



West Corridor Light Rail Noise Demonstration

Saturday April 14
10:00 a.m.

Join RTD and your neighbors as we demonstrate what light rail will sound like in your neighborhood. This audio demonstration will take place in three locations along the 13th Avenue Corridor where the train will be going different speeds.

- 13th Avenue and Everett Court (start at 10:00 a.m.)
- 13th Avenue and Saulsbury Street (approx. 10:45 a.m.)
- Lamar Station (approx 11:30 a.m.)

Please **CARPPOOL, WALK or RIDE YOUR BIKE** – Parking is limited
Have questions or need directions:

Brenda Tierney at 303-299-2401 or Brenda.tierney@rtd-fastracks.com

Outdoor Noise Demonstration

The purpose of the outdoor noise demonstration is to give the community an opportunity to hear what the trains will sound like in relationship to the existing background noise levels in their neighborhood. The setup for conducting the demonstration:

- Obtain digital recordings of LRT trains at reference distance of 50 feet on existing RTD corridors where travel speed and neighborhood environment similar to West Corridor.
- Obtain digital noise recordings near existing station where warning bells are sounded as LRT trains enter station area.
- Set up outdoor sound system at three locations along project corridor to simulate transit noise where trains travel 21 MPH, 35 MPH, and approach station.
- Playback recorded transit noise at sound levels corresponding to each location.
- Use sound level meter to show noise levels at different receptor distances from project alignment.
- Adjust noise levels to demonstrate the relative noise mitigation provided by the proposed 4-foot high noise barriers.
- Orient speakers to project the sound into community along north side and then south side of project corridor.
- Note: noise levels heard during the outdoor demonstration represent the L_{max} noise levels, heard during a single event LRT train passby, and are not the same as the cumulative 24-hour L_{dn} noise metric used in the FTA noise impact assessment.

Noise Assessment Background

The West Corridor LRT noise assessment was prepared in accordance with the procedures described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (May 2006) guidance manual. Transit noise impacts are assessed based on land use and sensitivity to noise from transit projects. The FTA noise impact criteria are defined by two curves depicting 'moderate impact' and 'severe impact' that allow higher project (LRT) noise levels with higher measured existing noise levels. For the project, 24-hour noise measurements were obtained at 18 locations along the corridor to determine the existing L_{dn} (cumulative day-night) noise levels. The FTA uses the L_{dn} noise metric to define the noise impacts at residential receptors.

The FTA noise model was used to calculate the L_{dn} noise levels from LRT operations (including warning bells that sound as LRT vehicles enter the station areas) at all residential parcels within 250 feet of the project corridor. Input for the noise model included the noise level of the LRT vehicles, the noise level of the LRT warning bells, the number of daytime (7 AM to 10 PM) and nighttime (10 PM to 7 AM) LRT operations, the number of LRT cars per train, the speed of the trains along each section of the project corridor, and the distance from the receptor to the LRT alignment where transit noise is generated.

The transit noise levels were superimposed on the existing background levels, and the resulting combined noise levels were then compared to the FTA criteria to determine the number and location of the FTA 'moderate impacted' and 'severe impacted' receptors. These impacted receptors were then displayed on aerial photographs of the project corridor.