

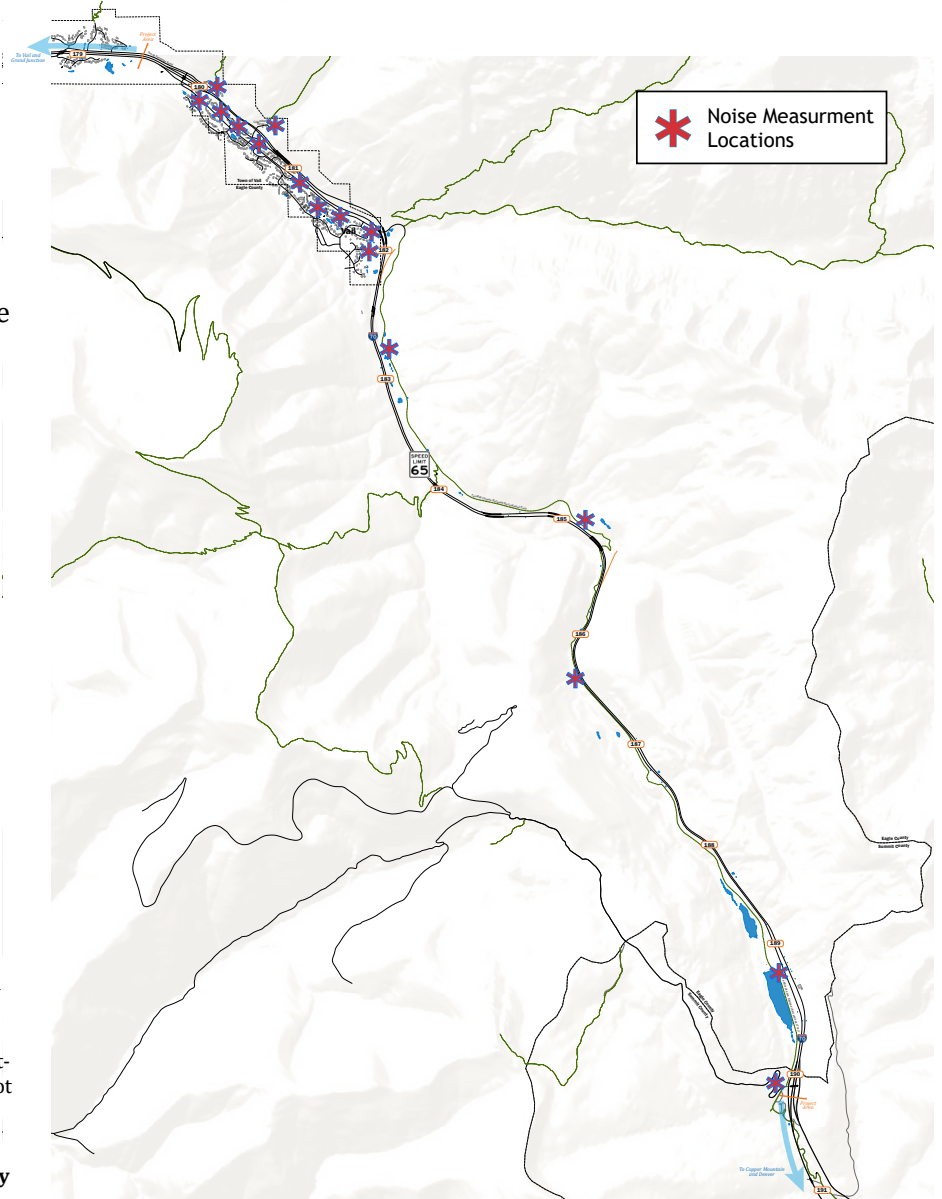
## What is Traffic Noise?

Traffic noise is generated by a vehicle's engine and exhaust systems, aerodynamics, and the interaction of the vehicle's tires with the roadway pavement.

Noise measurements were collected at 20 locations throughout the study area in June 2018. These locations were determined based on land uses that may be sensitive to noise, such as residential, recreational, retail, and hotels/restaurants. Using these measurements and the existing roadway alignment, number and width of travel lanes, and traffic volumes (including trucks), a model was created that will be able to predict potential increases in noise at these sensitive locations with the proposed action. The final proposed action alignments, number and width of travel lanes, and future traffic volumes (including trucks) will be run in the model once all design refinements are complete. If the loudest hour\* noise level meets or exceeds 66 dBA\*\* residential noise impact limit, then noise mitigation is required to be evaluated for feasibility and reasonableness.

\*The **loudest hour** is a **one-hour period** where the worst-case noise levels are expected to occur. This may or may not be the peak hour of traffic.

\*\***dBA** is **A-weighted decibels**, which are an expression of the relative loudness of sounds in air as perceived by the human ear



## Feasibility

- Can a substantial noise reduction be achieved by mitigation such as a noise barrier or berm?
- Are there any “fatal flaw” safety or maintenance issues with proposed mitigation?
- Can a noise barrier less than 20 feet tall be constructed?

## Reasonableness

- Can the mitigation reduce the noise level by 7 dBA for at least one receptor?
- Will the cost of the mitigation be less than \$6,800 per benefited receptor per dBA of reduction?
- Do at least 50% of the benefiting residents/owners favor the noise mitigation?