E 96th Avenue Sound Walls Survey Results

01/26/2026

96th Avenue Widening Project Summary

- Improvement of E 96th Avenue from Chambers to Tower Road.
- Project includes the construction of a four-lane, median-divided roadway with associated walks, lighting, landscaping, utilities, and a new pedestrian underpass.

Project Area

Noise Analysis Overview

- The noise analysis was completed in accordance with CDOT's Noise Analysis and Abatement Guidelines (NAAG) (CDOT 2020) and FHWA's Highway Traffic Noise: Analysis and Abatement Guidance (Guidance) (FHWA 2011).
- The analysis determined whether 2043 traffic noise levels from the Proposed Action will exceed applicable impact thresholds at properties.

Three Criteria for Noise Walls

Per CDOT and FHWA regulations, abatement is feasible if it:

- Provides at least 7 dB of noise reduction for at least three benefitted receptors.
- Does not have any design and construction factors that are “fatal flaw” issues.

- If abatement is feasible, reasonableness is evaluated.
- If one or more of the conditions fail, the project is deemed unfeasible and no further action is taken.

- CDOT defines benefited receptors, receptors, or potentially benefited receptors as those that receive at least 7 dB reduction from the noise mitigation.

Three Criteria for Noise Walls Continued

Per CDOT and FHWA regulations, abatement is reasonable if all three below conditions are met. Abatement is not reasonable if one or more conditions fail:

- Meets the minimum noise reduction design goal of at least 7 dB for at least three benefited receptors.
- The cost benefit equals or is less than $34,000/receptor.
- Has support from at least 50 percent of the potentially benefited receptors.

- If all three conditions are met, the project will move forward
- If one or more of the conditions fail, the project is deemed unreasonable and no further action is taken.

Noise Analysis Continued

- CDOT defines benefited receptors as those that receive at least 7 dB reduction from the noise mitigation. Any receptor with a reduction of 7 dB or more is a benefited receptor.
- Consideration of the cost to construct sound walls:
  - CDOT-based cost/benefit analysis is <$34,000 per beneficiary.
  - **Cost effectiveness**: 23 CFR 772.13(d)(2)(ii) addresses the allowable cost of abatement by determining a baseline cost reasonableness value. CDOT uses $34,000 per benefited receptor as the baseline cost reasonableness value and calls this value the Cost Benefit Index. CDOT uses a Unit Cost of $45 per square foot ($ft^2$) of noise wall to calculate the Cost Benefit, which is compared to the Cost Benefit Index.
  - The initial cost does not include design, labor, ground engineering, utility relocation, fence relocation, or property acquisition.

Noise Analysis Continued

- The noise analysis was completed in accordance with CDOT's Noise Analysis and Abatement Guidelines and FHWA's Highway Traffic Noise: Analysis and Abatement Guidance.
- This noise analysis included the following tasks:
  - Conducting field measurements of existing condition sound levels
  - Validating an existing condition noise model using field measurement results
  - Modeling existing condition noise levels for existing roadways
  - Modeling Proposed Action noise levels for design roadways
  - Evaluating noise abatement
  - Modeling noise contour distances for unpermitted, undeveloped land

Western Sound Walls

- 55 potential beneficiaries were identified by the study.
- Several of the proposed noise barriers would not be reasonable.
- If cost averaging is used for the western corridor, then reasonableness could be argued.
- True cost of construction may exceed reasonable amount.

Eastern Sound Walls

- 63 potential beneficiaries were identified by the study.
- Several of the proposed noise barriers would not be reasonable.
- If cost averaging is used for the western corridor, then reasonableness could be argued.
- True cost of construction may exceed reasonable amount.

Survey

- At the direction of City Council, staff expanded the survey from 118 potential beneficiaries to 161. The expanded list included properties that side face the roadway and properties that have private walkways/sidewalks between their homes and the public sidewalk.
- Surveys and informational packets were provided in English and Spanish.
- Homeowners received a survey to the mailing address on file with Adams County. And return to sender envelopes were hand-delivered by staff.

Survey Results

- Of the 161 mailed surveys, 34 were received. This reflects a 21% response rate. 19 “no” responses and 15 “yes” responses were received.
- Every survey response has been recorded, including those that arrived after the survey deadline.
- 9.3% overall homeowner support for constructing sound walls.
- When broken down by potential sound wall segments, support remains well below 50%, generally 10% or less.

Key Themes from Comments

- Comments received from surveys were transcribed and included in City Council's packet.
- **Summary of comments in opposition:** Concerns about obstructed views, negative impacts to pedestrian safety, maintenance concerns, reduced resale value for homes, and lack of identified funding.
- **Summary of comments in support:** Some confusion about sound wall benefits (e.g., eliminating all road noise or acting as a crash barrier). Supporters also expressed interest in influencing wall height and design.

Summary of Feasibility

- Meets the minimum noise reduction design goal of at least 7 dB for at least two benefited receptors.
  - Present for 122 receptors.
  - No receptors would experience a noise increase of 10 dB.

- The cost benefit equals or is less than $34,000/receptor.
  - Not present for all segments if cost averaging is not used.
  - Present if cost averaging is used.

*True cost of construction may exceed a reasonable amount. Initial engineering estimates anticipate sound walls costing $15M - $20M for entire project area. No funds are currently identified.

Summary of Feasibility Continued

- Has support from more than 50 percent of the potentially benefited receptors.
  - Not present by segment or total project segment.
  - Maximum support of potentially benefited receptors was 9.3% for the entire project area, and 10% or less for each of the segments. Some segments received 0% support from potentially benefited receptors.

Policy Direction

- Does City Council wish to remain in alignment with CDOT and FHWA guidelines on sound walls, or does Council wish to depart from the adopted State and Federal standards?
- Considerations:
  - The City follows CDOT and FHWA guidelines for all other transportation related activities and decisions.
  - If the City elects to depart from the standards, a City policy will need to be made to be applied to all future road projects that are not located along CDOT owned or maintained roads.
  - If a new policy is created, a funding source will need to be contemplated in the policy document.

Discussion