

Big Sky Acoustics, LLC

PROJECT PROFILE: **TRAFFIC NOISE STUDY & BARRIER WALL DESIGN**



PROJECTS: CAPITOL/CEDAR INTERCHANGES *Helena, Montana*

Big Sky Acoustics worked directly with the Montana Department of Transportation (MDT) to complete the traffic noise studies and barrier wall designs for the Capitol and Cedar Interchange projects. The noise analyzes were required due to the widening of I-15, thereby moving the travel lanes closer to the adjacent residences.

BSA's SERVICES AND SOLUTIONS:

- Conducted the traffic noise studies according to the guidelines and procedures required by FHWA and MDT.
- Measured the existing ambient noise levels outside the residences to establish baseline conditions, and measured the post-construction noise levels for the Cedar Interchange to verify the change in traffic noise levels.
- Predicted present and future traffic noise levels at the residences using FHWA's Traffic Noise Model (TNM) software program.
- Compared the predicted noise levels to the FHWA and MDT traffic noise impact criteria to determine if impacts would occur at the residences.
- Because noise impacts were predicted, designed barrier wall options to reduce traffic noise at the residences. Verified that the designs were cost effective and determined the required locations and heights for barrier walls to be effective to protect the neighborhoods.



Except for the railroad bridge, the barrier walls extend north from the Capitol to Cedar Interchanges in Helena, reducing the I-15 traffic noise in the western neighborhoods.