

4.8 AIR QUALITY

The information contained in this report is based on the *SR-22 West Orange County Connection (WOCC) Air Quality Technical Report* (January 2001) and the *Air Quality Technical Report Reduced Build Alternative Addendum* (January 2001) both of which are available under a separate cover at Caltrans and OCTA.

4.8.1 Impact Assessment Methodology

A. POLLUTANTS FOR ANALYSIS

The pollutants that are most important to this air quality impact analysis are those that can be traced principally to motor vehicles. In the project area, SO_x and Pb emissions are associated mainly with various stationary sources. HC, NO_x, and PM_{10/2.5} emissions come from mobile and stationary sources. CO emissions are predominantly influenced by motor vehicle activity.

HC and NO_x are examined on a regional or "mesoscale" level. While the EPA is concerned with PM_{10/2.5} levels, no guidelines have been firmly established for their analysis. Also, the PM_{2.5} standard adopted by EPA has been challenged and was struck down in court. Therefore, it is not currently enforced. However, for the purpose of this project, a qualitative PM₁₀ assessment was conducted based on Caltrans' interim guidance on PM₁₀ hot-spot analysis.

Of the criteria pollutants the EPA has identified as being of nationwide concern, CO is the only pollutant currently requiring a detailed, microscale mobile source impact analysis for transportation projects.

The EPA estimates that on a national basis (including rural and urban areas) the largest contributor to PM₁₀ levels is fugitive dust accounting for approximately 89 percent of the total. Of this total, 14 percent is attributed to construction activities, and nine percent to re-suspension on paved roads. Of the remaining PM₁₀ sources, less than one percent is attributed to on-road motor vehicle emissions and two percent to non-road vehicle engines. However, several PM₁₀ source appointments studies have reported that in urban areas motor vehicles could account for 20 percent of the total PM₁₀ levels. PM₁₀ emissions from mobile sources are generally directly related to VKT (VMT).

B. NEPA ASSESSMENT

Under NEPA, the localized project impacts depend on whether ambient CO levels in the project vicinity would be above or below federal air quality standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions would result in an exceedance of one or more of these standards. If ambient levels already exceed the federal standard, project emissions are considered significant if they would increase one-hour CO concentrations by 1.0 parts per million (ppm) or more or eight-hour CO concentrations by 0.45 ppm or more.

C. CEQA ASSESSMENT

Mesoscale (Regional) Air Quality. Relative regional or "mesoscale" air quality impacts are directly related to how the project affects vehicular emissions. Specific criteria for determining whether the potential air quality impacts of an alternative would be significant are set forth in the SCAQMD's *CEQA Air Quality Handbook* (1993).¹ The criteria include emissions thresholds, compliance with state and national air quality standards, and conformity with the existing SIP or consistency with the current AQMP.

The daily operational regional emissions "significance" thresholds are as follows:

¹ Available at Caltrans, District 12.

- 25 kilograms (55 pounds) per day of reactive organic compounds (ROC) (precursors to ozone)
- 25 kilograms (55 pounds) per day of NO_x
- 250 kilograms (550 pounds) per day of CO
- 70 kilograms (150 pounds) per day of PM₁₀
- 70 kilograms (150 pounds) per day of SO_x

Projects in the South Coast Air Basin with operation-related emissions that would exceed any of the emission thresholds are considered significant by the SCAQMD.

To assess the potential impacts associated with the TSM/Expanded Bus Service, Full Build, or Reduced Build Alternative, traffic forecasts were developed using the Orange County Transportation Analysis Model, version 2.8 (OCTAM 2.8), the county's travel-forecasting tool. Direct application of the OCTAM 2.8 output to the SR-22/West Orange County Connection study determined the changes in traffic volumes, traffic patterns, vehicular speeds, and roadway configurations. The results of the regional traffic analysis were used to determine the amount of pollution generated within the affected area. This regional or "mesoscale" procedure utilized VKT (VMT) and associated average speed projections as estimated in the traffic analysis. Emission burdens were then determined using average hourly VKT (VMT) data and vehicular emission rates for each of the air quality pollutants identified by SCAQMD. The difference between the 2020 No Build and the other alternatives was then compared to the SCAQMD standards to determine potential significance.

Microscale (Local) Air Quality. CO concentrations are determined on a local or "microscale" level using the air quality dispersion model "CALINE4" and the emission factor program "CT-EMFAC." The CALINE4 and CT-EMFAC procedures used in the project analysis are consistent with the procedures described in the *Transportation Project-Level Carbon Monoxide Protocol* jointly developed by Caltrans and the University of California at Davis. The significance of localized project impacts is the same as federal requirements and depends on whether ambient CO levels in the project vicinity would be above or below state CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions would result in an exceedance of one or more of these standards. If ambient levels already exceed a state standard, project emissions are considered significant if they would increase one-hour CO concentrations by 1.0 ppm or more or eight-hour CO concentrations by 0.45 ppm or more.

Carbon monoxide concentrations were predicted for the project's design year 2020. A CO "background" level must be added to the predicted CO concentration value to account for CO entering the area from other sources upwind of the location at which predictions are being made. One- and eight-hour background levels of 8.2 parts per million (ppm) and 5.7 ppm, respectively, were added to predict CO concentrations for 2020. The eight-hour level of 5.7 ppm represents the highest "second high" monitored value at the Anaheim monitoring station for the three-year period of 1997 to 1999. The use of the second highest monitored value over a three-year period is recommended by Caltrans. The one-hour background level of 8.2 ppm was determined by dividing the eight-hour value with a persistence factor of 0.7.

Traffic data for the air quality analysis were derived from traffic counts and other information developed as part of an overall traffic analysis for the project. The microscale CO analysis was performed based on data from this network for the evening (PM) peak traffic period. This is the period when maximum traffic volumes occur on local streets and when the greatest traffic and air quality impacts of the proposed project are expected. The percentages of each type of vehicle, for the existing and future year conditions, were determined using vehicle mix data obtained from the Caltrans CO Protocol. Vehicular emissions were estimated using Caltrans' CT-EMFAC 2.01 program for the year 2020.

Projects located in SCAQMD jurisdiction, such as the SR-22/West Orange County Connection project, require application of an addition factor of 0.86 to the output of the CT-EMFAC program.

The additional emissions credit is provided by CARB and is consistent with the credits applied in the revised SCAQMD Federal Attainment Plan for CO.

In addition to the CO hot-spot analysis, a PM₁₀ hot-spot assessment was conducted. A qualitative analysis was performed consistent with the procedures described in the *Caltrans Interim Guidance: Project-Level PM₁₀ Hot-Spot Analysis* (May 2000).

D. ANALYSIS SITES/RECEPTOR LOCATIONS

Carbon monoxide levels were estimated at eight locations using the CALINE4 model. The sites selected are listed in Table 4.8-1 and shown in Figure 4.8-1. Sites 1 and 2 are intersection locations; Sites 3 through 8 are free-flow roadway locations. The intersection sites were chosen using the screening methodology recommended in EPA's *Guideline for Modeling Carbon Monoxide from Roadway Intersections*, EPA-454/R-92-005 and Caltrans *Transportation Project-Level Carbon Monoxide Protocol* (1992), UCD-ITS-RR-97-21 (1997) (Caltrans CO Protocol)²

**Table 4.8-1
AIR QUALITY ANALYSIS SITES**

Site No.	Description
1	Intersection of Valley View Street & SR-22 westbound on-/off-ramps
2	Intersection of Beach Boulevard & SR-22 westbound on-/off ramps
3	SR-22 between Seal Beach Boulevard & Valley View Street
4	SR-22 between Beach Boulevard & Garden Grove Boulevard
5	SR-22 between Beach Boulevard & Magnolia Street
6	SR-22 between Brookhurst Street & Euclid Street
7	SR-22 between Fairview Street & The City Drive
8	SR-22 between Main Street & Glassell Street

4.8.2 Mesoscale (Regional) Impacts

The results of the mesoscale analysis are presented in Table 4.8-2 as the difference between pollutant burdens under the 2020 No Build Alternative and each of the other alternatives.

**Table 4.8-2
MESOSCALE (REGIONAL) BURDEN ANALYSIS**

Pollutant	Project Alternatives (compared to No Build Alternative)						SCAQMD Standards	
	TSM/Expanded Bus Service		Full Build		Reduced Build		Kilograms per day	Pounds per day
	Kilograms per day	Pounds per day	Kilograms per day	Pounds per day	Kilograms per day	Pounds per day		
HC (ROC)	- 26	- 57	- 107	- 235	- 132	- 291	25	55
NO _x	54	118	302	665	197	435	25	55
CO	- 117	- 259	239	526	- 25	- 56	250	550
PM ₁₀	4	8	21	46	14	30	70	150

² Both available at Caltrans, District 12.

A. NO BUILD ALTERNATIVE

The No Build Alternative does not include construction other than that addressed in previous environmental documents. No additional impacts to regional air quality would occur.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative would result in increased levels of NO_x and PM_{10} . A decrease in ROC and CO levels would occur due to the higher average operating speed under this alternative. The increase in NO_x would be considered substantial by SCAQMD.

C. FULL BUILD ALTERNATIVE

The Full Build Alternative would result in increased levels of NO_x , CO, and PM_{10} . A decrease in ROC would occur due to the higher average operating speed. The increase in NO_x would be considered potentially adverse by SCAQMD. SCAG is currently in the process of updating the RTP. All of the elements of the Full Build Alternative are included in the *Draft 2001 RTP Update* (SCAG, December 2000). (Preliminary transportation modeling and air quality conformity analysis conducted for the update indicates that the Full Build Alternative improvements would conform with the region's strategies for achieving the SIP air quality standards. The 2001 RTP is scheduled for adoption in April 2001.)

D. REDUCED BUILD ALTERNATIVE

The Reduced Build Alternative would result in increases levels of NO_x and PM_{10} . A decrease in ROC and CO levels would occur due to the higher average operating speed. The increase in NO_x would be considered potentially adverse by the SCAQMD. The mainline improvement of the Reduced Build Alternative on SR-22, from Valley View Street to Glassell Street, are already included in SCAG's current (1998) RTP, which conforms with the state's strategies for achieving the air quality standards as outlined in the SIP. SCAG is currently in the process of updating the RTP. The remaining elements of the Reduced Build Alternative are included in the *Draft 2001 RTP Update* (SCAG, December 2000). (Preliminary transportation modeling and air quality conformity analysis conducted for the update indicates that the Reduced Build Alternative improvements would conform with the region's strategies for achieving the SIP air quality standards. The 2001 RTP is scheduled for adoption in April 2001.)

**New Figure 4.8-1 (Old Figure 6.3-1)
Air Quality Analysis Sites**

Thresholds of Significance for CEQA:

- Increases in nitrogen oxides (NO_x) above thresholds
- A. NO BUILD ALTERNATIVE
- The No Build Alternative would have no significant impacts to regional air quality.
- B. TSM/EXPANDED BUS SERVICE ALTERNATIVE
- It is anticipated that the TSM/Expanded Bus Service Alternative would result in increased levels of NO_x which may have a potentially significant impact on air quality.
- C. FULL BUILD ALTERNATIVE
- The Full Build Alternative would increase NO_x levels to a potentially significant level.
- D. REDUCED BUILD ALTERNATIVE
- The Reduced Build Alternative would increase NO_x levels to a potentially significant level.

4.8.3 Microscale (Local) Impacts**A. CARBON MONOXIDE (CO)**

Maximum predicted one- and eight-hour average CO concentrations at the analysis sites are listed in Table 4.8-3 and 4.8-4, respectively. The air quality analysis at Site 2, the intersection of Beach Boulevard and SR-22, was modeled with and without traffic mitigation. The traffic mitigation applied to this site is a lane added to the westbound off-ramp. The predicted CO levels presented are the output from CALINE4 model runs with the one- and eight-hour background levels of 8.2 ppm and 5.7 ppm, added.

No Build Alternative. The No Build Alternative does not include construction other than that addressed in previous environmental documents. No additional impacts to local air quality would occur.

TSM/Expanded Bus Service Alternative. All predicted concentrations under the TSM/Expanded Bus Service Alternative are below the applicable federal and state standards. This alternative would not cause or exacerbate a violation of the applicable standards at any of the locations analyzed.

**Table 4.8-3
PREDICTED ONE-HOUR PM PEAK
WORST-CASE 2020 CARBON MONOXIDE CONCENTRATIONS***

Site No.	Description	Alternative			
		No Build	TSM/ Expanded Bus Service	Full Build	Reduced Build
1	Intersection of Valley View Street & SR-22 west-bound on-/off-ramps	10.8	10.7	11.0	10.9
2**	Intersection of Beach Boulevard & SR-22 west-bound on-/off ramps	9.6	9.6	12.5/ (11.8)	12.3
3	SR-22 between Seal Beach Boulevard & Valley View Street	10.5	10.5	11.0	10.9
4	SR-22 between Beach Boulevard & Garden Grove Boulevard	9.3	9.3	10.1	10.0
5	SR-22 between Beach Boulevard & Magnolia Street	9.6	9.6	10.1	9.9
6	SR-22 between Brookhurst Street & Euclid Street	10.0	10.0	10.6	10.4
7	SR-22 between Fairview Street & The City Drive	9.5	9.5	9.7	9.2
8	SR-22 between Main Street & Glassell Street	9.4	9.3	10.1	9.9

Notes: * Concentrations include a one-hour background level of 8.2 ppm
 ** Site is unsignalized in No Build or TSM/Expanded Bus Service Alternative.
 Traffic mitigation was applied to this site under the Full Build Alternative.
 Modeling results for the Full Build Alternative are presented as Full Build (Mitigated Full Build).

**Table 4.8-4
PREDICTED EIGHT-HOUR PM PEAK
WORST-CASE 2020 CARBON MONOXIDE CONCENTRATIONS***

Site No.	Description	Alternative			
		No Build	TSM/ Expanded Bus Service	Full Build	Reduced Build
1	Intersection of Valley View Street & SR-22 west-bound on-/off-ramps	7.5	7.5	7.7	7.6
2**	Intersection of Beach Boulevard & SR-22 west-bound on-/off ramps	6.8	6.8	8.7 (8.2)	8.6
3	SR-22 between Seal Beach Boulevard & Valley View Street	7.3	7.3	7.7	7.6
4	SR-22 between Beach Boulevard & Garden Grove Boulevard	6.5	6.5	7.0	7.0
5	SR-22 between Beach Boulevard & Magnolia Street	6.7	6.7	7.0	6.9
6	SR-22 between Brookhurst Street & Euclid Street	7.0	6.9	7.4	7.2
7	SR-22 between Fairview Street & The City Drive	6.6	6.6	6.8	6.4
8	SR-22 between Main Street & Glassell Street	6.5	6.5	7.0	6.9

Notes: * Concentrations include a eight-hour background level of 5.7 ppm
 ** Site is unsignalized in No Build or TSM/Expanded Bus Service Alternative.
 Traffic mitigation was applied to this site under the Full Build Alternative.
 Modeling results for the Full Build Alternative are presented as Full Build (Mitigated Full Build).
 The TSM/Expanded Bus Service Alternative one-hour PM peak CO levels would generally be the same as the No Build Alternative, except at Sites 1 and 8, where CO levels are predicted to be 0.1

ppm lower than the No Build Alternative. The TSM/Expanded Bus Service Alternative eight-hour PM peak CO levels would generally be the same as the No Build Alternative, except at Site 6, where CO levels are predicted to be 0.1 ppm lower than the No Build Alternative.

Full Build Alternative. All predicted concentrations under the Full Build Alternative are below the applicable federal and state standards. The alternative would not cause or exacerbate a violation of the applicable standards at any of the locations analyzed.

The Full Build Alternative one-hour PM peak CO levels are in the range of 0.2 to 2.9 ppm higher than the No Build Alternative levels without the traffic mitigation at Site 2 and 0.2 to 2.2 ppm higher with the traffic mitigation at Site 2. The Full Build Alternative eight-hour PM peak CO levels are in the range of 0.2 to 1.9 ppm higher than the No Build Alternative levels without the traffic mitigation at Site 2 and 0.2 to 1.4 ppm higher with the traffic mitigation at Site 2.

Reduced Build Alternative. All predicted concentrations under the Full Build Alternative are below the applicable federal and state standards. The alternative would not cause or exacerbate a violation of the applicable standards at any of the locations analyzed.

The Reduced Build Alternative one-hour PM peak CO levels are in the range of 0.1 to 2.7 ppm higher than the No Build Alternative levels. The Reduced Build Alternative eight-hour PM peak CO levels are in the range of 0.1 to 1.8 ppm higher than the No Build Alternative levels.

B. PARTICULATE MATTER (PM₁₀)

No Build Alternative. The No Build Alternative does not include construction other than that addressed in previous environmental documents. No local PM₁₀ air quality impacts would occur.

TSM/Expanded Bus Service Alternative. The TSM/Expanded Bus Service Alternative would not appreciably change overall PM₁₀ levels in the study corridor as compared to the No Build Alternative. Given the small percentage mobile sources contribute to overall PM₁₀ levels, it is expected that this would have a negligible effect on regional PM₁₀ levels.

Full Build Alternative. While the Full Build Alternative is expected to slightly increase the study VKT (VMT), it is not expected to alter the roadway's vehicle mix or increase truck percentages. (Heavy-duty diesel trucks are thought to be one of the largest on-road contributing sources for mobile PM₁₀ levels.) The results shown in Table 4.8-2 indicate that the predicted increases in regional PM₁₀ are well below SCAQMD's daily thresholds. Therefore, it is expected that this alternative would have a negligible effect on regional PM₁₀ levels.

There are no indications that the Full Build Alternative would contribute to a PM₁₀ hot spot that would cause or contribute to the PM₁₀ NAAQS. This finding is based, in part, on the inclusion of most of elements of the Full Build Alternative in an approved RTP and TIP, which accounted for the regional PM₁₀ SIP budget compliance. It is also based on the PM₁₀ monitored concentrations recorded at the CARB Anaheim-Harbor Boulevard Monitoring Station, closest to the study area, which did not violate the NAAQS for the three years 1997 through 1999. There would be no unusual circumstances, such as high diesel truck percentages, wintertime sanding, or unpaved shoulders, that would result in a localized PM₁₀ exceedance.

Reduced Build Alternative. While the Reduced Build Alternative is expected to slightly increase the study VKT (VMT), it is not expected to alter the roadway's vehicle mix or increase truck percentages. The results shown in Table 4.8-2 indicate that the predicted increases in regional PM₁₀ attributable to this alternative are well below SCAQMD's daily thresholds. Therefore, it is expected that this alternative would have a negligible effect on regional PM₁₀ levels.

There are no indications that the Reduced Build Alternative would contribute to a PM₁₀ hot spot that would cause or contribute to the PM₁₀ NAAQS. This finding is based, in part, on the inclusion

of most of elements of the Reduced Build Alternative in an approved RTP and TIP, which accounted for the regional PM₁₀ SIP budget compliance. It is also based on the PM₁₀ monitored concentrations recorded at the CARB Anaheim-Harbor Boulevard Monitoring Station, closest to the study area, which did not violate the NAAQS for the three years 1997 through 1999. There would be no unusual circumstances, such as high diesel truck percentages, wintertime sanding, or unpaved shoulders, that would result in a localized PM₁₀ exceedance.

4.8.4 Construction Impacts on Air Quality

A. NO BUILD ALTERNATIVE

The No Build Alternative does not include construction other than that addressed in previous environmental documents. No additional construction-related air quality impacts would occur.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative does not include construction other than that addressed in previous environmental documents. No additional construction-related air quality impacts is expected to occur.

C. FULL BUILD ALTERNATIVE

Air emissions from construction activities include airborne dust from grading, demolition, and dirt-hauling and gaseous emissions from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, and paints and coatings. Construction activities would vary throughout the Full Build Alternative alignment, but would include demolition of existing structures, roadway excavation, pavement removal, grading and surface preparation, and final paving. During construction, the Full Build Alternative would be required to comply with regional rules that would prevent substantial short-term air pollutant emissions. Compliance with regional rules is assumed for the Full Build Alternative and, thus, substantial short-term impacts would not occur.

SCAQMD's Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source. In addition, SCAQMD's Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site.

Construction would also be required to comply with SCAQMD's Rule 1403, Asbestos Emissions from Demolition/Removal Activities, during the demolition or renovation of asbestos-containing buildings and structures.

D. REDUCED BUILD ALTERNATIVE

Air emissions from construction activities include airborne dust from grading, demolition, and dirt-hauling and gaseous emissions from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, and paints and coatings. Construction activities would vary throughout the Reduced Build Alternative alignment, but would include demolition of existing structures, roadway excavation, pavement removal, grading and surface preparation, and final paving. During construction, the Reduced Build Alternative would be required to comply with regional rules that would prevent substantial short-term air pollutant emissions. Compliance with regional rules is assumed for the Reduced Build Alternative and, thus, substantial short-term impacts would not occur.

SCAQMD's Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source. In addition, SCAQMD's Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site.

Construction would also be required to comply with SCAQMD's Rule 1403, Asbestos Emissions from Demolition/Removal Activities, during the demolition or renovation of asbestos-containing buildings and structures.

4.8.5 Conformity Statement

Under the requirements of the CAAA, ISTEA, and TEA-21, proposed transportation projects must be derived from an RTP that conforms with the state air quality plans as outlined in the SIP. The SIP is the document that sets forth the state's strategies for achieving air quality standards. Projects must also be included in a TIP that conforms with the SIP, and localized impacts from proposed projects must conform to state air quality plans in nonattainment and maintenance areas.

FHWA and FTA made a conformity determination on the SCAG's 1998 RTP on June 9, 1998³. The mainline improvements of the SR-22/West Orange County Connection Project (Full Build Alternative or Reduced Build Alternative) is included in the 1998 RTP as project ID: ORA000195 and Project Description: Design, Right-of-Way, and construction to build mainline HOV lanes for SR-22 from Valley View Street to Glassell Street, with a completion date of 2010.

The design of the project is in the current 2000 Regional Transportation Improvement Program (RTIP)⁴ and the construction of the project will be added to the 2002 RTIP with a start date of 2005 and a completion date of 2008. It is therefore determined that the SR-22/West Orange County Connection Project is in conformance with the SIP and is consistent with the requirements of the Transportation Conformity Rule.

The interim Caltrans guidance for PM₁₀ hot-spot analysis requires a qualitative discussion addressing the transportation conformity requirements. Based on criteria specified in the interim guidance document, the project PM₁₀ analysis meets the following conditions:

- No NAAQS violations have occurred within the last three years at the Anaheim/Harbor Boulevard Monitoring Station.
- The monitored data ranges between 60 and 80 percent of federal standards.
- The project would not be subject to unusual circumstances (eg., wintertime sanding, unpaved shoulders, etc).

Based on the above, there is no reason to believe that this project would contribute to a PM₁₀ hot spot that would cause or contribute to a violation of the PM₁₀ NAAQS.

4.8.6 Mitigation

A. NO BUILD ALTERNATIVE

None proposed.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

None proposed. This alternative's contribution to a substantial mesoscale (regional) NO_x impact cannot be mitigated on an individual project level, but rather must be addressed in a regional document such as SCAG's RTP. If this alternative is selected as the preferred alternative, it would need to be included in the next RTP update.

C. FULL BUILD ALTERNATIVE

None proposed. This alternative's contribution to a substantial mesoscale (regional) NO_x impact cannot be mitigated on an individual project level, but rather must be addressed in a regional document such as SCAG's RTP. If this alternative is selected as the preferred alternative, it would need to be included in the next RTP update.

³ Available at OCTA.

⁴ Available at OCTA.

D. REDUCED BUILD ALTERNATIVE

None proposed. This alternative's contribution to a substantial mesoscale (regional) NO_x impact cannot be mitigated on an individual project level, but rather must be addressed in a regional document such as SCAG's RTP. If this alternative is selected as the preferred alternative, it would need to be included in the next RTP update.

4.8.7 Residual Impacts After Mitigation

A. NO BUILD ALTERNATIVE

None.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

Because this alternative's contribution to regional NO_x impacts cannot be mitigated on an individual project basis, substantial impacts would remain.

C. FULL BUILD ALTERNATIVE

Because this alternative's contribution to regional NO_x impacts cannot be mitigated on an individual project basis, substantial impacts would remain.

D. REDUCED BUILD ALTERNATIVE

Because this alternative's contribution to regional NO_x impacts cannot be mitigated on an individual project basis, substantial impacts would remain.

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