



regional growth). Assumptions about future traffic conditions are described in detail in Chapter 4, Transportation Impacts.

For conformity determination, the 2025 Build conditions were compared to 2025 No-Build conditions and the net differences were compared to the DFW Airport emission budgets, which indicate the significance thresholds.

Localized Emissions

In accordance with EPA’s *Guideline for Modeling Carbon Monoxide from Roadway Intersections* (EPA, 1992), the three intersections with the highest traffic volumes and the three intersections with the worst LOS under Build condition were selected to be modeled. Traffic information was provided by the project traffic study (Parsons, 2006). Since the three intersections with the highest traffic volume are also those with the worst LOS, this overlap reduced the number of the intersections required analysis to three; however, four intersections were analyzed. These intersections were selected based on their vehicle volume and LOS, receptors, and proximity to a rail park and ride station. **Table 5-3** lists the locations of the modeled intersections.

TABLE 5-3 MICRO-SCALE CO ANALYSIS SITES		
Site Number	Intersection Site Location	Nearby Station/ Park-and-Ride Lot
1	Belt Line Road and Valley View Lane	Belt Line Station park-and-ride lot
2	Walnut Hill Lane and Brangus Drive	North Lake College Station park-and-ride lot
3	Mac Arthur Boulevard and Hidden Ridge	North Lake College Station park-and-ride lot
4	Riverside Drive and Spur 348 (NW Hwy)	Lake Carolyn Station; and North Las Colinas Station park-and-ride lot

Source: Parsons, 2006

As discussed in the *Final Environmental Methodology Report* (DART, 2006), CAL3QHC microscale dispersion model was used to calculate CO concentrations for the horizon year 2025 No-Build and Build conditions. CO emissions were estimated using emission factors provided by the North Central Texas Council of Governments (NCTCOG, 2006).

The analysis of CO impacts followed the protocol recommended in the *Transportation Project-Level Carbon Monoxide Protocol*, (UC Davis, 1997). Pursuant to the guidelines of the protocol, receptor locations for the 1-hour analysis were located 3 meters from each intersection corner. In addition, other variables used in CAL3QHC model, were selected based on the guidelines of the protocol. These variables and their value are summarized below.

- Ambient Temperature: 46 °F (average of the last 3 years minimum temperature, as recorded in Dallas/Fort Worth International Airport Monitoring Station)
- Stability Class: 6 “F” (stable atmosphere)
- Wind Speed: 0.5 meter/second (minimum speed of model)
- Wind Direction: Worst case (all wind directions in 10 degree increments)
- Mixing Height: 1,000 meters
- Surface roughness: 321 (Dallas County)
- Settling Velocity: 0 meters/second
- Deposition Velocity: 0 meters/second
- Background CO: 4.2 ppm (1-hour) and 3.7 (8-hour) from 1415 Hinton Street Monitoring Station
- 8-hour Persistence Factor: 0.7

