8-4.7 AIR QUALITY

8-4.7.1 Setting

The regulatory and regional setting for the study area is discussed in Section 4-7.1 and remains unchanged for the purposes of analyzing the air quality impacts of the three Rapid Bus alternatives.

- Carbon Monoxide Concentrations at Sensitive Receptor Locations

Carbon monoxide (CO) concentrations are typically estimated to determine local air quality impacts since vehicle exhaust is the primary source of CO in urban areas. In Section 4-7 of the Final EIR, CO concentrations were analyzed at 21 of the 53 intersections because the 21 intersections would have level of service (LOS) of D, E, or F under future conditions.[1] To determine impacts associated with the three Rapid Bus alternatives (RB-3, RB-5, and RB-Network), the project traffic consultant analyzed 13 additional intersections. As discussed in Section 8-3 (Transportation), these additional intersections were analyzed because they would result in an addition of 43 or more peak hour trips, which is the Los Angeles Department of Transportation's (LADOT) criteria for determining whether a traffic impact study should be conducted. The 13 intersections that would be impacted by at least one of the three Rapid Bus alternatives are shown in **Table 8-4.7-1** (Intersections Impacted by One or More of the Three Rapid Bus Alternatives). As shown, the RB-3 Alternative would impact four intersections, the RB-5 Alternative would impact three intersections, and the RB-Network Alternative would impact 12 intersections.

Of the 13 additional intersections that would be affected by at least one of the three Rapid Bus alternatives, seven intersections would have a LOS of D, E, or F under future conditions. These seven intersections are listed in **Table 8-4.7-2** (Existing Carbon Monoxide (CO) Concentrations (parts per million)). Existing CO concentrations at these seven intersections were modeled.

To determine the existing local air quality along the routes of the three Rapid Bus alternatives, CO concentrations at sidewalks adjacent to the seven study intersections were modeled. At each of the seven intersections, traffic-related CO contributions were added to the background conditions discussed in Section 4-7.1 of the Final EIR. Traffic contributions were estimated using the CAL3QHC dispersion model, which utilizes traffic volume inputs and EMFAC7F emissions factors.[2] **Table 8-4.7-2** shows the estimated existing CO concentrations at sidewalks adjacent to the seven study intersections.

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[1]/ Level of service (LOS) is used to indicate the quality of traffic flow on roadway segments and at intersections. LOS ranges from A (free flow, little congestion) to F (forced flow, extreme congestion). Since CO concentrations are highest at congested intersections, CO concentrations were calculated at intersections that would have LOS D, E, or F under future 2020 conditions. These intersections would also be affected by additional automobile and bus trips generated by the RB alternatives.

[2]/ CAL3QHC is an EPA-approved computer model used to estimate localized pollutant concentrations, using carbon monoxide as an indicator compound and a Gaussian plume distribution methodology. EMFAC7F is a set of California Air Resources Board-approved emission factors for motor vehicles that is used as input to the CAL3QHC model.

Table 8-4.7-1: Intersections Impacted by One or More of the Three Rapid Bus Alternatives

RB-3 Alternative	RB Network Alternative
Topanga Canyon Blvd / Victory Blvd	Topanga Canyon Blvd / Roscoe Blvd
Lankershim Blvd / Oxnard St	Topanga Canyon Blvd / Victory Blvd
Lankershim Blvd / Chandler Blvd North	Reseda Blvd / Victory Blvd
Lankershim Blvd / Chandler Blvd South	Sepulveda Blvd / Roscoe Blvd
RB-5 Alternative	Sepulveda Blvd / Victory Blvd
Van Nuys Blvd / Victory Blvd	Van Nuys Blvd / San Fernando Blvd
Lankershim Blvd / Chandler Blvd North	Van Nuys Blvd / Roscoe Blvd
Lankershim Blvd / Chandler Blvd South	Van Nuys Blvd / Victory Blvd
	Laurel Canyon Blvd / Roscoe Blvd
	Laurel Canyon Blvd / Victory Blvd
	Lankershim Blvd / Chandler Blvd North
	Lankershim Blvd / Chandler Blvd South

Source: Meyer, Mohaddes Associates, Inc., 2004.

Table 8-4.7-2: Existing Carbon Monoxide (CO) Concentrations (parts per million)

Intersection	1-Hour CO Concentration	Exceed State 1-Hour Standard (20 ppm)?	8-Hour CO Concentration	Exceed State 8-Hour Standard (9 ppm)?
Topanga Canyon Blvd/Roscoe Blvd	19.7	No	13.8	Yes
Topanga Canyon Blvd/Victory Blvd	18.9	No	13.2	Yes
Reseda Blvd/Victory Blvd	17.6	No	12.3	Yes
Sepulveda Blvd/Victory Blvd	20.0	No	14.0	Yes
Van Nuys Blvd/Victory Blvd	24.4	Yes	17.1	Yes
Laurel Canyon Blvd/Victory Blvd	17.8	No	12.4	Yes
Lankershim Blvd/Oxnard St	15.4	No	10.8	Yes
Note: CO concentrations represent PM peak hour traffic conditions.				

Source: Terry A. Hayes Associates, CAL3QHC output.

As shown in **Table 8-4.7-2**, one of the seven study intersections currently exceeds the State one-hour CO standard of 20 parts per million (ppm), and all of the study intersections currently exceed the State eight-hour CO standard of 9 ppm.

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following people are most likely to be affected by air pollution, as identified by CARB: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that contain a high concentration of these sensitive population groups are called "sensitive receptors" and include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, parks, and outdoor restaurants.

A direct relationship exists between traffic congestion and CO concentrations since exhaust fumes from vehicular traffic is the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease as distance from the source (intersection) increases. Although CO concentrations decrease as distance from an intersection increases, sensitive receptors in close proximity to the seven study intersections are currently exposed to high CO concentrations since CO concentrations at the seven study intersections exceed the State one- or eight-hour standard (see **Table 8-4.7-2**). Sensitive receptors that would be exposed to CO concentrations that violate the State one- or eight-hour Standard are listed in **Table 8-4.7-3** (Sensitive Receptors Exposed to CO Concentrations that Exceed the State Standards).

- Future Baseline Air Quality

Table 8-4.7-4 (2020 Carbon Monoxide (CO) Concentrations (parts per million)) identifies the one- and eight-hour CO concentrations at the seven study intersections under year 2020 baseline conditions. CO concentrations at each study intersection include year 2020 ambient one-hour and eight-hour CO concentration of 5.1 and 3.6 ppm, respectively. As indicated, one-hour CO concentrations would range from 7.2 ppm to 11.1 ppm in year 2020. Eight-hour CO concentrations would range from 5.1 ppm to 7.8 ppm. The one- and eight-hour CO concentrations would not violate the State one- and eight-hour standard for CO.[3]

8-4.7.2 Impact Analysis Methodology and Evaluation Criteria

The impact analysis methodology and evaluation criteria for air quality are discussed in Section 4-7.2 of the Final EIR, and remain unchanged.

[3]/ Overall, CO concentrations in year 2020 are expected to be lower than existing conditions due to stringent state and federal mandates for lowering vehicle emissions. Although traffic volumes would be higher in the future, CO emissions from vehicles are expected to be much lower due to technological advances in vehicle emissions systems, as well as from normal turnover in the vehicle fleet. In other words, increases in traffic volumes would be offset by increases in cleaner-running cars as a percentage of the entire vehicle fleet on the road.

Table 8-4.7-3: Sensitive Receptors Exposed to CO Concentrations that Exceed the State Standards

Sensitive Receptor	Distance from Intersection (feet)
Topanga Canyon Boulevard/Roscoe Boulevard	
Homes on Topanga Canyon Boulevard	70
Topanga Canyon Boulevard/Victory Boulevard	
Homes on Hannah Avenue	50
Reseda Boulevard/Victory Boulevard	
Homes on Reseda Boulevard	30
Reseda Recreational Center	55
Sepulveda Boulevard/Victory Boulevard	
Homes on Victory Boulevard and Sepulveda Boulevard	100
Van Nuys Boulevard/Victory Boulevard	
Homes on Sylmar Avenue	50
Laurel Canyon Boulevard/Victory Boulevard	
Homes on Agnes Street	250
Lankershim Boulevard/Oxnard Street	
Homes on Oxnard Street and Tiara Street	150

Source: Terry A. Hayes Associates, 2004

Table 8-4.7-4: 2020 Carbon Monoxide (CO) Concentrations (parts per million)

Intersection	1-Hour CO Concentration	Exceed State 1-Hour Standard (20 ppm)?	8-Hour CO Concentration	Exceed State 8-Hour Standard (9 ppm)?
Topanga Canyon Blvd/Roscoe Blvd	8.4	No	5.9	No
Topanga Canyon Blvd/Victory Blvd	8.4	No	5.9	No
Reseda Blvd/Victory Blvd	8.1	No	5.7	No
Sepulveda Blvd/Victory Blvd	9.6	No	6.7	No
Van Nuys Blvd/Victory Blvd	11.1	No	7.8	No
Laurel Canyon Blvd/Victory Blvd	10.1	No	7.1	No
Lankershim Blvd/Oxnard St	7.2	No	5.1	No
Note: CO concentrations represent PM peak hour traffic conditions.				

Source: Terry A. Hayes Associates, 2004; CAL3QHC output.

8-4.7.3 Impacts

8-4.7.3.1 Macro Scale (Burden) Emissions

a. RB-3 Alternative

There is a direct relationship between vehicle miles traveled (VMT) and air pollution. In urbanized regions, such as the Los Angeles Metropolitan area, mobile emissions are the primary source of air pollution. Transportation projects that increase or decrease regional VMT will respectively degrade or improve regional air quality.

Criteria pollutant emissions for the RB-3 Alternative are shown in **Table 8-4.7-5** (Criteria Pollutant Emission for RB-3 Alternative (Year 2020)) Regional VMT was estimated using the MTA transportation model. The modeling results of countywide VMT are presented in **Table 8-3-8** of Section 8-3.2.2.

Table 8-4.7-5: Criteria Pollutant Emission for RB-3 Alternative (Year 2020)

Vehicular Class	Annual Vehicle Miles Traveled (VMT) (millions)	Criteria Pollutant Emissions (tons per year)			
		Carbon Monoxide (CO)	Nitrogen Oxide (NO_X)	Reactive Organic Gas (ROG)	Particulate Matter (PM_{10})
Passenger Vehicle (Light duty Auto/Light duty trucks)	141,644	491,829	70,261	26,543	3,123
Bus/Compresssed Natural Gas (CNG)	237.1	321	1,555	434	5
Commuter Rail/Diesel	4.9	40	121	1,087	27
RB-3 Total	141,886	492,190	71,937	28,064	3,155
RB-3 vs. No Build	-21 (-0.01% change)	-76 (-0.02% change)	-1 (-0.001% change)	-4 (-0.01% change)	0
RB-3 vs. TSM	-3 (-0.002% change)	-9 (-0.002% change)	-1 (-0.001% change)	-15 (-0.05% change)	-1 (-0.03% change)
RB-3 vs. Full BRT (Lower Bound Scenario)	10 (0.01% change)	39 (0.01% change)	1 (0.001% change)	-7 (-0.02% change)	0
RB-3 vs. Full BRT (Upper Bound Scenario)	2 (0.001% change)	8 (0.002% change)	-5 (-0.01% change)	-9 (-0.03% change)	-1 (-0.03% change)
Note: VMT = vehicle miles traveled.					

Source: Terry A. Hayes Associates, 2004.

As indicated in **Table 8-4.7-5**, annual VMT is expected to decrease by approximately 21 million miles, or 0.01 percent, when compared to the No Build Alternative. When compared to the TSM Alternative, VMT is anticipated to decrease by approximately three million miles, or 0.002 percent. VMT is anticipated to increase by approximately 10 million miles, or 0.01 percent,

when compared to the Full BRT (lower bound scenario) Alternative, and VMT is anticipated to increase by approximately two million, or 0.001 percent, when compared to the Full BRT (upper bound scenario) Alternative.

Pollutant emissions were estimated using the Federal Transit Administration (FTA) Office of Planning Section 5309 New Starts Criteria, which uses emission factors and VMT for each vehicular class. Modeling results are provided in **Appendix 8-C**.

In 2020, the RB-3 Alternative is predicted to emit less CO, NO_X, and ROG than the No Build Alternative. Changes in PM_{10} emissions are negligible. CO, NO_X, and ROG emissions are expected to change by less-than-one percent when compared to the No Build Alternative.

When compared to the TSM Alternative, the RB-3 Alternative is predicted to emit less CO, NO_X, ROG, and PM_{10}. All criteria pollutants are expected to change by less-than-one percent when compared to the TSM Alternative.

The RB-3 Alternative is predicted to emit less ROG than the Full BRT (lower bound scenario) Alternative. However, this alternative would emit more CO and NO_X than the Full BRT (lower bound scenario) Alternative. Changes in PM_{10} emissions are negligible. CO, NO_X, and ROG emissions are predicted to change by less-than-one percent when compared to the Full BRT (lower bound scenario) Alternative.

When compared to the Full BRT (upper bound scenario) Alternative, the RB-3 Alternative is predicted to emit less NO_X, ROG, and PM_{10} than the Full BRT (upper bound scenario) Alternative. However, this alternative would emit more CO than the Full BRT (upper bound scenario) Alternative. All criteria pollutants are expected to change by less-than-one percent when compared to the Full BRT (upper bound scenario) Alternative.

b. RB-5 Alternative

Criteria pollutant emissions for the RB-5 Alternative are shown in **Table 8-4.7-6** (Criteria Pollutant Emissions for RB-5 Alternative (Year 2020)). The regional VMT was estimated using the MTA transportation model. Pollutant emissions were estimated using FTA Office of Planning Section 5309 New Starts Criteria, which uses emission factors and VMT for each vehicular class. Modeling results are provided in **Appendix 8-C**.

As indicated in **Table 8-4.7-6**, annual VMT is expected to decrease by approximately 19 million miles, or 0.01 percent, when compared to the No Build Alternative. When compared to the TSM Alternative, VMT is anticipated to decrease by approximately one million miles, or 0.001 percent. VMT is anticipated to increase by approximately 12 million miles, or 0.01 percent, when compared to the Full BRT (lower bound scenario) Alternative, and VMT is anticipated to increase by approximately four million, or 0.003 percent, when compared to the Full BRT (upper bound scenario) Alternative.

Table 8-4.7-6: Criteria Pollutant Emissions for RB-5 Alternative (Year 2020)

Vehicular Class	Annual Vehicle Miles Traveled (VMT) (millions)	Criteria Pollutant Emissions (tons per year)			
		Carbon Monoxide (CO)	Nitrogen Oxide (NO_X)	Reactive Organic Gas (ROG)	Particulate Matter (PM_{10})
Passenger Vehicle (Light duty Auto/Light duty trucks)	141,646	491,836	70,262	26,544	3,123
Bus/Compressed Natural Gas (CNG)	237.1	321	1,555	434	5
Commuter Rail/Diesel	4.9	40	121	1,086	27
RB-5 Total	141,888	492,197	71,938	28,064	3,155
RB-5 vs. No Build	-19 (-0.01% change)	-69 (-0.01% change)	0	-4 (-0.01% change)	0
RB-5 vs. TSM	-1 (-0.001% change)	-2 (-0.0004% change)	0	-15 (-0.05% change)	-1 (-0.03% change)
RB-5 vs. Full BRT (Lower Bound Scenario)	12 (0.01% change)	46 (0.01% change)	2 (0.003% change)	-7 (-0.02% change)	0
RB-5 vs. Full BRT (Upper Bound Scenario)	4 (0.003% change)	15 (0.003% change)	-4 (-0.01% change)	-9 (-0.03% change)	-1 (-0.03% change)
Note: VMT = vehicle miles traveled.					

Source: Terry A. Hayes Associates, 2004.

The RB-5 Alternative is predicted to emits less CO and ROG than the No Build Alternative. Changes in NO_X and PM_{10} emissions are negligible. CO and ROG emissions are expected to change by less-than-one percent when compared to the No Build Alternative.

When compared to the TSM Alternative, the RB-5 Alternative is predicted to emit less CO, ROG, and PM_{10}. Changes in NO_X emissions are negligible. CO, ROG, and PM_{10} emissions are expected to change by less-than-one percent when compared to the TSM Alternative.

The RB-5 Alternative is predicted to emit less ROG than the Full BRT (lower bound scenario) Alternative. However, this alternative would emit more CO and NO_X than the Full BRT (lower bound scenario) Alternative. Changes in PM_{10} emissions are negligible. ROG, CO, and NO_X emissions are expected to change by less-than-one percent when compared to the Full BRT (lower bound scenario) Alternative.

When compared to the Full BRT (upper bound scenario) Alternative, the RB-5 Alternative is predicted to emit less NO_X, ROG, and PM_{10} than the Full BRT (upper bound scenario) Alternative. However, this alternative would emit more CO than the Full BRT (upper bound scenario) Alternative. All criteria pollutants are expected to change by less-than-one percent when compared to the Full BRT (upper bound scenario) Alternative.

c. RB-Network Alternative

Criteria pollutant emissions for RB-Network Alternative are shown in **Table 8-4.7-7** (Criteria Pollutant Emissions for RB-Network Alternative (Year 2020)). The regional VMT was estimated using the LACMTA transportation model. Pollutant emissions were estimated using FTA Office of Planning Section 5309 New Starts Criteria, which uses emission factors and VMT for each vehicular class. Modeling results are provided in **Appendix 8-C**.

Table 8-4.7-7: Criteria Pollutant Emissions for RB-Network Alternative (Year 2020)

Vehicular Class	Annual Vehicle Miles Traveled (VMT) (millions)	Criteria Pollutant Emissions (tons per year)			
		Carbon Monoxide (CO)	Nitrogen Oxide (NO_X)	Reactive Organic Gas (ROG)	Particulate Matter (PM_{10})
Passenger Vehicle (Light duty Auto/Light duty trucks)	141,644	491,827	70,261	26,543	3,123
Bus/Compressed Natural Gas (CNG)	237.3	322	1,556	434	5
Commuter Rail/Diesel	4.9	40	121	1,091	27
RB-Network Total	141,886	492,189	71,938	28,068	3,155
RB-Network vs. No Build	-21 (-0.01% change)	-77 (-0.02% change)	0	0	0
RB-Network vs. TSM	-3 (-0.002% change)	-10 (-0.002% change)	0	-11 (-0.04% change)	-1 (0.03% change)
RB-Network vs. Full BRT (Lower Bound Scenario)	10 (0.01% change)	38 (0.01% change)	2 (0.003% change)	-3 (-0.01% change)	0
RB-Network vs. Full BRT (Upper Bound Scenario)	2 (0.001% change)	7 (0.001% change)	-4 (-0.01% change)	-5 (-0.02% change)	-1 (-0.03% change)

Note: VMT = vehicle miles traveled.

Source: Terry A. Hayes Associates, 2004.

As indicated in **Table 8-4.7-7**, annual VMT is expected to decrease by approximately 21 million miles, or 0.01 percent, when compared to the No Build Alternative. When compared to the TSM Alternative, VMT is anticipated to decrease by approximately three million miles, or 0.002 percent. VMT is anticipated to increase by approximately 10 million miles, or 0.01 percent, when compared to the Full BRT (lower bound scenario) Alternative, and VMT is anticipated to increase by approximately 2 million when compared to the Full BRT (upper bound scenario) Alternative.

The RB-Network Alternative is predicted to emit less CO than the No Build Alternative. Changes in NO_X, ROG, and PM_{10} emissions are negligible. CO emissions are expected to change by less-than-one percent when compared to the No Build Alternative.

When compared to the TSM Alternative, the RB-Network Alternative is predicted to emit less CO, ROG, and PM_{10}. Changes in NO_X emissions are negligible. CO, ROG, and PM_{10} emissions are expected to change by less-than-one percent when compared to the TSM Alternative.

The RB-Network Alternative is predicted to emit less ROG than the Full BRT (lower bound scenario) Alternative. However, this alternative would emit more CO and NO_X than the Full BRT (lower bound scenario) Alternative. Changes in PM_{10} emissions are negligible. ROG, CO, and NO_X are expected to change by less-than-one percent when compared to the Full BRT (lower bound scenario) Alternative.

When compared to the Full BRT (upper bound scenario) Alternative, the RB-Network Alternative is predicted to emit less NO_X, ROG, and PM_{10} than the Full BRT (upper bound scenario) Alternative. However, this alternative would emit more CO than the Full BRT (upper bound scenario) Alternative. All criteria pollutants are expected to change by less-than-one percent when compared to the Full BRT (upper bound scenario) Alternative.

8-4.7.3.2 CO Hot Spot Analysis

Similar to the effect of the Full BRT Alternative, the three Rapid Bus alternatives (RB-3, RB-5, and RB-Network) would affect CO concentrations at roadway intersections since the alternatives would create additional traffic on roadways. Carbon monoxide concentrations at seven study intersections were calculated using the USEPA CAL3QHC micro scale dispersion model. CO concentrations at each study intersection include year 2020 ambient one-hour and eight-hour CO concentration of 5.1 and 3.6 ppm, respectively. Results are discussed below.

a. RB-3 Alternative

Table 8-4.7-8 (2020 Carbon Monoxide Concentrations – RB-3 Alternative) identifies the one- and eight-hour CO concentrations at the seven study intersections under the RB-3 Alternative. As indicated, CO concentrations at the seven study intersections would range from 8.0 ppm to 10.9 ppm for the one-hour period and from 5.6 ppm to 7.6 ppm for the eight-hour period under the RB-3 Alternative. Thus with implementation of the RB-3 Alternative in 2020, CO would not exceed the State one- and eight-hour CO standards. Therefore, a less-than-significant localized air quality impact would occur with the implementation of the RB-3 Alternative.

Table 8-4.7-8: 2020 Carbon Monoxide Concentrations – RB-3 Alternative				
Intersection	**1-Hour CO Concentration**	**Exceed State 1-Hour Standard (20 ppm)?**	**8-Hour CO Concentration**	**Exceed State 8-Hour Standard (9 ppm)?**
Topanga Canyon Blvd/Roscoe Blvd	8.5	No	6.0	No
Topanga Canyon Blvd/Victory Blvd	8.4	No	5.9	No
Reseda Blvd/Victory Blvd	8.0	No	5.6	No
Sepulveda Blvd/Victory Blvd	9.1	No	6.4	No
Van Nuys Blvd/Victory Blvd	10.9	No	7.6	No
Laurel Canyon Blvd/Victory Blvd	10.1	No	7.1	No
Lankershim Blvd/Oxnard St	9.1	No	6.4	No
Note: CO concentrations represent PM peak hour traffic conditions.				

Source: Terry A. Hayes Associates, 2004; CAL3QHC output.

b. RB-5 Alternative

Table 8-4.7-9 (2020 Carbon Monoxide Concentrations – RB-5 Alternative) identifies the one- and eight-hour CO concentrations at the seven study intersections under the RB-5 Alternative. Under the RB-5 Alternative, CO concentrations would range from 8.0 ppm to 11.0 ppm for the one-hour period and from 5.6 ppm to 7.7 ppm for the eight-hour period. Thus, with implementation of the RB-5 Alternative in 2020, CO concentrations would not exceed the State one- and eight-hour CO standards at the seven study intersections. Therefore, a less-than-significant localized air quality impact would occur with the implementation of the RB-5 Alternative.

Table 8-4.7-9: 2020 Carbon Monoxide Concentrations – RB-5 Alternative				
Intersection	**1-Hour CO Concentration**	**Exceed State 1-Hour Standard (20 ppm)?**	**8-Hour CO Concentration**	**Exceed State 8-Hour Standard (9 ppm)?**
Topanga Canyon Blvd/Roscoe Blvd	8.5	No	6.0	No
Topanga Canyon Blvd/Victory Blvd	8.4	No	5.9	No
Reseda Blvd/Victory Blvd	8.0	No	5.6	No
Sepulveda Blvd/Victory Blvd	9.1	No	6.4	No
Van Nuys Blvd/Victory Blvd	11.0	No	7.7	No
Laurel Canyon Blvd/Victory Blvd	10.1	No	7.1	No
Lankershim Blvd/Oxnard St	9.0	No	6.3	No
Note: CO concentrations represent PM peak hour traffic conditions.				

Source: Terry A. Hayes Associates, 2004;CAL3QHC output.

c. RB-Network Alternative

Table 8-4.7-10 (2020 Carbon Monoxide Concentrations – RB-Network Alternative) identifies the one- and eight-hour CO concentrations at the seven study intersections under the RB-Network Alternative. Under the RB-Network Alternative, CO concentrations would range from 8.3 ppm to 11.1 ppm for the one-hour period and from 5.8 ppm to 7.8 ppm for the eight-hour period. Thus with implementation of the RB-Network Alternative in 2020, CO concentrations at the seven study intersections would not exceed the State one- and eight-hour CO standards at the seven study intersections. Therefore, a less-than-significant localized air quality impact would occur with implementation of the RB-Network Alternative.

Table 8-4.7-10: 2020 Carbon Monoxide Concentrations – RB-Network Alternative

Intersection	1-Hour CO Concentration	Exceed State 1-Hour Standard (20 ppm)?	8-Hour CO Concentration	Exceed State 8-Hour Standard (9 ppm)?
Topanga Canyon Blvd/Roscoe Blvd	8.5	No	6.0	No
Topanga Canyon Blvd/Victory Blvd	8.3	No	5.8	No
Reseda Blvd/Victory Blvd	8.3	No	5.8	No
Sepulveda Blvd/Victory Blvd	9.1	No	6.4	No
Van Nuys Blvd/Victory Blvd	11.1	No	7.8	No
Laurel Canyon Blvd/Victory Blvd	10.1	No	7.1	No
Lankershim Blvd/Oxnard St	8.7	No	6.1	No
Note: CO concentrations represent PM peak hour traffic conditions.				

Source: Terry A. Hayes Associates, 2004; CAL3QHC output.

8-4.7.3.3 CO Emissions From Park-and-Ride Facilities

No park-and-ride facilities are being proposed for the three Rapid Bus alternatives (RB-3, RB-5, and RB-Network). Thus, no impacts would occur for RB-3, RB-5, and RB-Network.

8-4.7.3.4 CO Emissions at RB Stops

CO concentrations at RB stops for the three Rapid Bus alternatives (RB-3, RB-5, and RB-Network) were calculated using the USEPA CAL3QHC micro scale dispersion model. CO contributions at RB stops were added to year 2020 baseline one- and eight-hour CO concentrations of 5.1 and 3.6 ppm, respectively. Results are discussed below and are provided in **Appendix 8-C**.

a. RB-3 Alternative

Buses for the RB-3 Alternative would have headways of approximately 10 minutes in each direction during the peak hour. Thus, approximately 12 buses per hour are anticipated to travel past each RB stop (i.e., six eastbound buses per hour and six westbound buses per hour). Assuming that approximately 12 buses would travel pass each stop per hour during the peak period, the buses would generate CO concentrations of approximately 0.1 ppm for the one-hour period and approximately 0.07 ppm for the eight-hour period. When combined with the 2020 ambient CO concentrations, one- and eight-hour CO concentrations at each stop are anticipated to be approximately 5.2 ppm and 3.6 ppm, respectively. The State one-hour CO standards of 20.0 ppm and the State eight-hour CO standard of 9.0 ppm would not be exceeded, and therefore, the RB-3 Alternative would not create a significant air quality impact in the vicinity of the RB stops.

b. RB-5 Alternative

Similar to the RB-3 Alternative, buses for the RB-5 Alternative would have headways of approximately 10 minutes in each direction during the peak hour. Thus, approximately 12 buses per hour are anticipated to travel past each RB stop (i.e., six eastbound buses per hour and six westbound buses per hour). As discussed above, the buses would generate CO concentrations of approximately 0.1 ppm for the one-hour period and approximately 0.07 ppm for the eight-hour period. When combined with the 2020 ambient CO concentrations, one- and eight-hour CO concentrations at each stop are anticipated to be approximately 5.2 ppm and 3.6 ppm, respectively. The State one-hour CO standards of 20.0 ppm and the State eight-hour CO standard of 9.0 ppm would not be exceeded, and therefore, the RB-5 Alternative would not create a significant air quality impact in the vicinity of the RB stops.

c. RB-Network Alternative

Similar to the RB-3 Alternative, buses for the RB-Network Alternative would have headways of approximately 10 minutes in each direction during the peak hour. Thus, approximately 12 buses per hour are anticipated to travel past each RB stop (i.e., six eastbound buses per hour and six westbound buses per hour). As discussed above, the buses would generate CO concentrations of approximately 0.1 ppm for the one-hour period and approximately 0.07 ppm for the eight-hour period. When combined with the 2020 ambient CO concentrations, one- and eight-hour CO concentrations at each stop are anticipated to be approximately 5.2 ppm and 3.6 ppm, respectively. The State one-hour CO standards of 20.0 ppm and the State eight-hour CO standard of 9.0 ppm would not be exceeded, and therefore, the RB-Network Alternative would not create a significant air quality impact in the vicinity of the RB stops.

8-4.7.4 Conformity Analysis

The EPA Transportation Conformity Rule requires that projects must (1) be included in the first three years of the most recently conforming transportation plan and Transportation Improvement

Plan (TIP) and (2) not result in or exacerbate localized exceedances of the Federal CO standards. The SCAQMD transportation conformity requirements are similar to the Federal Conformity Criteria. Additionally, both the federal and State conformity criteria are only applicable to operations emissions. They do not apply to construction emissions.

(1) The proposed project was included in the most recently conforming transportation plan and TIP.

Conformity with its criterion is discussed in Section 4-7.4 of the Final EIR, and remains unchanged.

(2) The proposed project would not result in or worsen localized exceedances of the Federal CO standards.

The EPA transportation conformity rule states that a proposed project must not cause or exacerbate any localized exceedances of the federal CO standards. The federal one-hour and eight-hour CO standards are 35 ppm and 9.0 ppm, respectively. As stated previously in Section 8-4.7.3.2, 8-4.7.3.3, and 8-4.7.3.4, RB-3, RB-5, and RB-Network alternatives would not result in localized exceedances of the federal one- and eight-hour CO standards.

The three Rapid Bus alternatives are consistent with Conformity Criteria 2. Therefore, they would conform to the EPA Transportation Conformity Rule.

8-4.7.5 Mitigation Measures

No mitigation measures are necessary or proposed because, as discussed above, the three Rapid Bus alternatives would not create an air quality impact.