursors (VOCs and NO_x) and also add particulate matter into the South Central Coast Air Basin as a result of diversions to CMA, contributing to the basin's continued non-attainment status for ozone and particulate matter. The basin's existing and future non-attainment status is the result of past, present, and future regional pollutant emissions, and represents a significant cumulative impact. Project-related increases are shown in Table 4.3-27 and described in text below the table. A significant project-level and cumulative impact was identified for these increases, as they exceed the thresholds established by the VCAQMD. There is no feasible mitigation that would reduce these impacts to less-than-significant levels, as further discussed below.

Alternative 1 would avoid this significant contribution to air quality impacts by avoiding the project-related increase of emissions to the South Central Coast Air Basin. However, the pollutant emissions that would be transferred as part of the project would remain in the South Coast Air Basin under Alternative 1, continuing to contribute to that basin's pollutant non-attainment status. Therefore, there is no overall air quality benefit to implementing Alternative 1. Alternative 2 would not affect the project's shift of emissions to the South Central Coast Air Basin. Therefore, Alternative 2 would result in a considerable contribution to a significant air quality impact in the South Central Coast Air Basin.

Table 4.3-27 shows that, in addition to presenting new pollutants to the South Central Coast Air Basin, the project-related emissions of VOC and NO_x at CMA would exceed VCAQMD thresholds for those pollutants. Therefore, the project would result in a considerable contribution to the significant cumulative impact for these pollutants within the basin.

Significant Impact CAQ-3: Cumulatively Considerable Emissions at CMA, Causing Exceedance of Ventura County Air Pollution Control District Thresholds

The project would result in emissions of VOC and NO_x at CMA that exceed VCAQMD daily thresholds, thereby presenting a cumulatively considerable contribution to significant cumulative impacts in the South Central Coast Air Basin. There is no feasible mitigation that would reduce these impacts to less-than-significant levels, as further discussed below.

Alternative 1 would avoid this significant contribution to air quality impacts by avoiding the project-related increase in emissions to the South Central Coast Air Basin. However, the pollutant emissions that would be transferred as part of the project would remain in the South Coast Air Basin under Alternative 1, continuing to contribute to that basin's pollutant non-attainment status. Therefore, there is no overall air quality benefit to implementing Alternative 1. Alternative 2 would not affect the project's shift of emissions to the South Central Coast Air Basin. Therefore, Alternative 2 would result in a considerable contribution to a significant air quality impact in the South Central Coast Air Basin.

Mitigation Measures

There are no feasible measures to mitigate the project's cumulative contribution to emissions within these air basins. To mitigate this impact, emissions from the project-related diversion would have to be eliminated. Technology to accomplish this elimination is not available, and cannot be imposed on the operating aircraft. Therefore, mitigation is not feasible and these are significant and unavoidable impacts.

5.2.4 Cumulative Hazards and Hazardous Materials

As discussed in Section 4.1.6, the project would result in less than significant impacts with respect to routine use of hazardous materials at the project-related airports—namely the small amounts of fuel and other common petroleum products used to power and maintain aircraft. Generally speaking, cumulative development that is likely to occur in the areas surrounding the airports would also increase the transport, use, and storage of similarly common hazardous materials. This cumulative usage would not combine to create a significant hazard, as all such usage is regulated by federal, state, and local law, and would keep these materials from posing a combined health risk. Therefore, there is no significant cumulative impact to which the project would contribute.

5.2.5 Cumulative Public Services

Growth that is anticipated to occur in the areas surrounding each of the project-related airports would increase demand on fire, police, schools, parks, and other government buildings and services. Cumulative aircraft operations at the project-related airports represent a very small contribution to demands on fire, police, and solid waste by increasing the activity in the area in and around the airports. The

project would contribute to this increase in services demand at the diversion airports, but contribute to a reduction in services demand at VNY. Proper land use and facilities planning, as undertaken by the respective jurisdictions within which the airports are located, identifies future needs for the relevant service providers, and prevents significant cumulative impacts from occurring to these services. There is no significant cumulative impact to which the project would contribute.

5.2.6 Cumulative Traffic and Transportation

Growth that is anticipated to occur in the areas surrounding each of the project-related airports would increase vehicular traffic by adding cars to the road and by adding traffic sources and destinations. The road systems surrounding VNY, BUR, and LAX are highly congested due to past development, and future growth is likely to worsen these conditions. Traffic is less congested at CMA, CNO, and WJF. Cumulative growth in aircraft operations at the project-related airports would continue to contribute to the future increase in traffic congestion. At VNY, the project would reduce the amount of cumulative vehicle traffic by reducing the number of flights operating out of that airport. At the diversion airports, the project would add vehicle trips; however, the project's contribution of ground-based traffic would be so small that it would not be noticeable. As shown in Table 2-5 (Chapter 2 of this EIR), project-related diversions to BUR, LAX, and CMA in 2014 average one half of one operation per day or less—or one trip every two or more days. As shown in Table 2-6, the daily average of 2016 diversion operations is 0.3 at CNO and 0.7 at WJF. Adding such a small amount of traffic to the local roadways, even those roads that are already congested, would not be considered a significant contribution to cumulative traffic impacts.

5.2.7 Cumulative Utilities and Service Systems

Growth that is anticipated to occur in the areas surrounding each of the project-related airports would increase demand on water, wastewater, storm water, and solid waste facilities. Cumulative aircraft operations at the project-related airports represent a small contribution to demands on these facilities. The project would contribute to this increase in infrastructure demand at the diversion airports, but contribute to a reduction in services demand at VNY. Proper land use and facilities planning, as undertaken by the respective jurisdictions within which the airports are located, identifies future needs for the relevant facilities, and prevents significant cumulative impacts from occurring to these services. There is no significant cumulative impact to which the project would contribute.

5.3 Growth-Inducing Impacts

The project-related transfer of airport operations would result in minor increases in air traffic at the five identified diversion airports, accompanied by a similarly minor

increase in ground-based activity at those airports. No permanent physical changes are proposed at the diversion airports, and the increase in activity would not be of a scale that would require substantial physical changes at the airports or the respective areas surrounding the airports. The diversion airports are subject to their own airport land use plans, and project-related activity is not anticipated to substantially affect the implementation of those plans.

The diversion airports are variously located in areas that range from fully developed to vacant, undeveloped land. Land use and future development in these areas is subject to the planning guidance provided by the local jurisdictions, and in some cases growth in the vicinity of the airports may be planned by the respective jurisdictions. In all cases, the project-related increase in activity at the diversion airports would not directly or indirectly affect the rate, type, or amount of growth already approved for land beyond the airports. The project proposes no infrastructure into new, unserved areas, and would not require new or expanded infrastructure, housing, or other similar permanent physical changes to the environment to accommodate the increased operations at the diversion airports. Therefore, the project is not growth inducing, and no further analysis is required with respect to growth.

5.4 Significant Unavoidable Impacts

The proposed project would result in significant unavoidable impacts related to its emissions at CMA and its contribution to cumulative air pollutant emissions at CMA and WJF. The project would shift emissions from the South Coast Air Basin to the Mojave Desert Air Basin and the South Central Coast Air Basin, both of which are in non-attainment of criteria for ozone and particulate matter. Alternative 1 would avoid these impacts, but would continue to emit the pollutants at VNY. Alternative 2 would not avoid these impacts. There is no feasible mitigation to address these impacts, and they are considered significant and unavoidable, as discussed in Section 4.3.5 and 5.2.3.

5.5 Irreversible Commitment of Resources

The project would not result in irreversible commitment of resources. With project implementation, usage of fossil fuel that is currently related to certain VNY operations would be shifted to the diversion airports, resulting in no net-gain in the amount of fuel used. The project entails no construction or land development; therefore, no resources will be used for building materials or extracted from the ground, and no undisturbed land will be converted to developed uses. There are no other aspects of the project that would affect natural resources.