Highway Traffic Sound Barrier Presentation

SR 28, Section A56 Highland Park Interchange
Sound Barrier Meeting

February 12, 2019

pennsylvania
DEPARTMENT OF TRANSPORTATION

Michael Baker
INTERNATIONAL

U.S. Department of Transportation
Federal Highway Administration

Project Team

PennDOT District 11-0

Cheryl Moon-Sirianni, P.E. - District Executive

Doug Seeley, P.E - Assistant District Executive, Design Division

Erik Porter, P.E, - Senior Project Manager

Mark Young - District Environmental Manager

Nick Krobot, P.E. - Assistant Environmental Project Manager

Michael Baker International

John Tricini, P.E., PLS - Project Manager

David Jackson, P.E. - Roadway Design Engineer

Andy Kuchta - Noise Analysis Technical Manager

Justin Miller – Public Involvement Specialist

Meeting Format

PRESENTATION

- Mark Young, PennDOT District Environmental Manager
  - Welcome, Project Introduction and Meeting Purpose
- Erik Porter, P.E., Project Manager, PennDOT
  - Overview of the Overall Project
- Andrew Kuchta, Michael Baker International
  - Summary of Highway Sound Analysis Process
  - Location of the Proposed Sound Barriers
  - Sound Wall Considerations and Constraints
  - Available Community-side Barrier Styles and Colors
  - Opportunity to see the predicted sound level reductions at your benefited property

Purpose of this Meeting

- Provide voting information to the benefited homeowners and residential renters in regards to having a sound barrier constructed (or not constructed) near their homes.

- Provide voting information on the type, style and/or color of the proposed sound barriers on the community side if they wish to have PennDOT construct the barrier.

Project Overview Video

Noise Analysis Process - 1

PROJECT LIMITS

Noise Analysis Process - 2

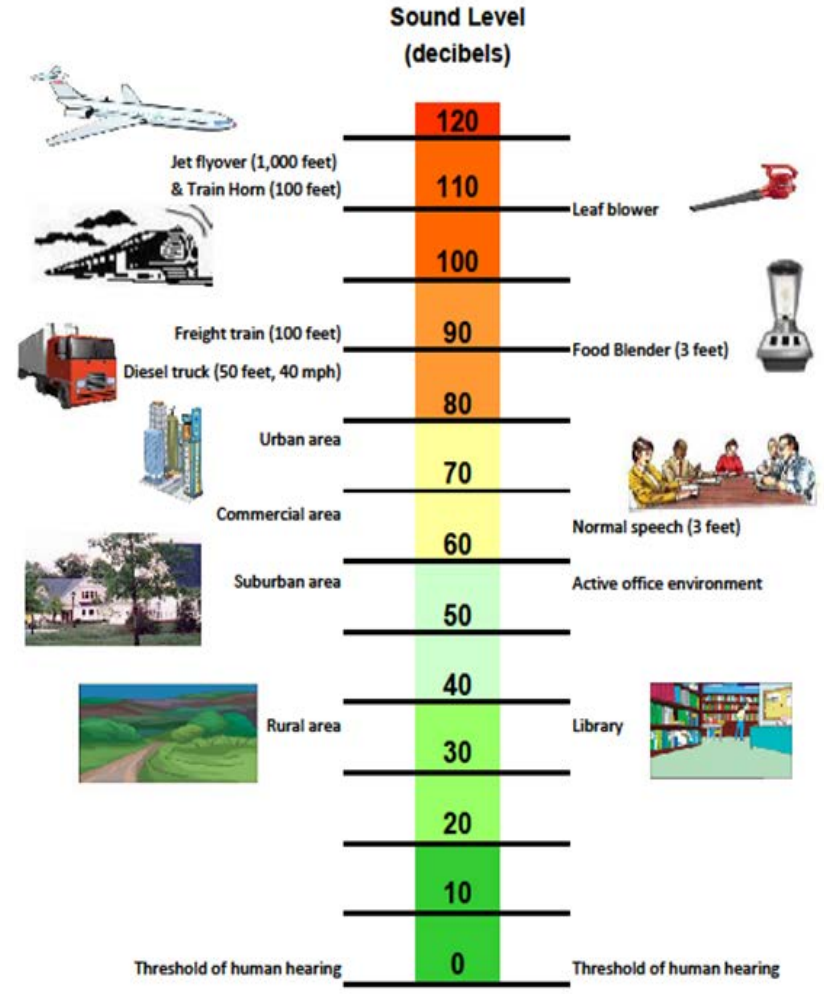
- A Noise Analysis was conducted in 2017 and the project area was divided into FOUR Noise Sensitive Areas (NSAs)

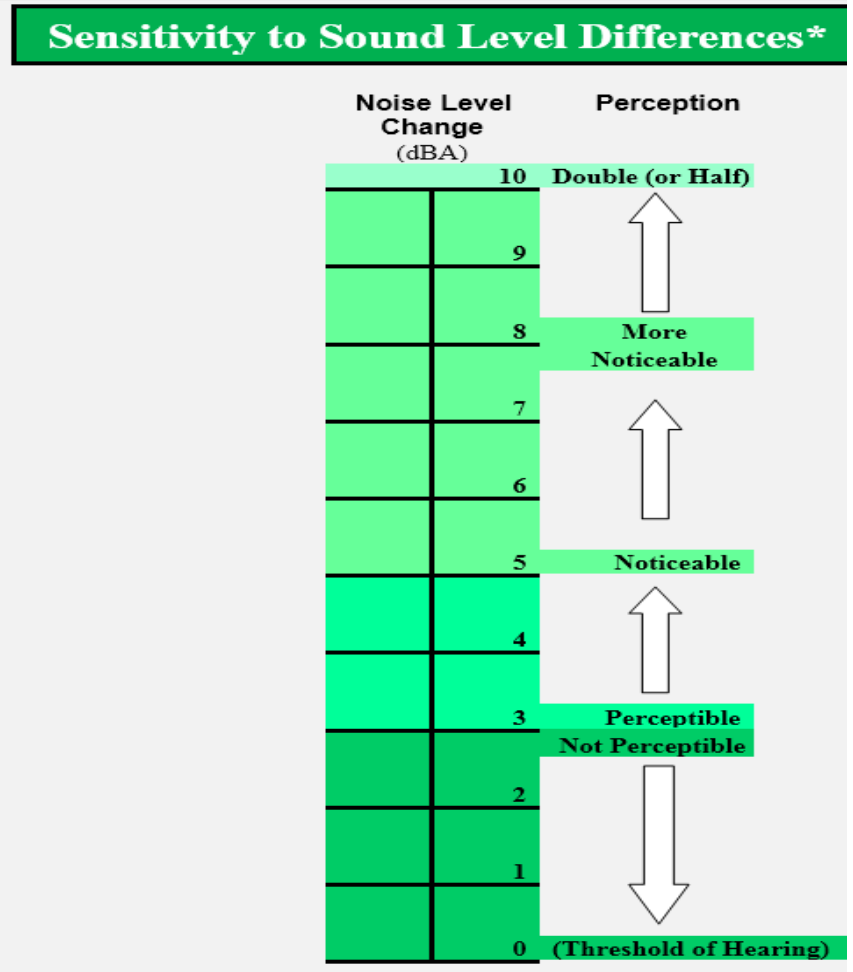
Noise Analysis Process - 3

- Representative measurement sites were selected.
  - Field measurements were made to validate the model in each NSA.
- Noise-sensitive analysis receptors were selected to include all residences, schools, parks, etc.
- The FHWA-approved Traffic Noise Model (TNM) was used to predict the worst-case sound levels for the existing and future conditions at all noise-sensitive receptors.
- Impacts were identified for noise-sensitive receptors where the modeled sound level equaled or exceeded 66 decibels (dBA) or if the proposed project caused an increase of 10 or more dBA over the existing condition.
  - (dBA) stands for decibels (dB) on the A-weighted (human) perception scale.

Michael Baker
INTERNATIONAL

Noise Analysis Process - 4





Note: (dBA) stands for decibels (dB) on the A-weighted (human) perception scale.

Noise Analysis Process - 5

- Subsequently, noise abatement analysis is warranted for impacted sites based on Feasibility and Reasonableness.
  - Feasibility and Reasonableness primarily deal with:
    - Attaining noticeable sound level decreases: (≥ 5 dBA for the majority of the impacted sites with at least one site attaining a 7 dBA reduction).
    - Observing PennDOT construction regulations regarding drainage, trees, signs, utilities, safety, terrain, wetlands, right-of-way and maintenance.
    - Benefiting the majority of impacted sites (50+%) with a barrier that meets the ≤2,000 square foot per benefited receptor criteria.
- Following the December 2017 Public Meeting, the sound wall dimensions were adjusted in length and height in various places based on public input.
- The results determined that sound barriers were feasible and reasonable in two (2) locations east of the interchange.

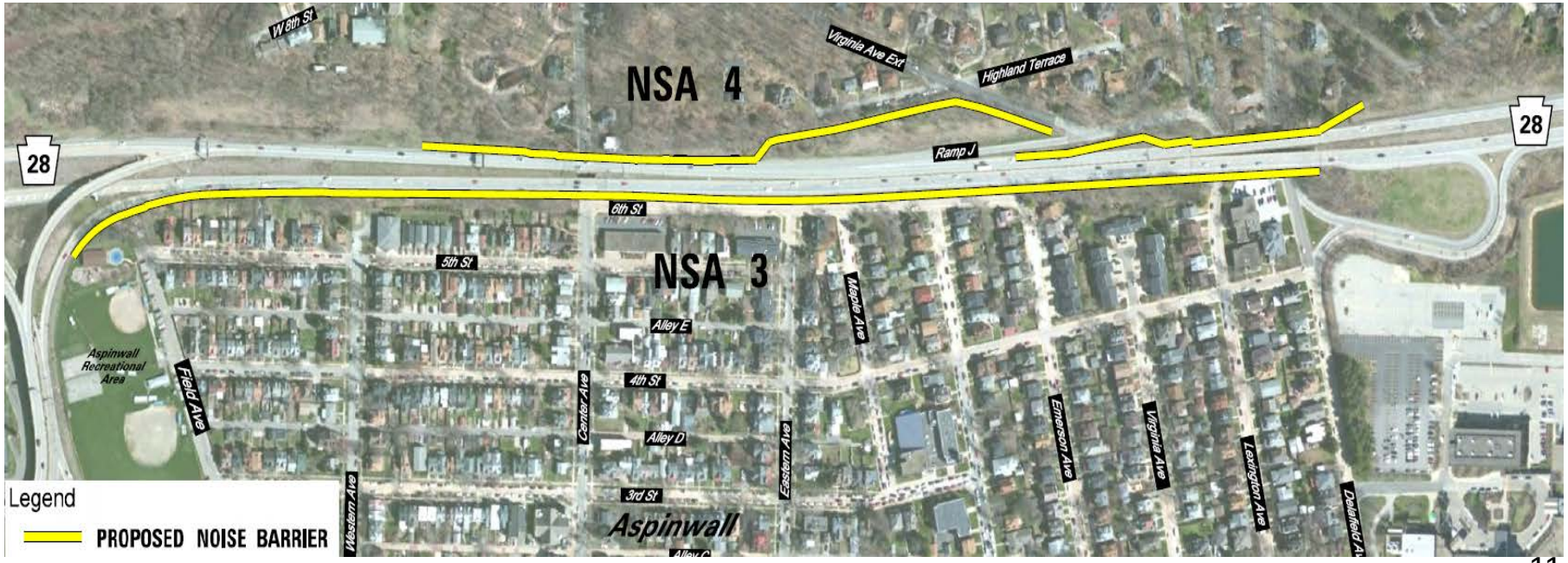
Proposed Sound Barrier Locations

- Barrier NSA 3 - SR 28 Northbound from the Aspinwall Recreational Area to the Lexington/Delafield Bridge Area.

  (4,680’ long, 6-11’ high with decibel reductions from 5-8 dBA, ~100 benefited sites)

- Barrier NSA 4 - SR 28 Southbound from the Lexington/Delafield Bridge Area to the Western Avenue Area.

  (2,760’ long, 8.5-20’ high with decibel reductions from 5-17 dBA, 56 benefited sites)



Sound Wall Considerations - 1

- The Owners and Renters of Benefited sites will vote on approving the sound barrier, its color and its texture.
  - "Benefited" is defined as a site receiving a ≥5 decibel (noticeable) sound level reduction.
  - This sound barrier meeting is being held to present/ discuss the barrier specifics with the Benefited owners/renters.
  - Reasonable efforts have already been made to contact people for voting purposes via certified mail and this meeting.
  - ≥50% of the counted votes must be in favor of the sound barrier in order to move forward in the Final Design phase.
  - "Impacted" is defined when the modeled sound level is ≥ 66 dBA or if there is an increase of ≥10 dBA over the existing condition.

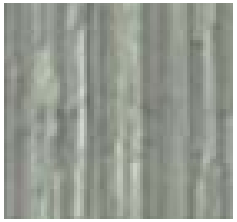
Sound Wall Considerations - 2

- The barrier's color and texture will then be counted from the received "Yes" votes.
- The Benefited owners/renters will determine the residential-side texture and color.
- PennDOT will determine the highway-side texture and color.

- Final interpretation of the results will be made by PennDOT/consultants, considering all feedback gained during the public involvement process.

Sound Barrier Styles/Colors - 1

- **Grape Stake (Brown)**



- **Grape Stake (Grey)**

- **Grape Stake (Tan)**

Sound Barrier Styles/Colors - 2

- **Irregular Stone (Gray)**

- **Irregular Stone (Brown)**

- **Irregular Stone (Tan)**

Sound Barrier Styles/Colors - 3

- **Ashlar Stone (Brown)**

- **Ashlar Stone (Gray)**

- **Ashlar Stone (Tan)**

Sound Barrier Styles/Colors - 4

- **Brick (Red)**

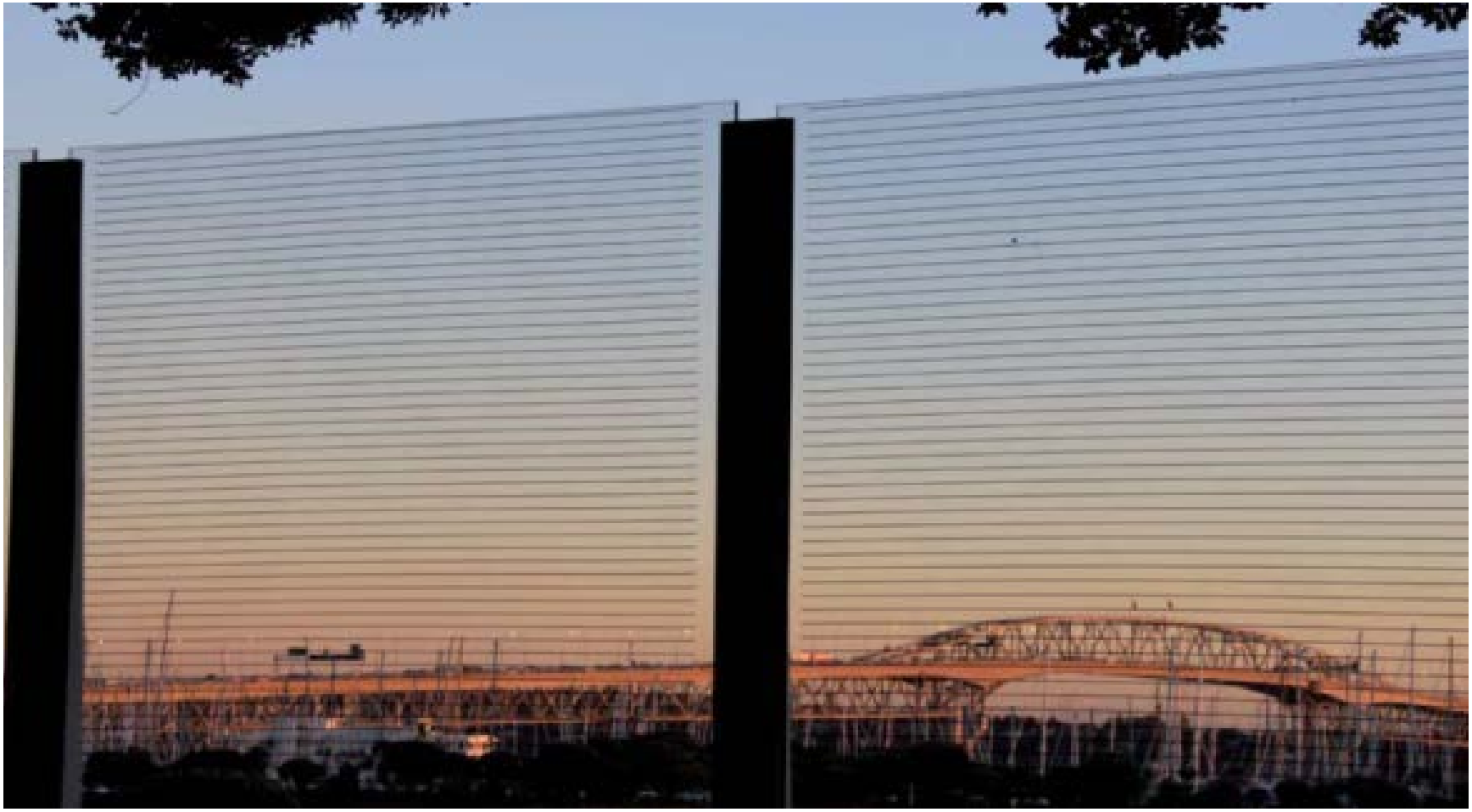
Sound Barrier Styles / Colors - 5

- **Transparent / Grape Stake (Brown)**

- **Transparent / Irregular Stone**

- **Transparent / Ashlar Stone (Tan)**

Sound Barrier Styles/Colors - 6



Anti-Bird Threads will be incorporated into all transparent panels if transparent panels are selected by the benefited residents.

SR 28 SOUND BARRIER VOTING BALLOT

pennsylvania DEPARTMENT OF TRANSPORTATION

FHWA

Sound Barrier Construction & Style Consideration - Public Input Survey Questionnaire

Please provide us with the following information to ensure your vote will be applied to the correct barrier:

Name: _____

Street Address: _____

Phone (optional): _____ Email (optional): _____

Receptor Number: «Noise Receptor Number»

Are you the current property owner or a renter? ☐ Property Owner ☐ Renter

Are you in favor of the sound barrier for your community? ☐ Yes ☐ No

If yes, which BARRIER STYLE do you prefer? (Please choose only one. Note: all transparent barriers include anti-bird threads in the panels)

☐ Grape Stake ☐ Irregular Stone ☐ Ashlar Stone ☐ Brick ☐ Transparent/Grape Stake

☐ Transparent/Irregular Stone ☐ Transparent/Ashlar Stone ☐ Transparent/Brick

Which COLOR do you prefer? (Please choose only one.)

☐ Gray (all styles) ☐ Brown (all styles) ☐ Tan (all styles) ☐ Red (for brick style only)

Comments (optional): _____

Signed: _____, Date: _____.

Please return the questionnaire using the postage-paid envelope by 3/8/19 to:

Mark Young – District Environmental Manager
PENNDOT District 11-0
45 Thoms Run Road
Bridgeville, PA 15107

OR: Please drop off your ballot in the comment box at the Sound Barrier Public Meeting
OR: You may scan and send via email to PennDOT at: MARKYOUNG@pa.gov.

Thank you for your input in this roadway design process. Your cooperation is deeply appreciated.

Project Input / Feedback

www.penndot.gov

- Blue bar at the upper portion of the screen click on “Regional Offices”
- Go to the map and click on
- Right side column click on “Public Meetings”
- Look for:

  “SR 28 Highland Park Interchange Reconstruction Project”

Project Input / Feedback

THANK YOU !!

&

Questions