Traffic noise is and has been an important consideration to the Colorado Department of Transportation (CDOT) from the very beginning of the I-25 Corridor Improvements Project. In fact, before any work could begin to reconstruct the interstate, noise studies were conducted in areas east and west of the interstate to determine existing levels of noise as well as to predict levels 20 years into the future.

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Changes in Tining

Tining is the creation of shallow channels in a concrete roadway surface to enhance all weather traction of an otherwise smooth surface. While tining is necessary for safe driving conditions, it does affect roadway noise. Recently published test results from CDOT that looked at different ways of applying tining found that some tining patterns could help produce lower levels of tire/pavement noise. A new process currently underway on the newly constructed northbound lanes of I-25 between the Bijou Street and Fillmore Street interchanges involves using longitudinal saw-cut grooves, a quieter surface texture than that previously used. This method will be used on upcoming I-25 improvements through the Pikes Peak Region.

Planning Ahead

On any normal weekday, more than 100,000 cars pass near downtown Colorado Springs on one of the busiest stretches of Interstate 25. Twenty years from now, that number could increase to more than 170,000. An Environmental Assessment (EA) is currently underway. This study will summarize the potential environmental effects of altering the interstate, including changes in traffic noise. Current noise levels will be measured and noise levels 20 years from now will be predicted using a computer model. Acoustic engineers then can determine areas where noise is expected to increase due to changes in the interstate. CDOT will evaluate mitigation at locations that show exterior noise levels exceeding 66 decibels for residential areas and 71 decibels for commercial areas. Noise studies were prepared for the I-25 Safety Projects and mitigation.

Ongoing Testing

In a continuing effort to explore better ways of mitigating highway traffic noise, CDOT is conducting a pavement noise analysis in test areas similar to I-25. Results from the test will be analyzed to determine if other measures would be appropriate for I-25 in the Pikes Peak Region.

Frequently Asked Questions

What requirements must CDOT follow to assess noise impacts?

CDOT is required to follow federal regulations developed by the U.S. Department of Transportation in compliance with the Federal Aid Highway Act of 1970. This Act mandated the Federal Highway Administration to develop standards for mitigating highway traffic noise. These standards are followed by all states and form the basis for a uniform national policy for highway noise impact assessment and mitigation.

When is a noise study needed?

A noise study is required when:

- a highway is built on a new location
- an existing highway is significantly altered by changing the horizontal or vertical characteristics of the road
- the number of traffic lanes is increased

Noise studies were prepared for the I-25 Safety Projects because of the substantial change in highway design.

What is a noise impact?

Defining a noise impact depends first on how land or property is used in the affected area. For residential areas and parks, a noise impact occurs when noise levels projected at the commonly used exterior part of the property exceeds 66 decibels. For commercial properties, the exterior noise level must exceed 71 decibels. A noise impact also occurs if there is an expected change of 10 decibels or more between existing conditions and conditions that will exist 20 years into the future.

What is a decibel?

A decibel is a logarithmic unit of measurement used to quantify the sound pressure fluctuations in the air we hear as sound or noise.

How loud is a decibel?

Zero decibel is at the threshold of hearing, and 140 decibels begins to be painful. Sounds from the side of a busy urban street are typically about 90 decibels and freeway traffic from 50 feet away produces about 70 decibels.

Does CDOT take into account future changes to the alignment and capacity of the interstate when predicting noise levels?

Yes. All physical aspects of the reconstructed highway, including realignment, elevation, roadway and barrier construction materials, and the removal of buildings are considered when predicting noise levels. Traffic volume predictions, based on projections from the region’s longrange transportation plan, are made to estimate