PROJECT TITLE:

CITY OF FIFE 70TH AVENUE EAST/VALLEY AVENUE WIDENING PROJECT

PROJECT SUMMARY

The City of Fife identified the need to improve freight mobility, reduce railroad conflicts and add capacity within the vicinity of 70th Avenue East and Valley Avenue East. This area was a key segment in the development of a north/south corridor roadway needed to provide access to major industrial areas in southern Pierce County and would require roadway widening. As part of the design component of roads and construction engineering projects, noise and air quality impacts must be reviewed to ensure compliance with applicable federal, state and local regulations. Federally funded projects require a detailed analysis of noise impacts and need to undergo an air quality conformity determination.

Entech was the resident air quality/noise expert contracted to perform both the air quality and noise studies. For the air quality analysis, Entech conducted a hot-spot modeling analysis utilizing the Environmental Protection Agency (EPA) Mobile 6a program to obtain Carbon Monoxide (CO) vehicle emission factors. The hot-spot modeling analysis included analyzing four intersections for the year of the project opening and the design year conditions for both the no-build and build alternatives. Entech utilized the vehicle emission rates generated from the Mobile 6a model in EPA’s intersection model CAL3QHC to determine CO concentrations to estimate current and future carbon monoxide concentrations during “worse case” meteorological conditions and heavy traffic flows.

Entech conducted a detailed noise analysis following Washington State Department of Transportation (WSDOT) guidelines which are based on Federal Highway Administration (FHWA) regulations. A reconnaissance of the project study area was conducted to locate sensitive receptors and to determine their distances from the proposed design alternatives. The sensitive receptors identified were based on the FHWA Noise Abatement Criteria activity categories. Field measurements were taken at these locations to help determine background sound levels or whether a substantial exceedance could occur. Existing sound level measurements were modeled using the FHWA Traffic Noise Model (TNM Version 2.5) under current conditions using traffic volumes counted during the sound level measurements. The TMN was used to quantify noise levels at each measurement location that would be affected by project generated traffic.

Entech prepared technical discipline reports to summarize the findings for both the air quality and noise analysis. An air quality conformity statement was provided indicating that the project did not worsen existing exceedances, cause any new exceedances, or prevent the attainment of the National Ambient Air Quality Standards for CO. The noise analysis demonstrated that noise abatement was not warranted. The technical discipline report prepared by Entech was presented to the client to assist them in moving the project forward.