ADC40 SUMMER MEETING • JUNE 2018
OHIO NOISE PROGRAM UPDATE













OHIO DEPARTMENT OF TRANSPORTATION

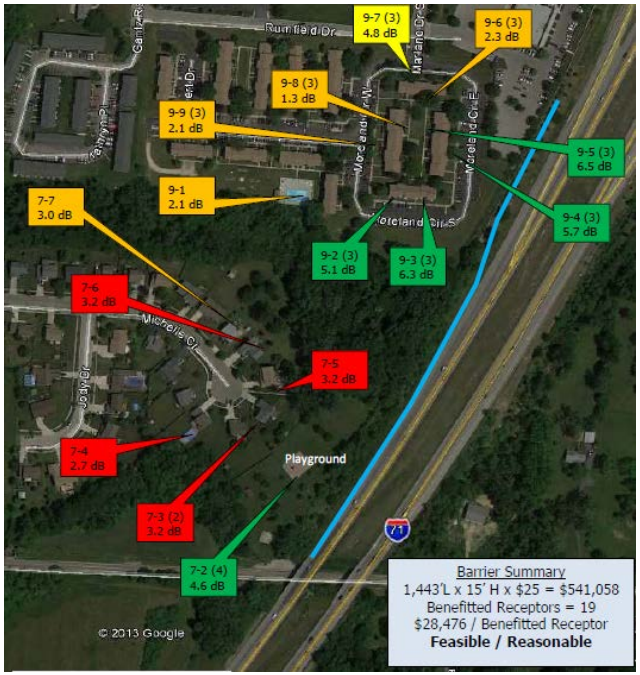
Topics

- Noise Measurements
- Noise Wall Satisfaction Surveys
- Research
- Type II Program
- Planned Miles Of Noise Walls
- Noise Wall Maintenance
- Noise Data Management
- Online Noise Training Course Being Developed
- Lessons Learned

Noise Measurement Plans

In addition to the current noise measurement placement practices, perform complaint driven measurements to help address potential future noise complaints.

- ❑opposite potential noise walls
- ❑at ends of potential walls
- ❑in potential noise wall gap areas



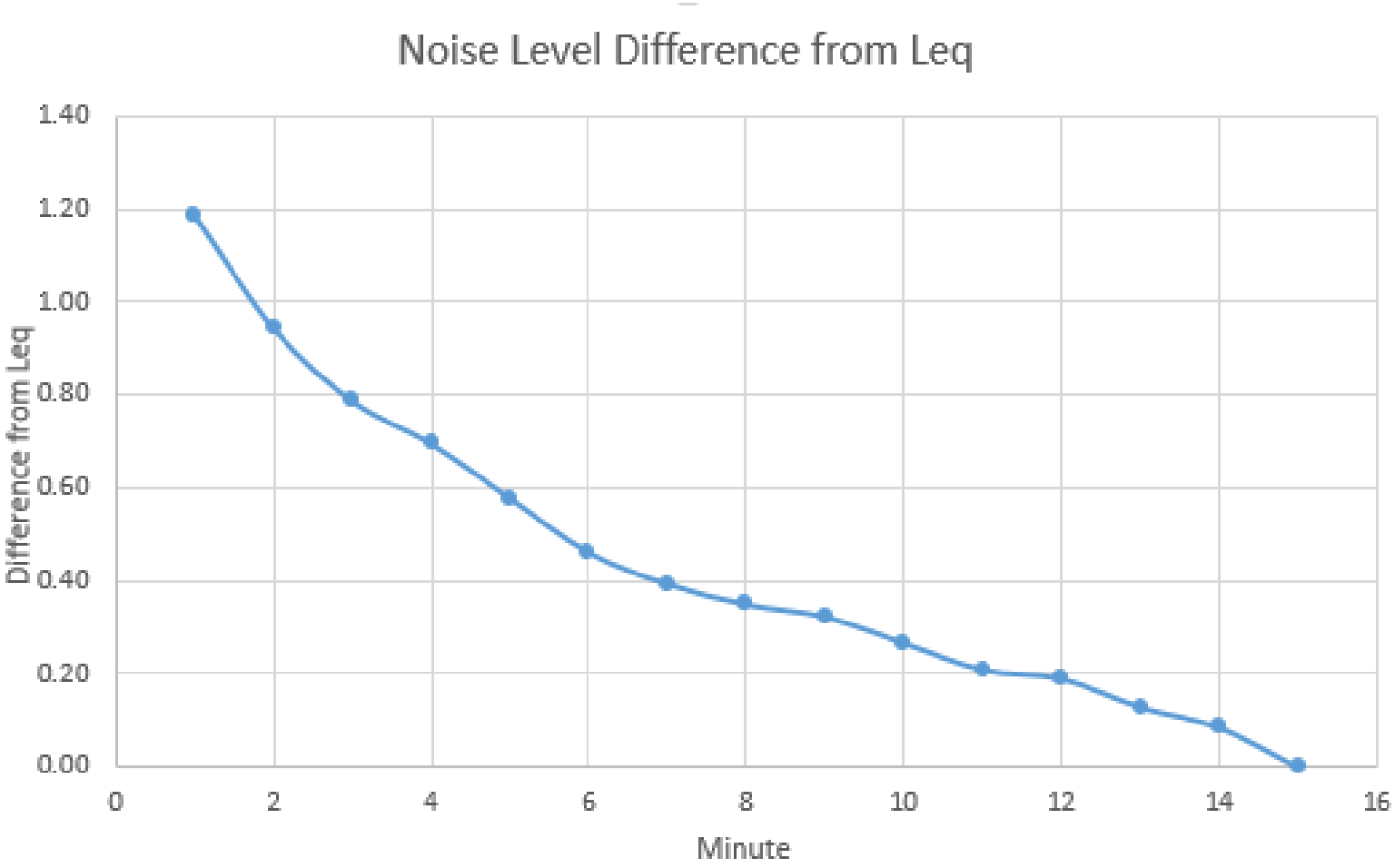
Noise Measurement Categories

- Noise measurement categories
  - NMP for Type I or II Project
  - Precon and postcon complaint driven measurements (opposite potential new walls, on top of and behind existing berms, gap areas opposite new walls, ends of potential new noise walls)
  - Precon and postcon behind vegetative screening to be cleared
  - Precon and postcon behind new walls
  - Precon and postcon for new pavement projects
  - Research driven measurements

Streamlining Noise Measurements

- Piloting 10 minute measurements in lieu of 15 minute measurements
- **Based on over 200 measurements, difference between the 10th minute LEQ and the 15th minute LEQ is 0.26 decibels for both arterials and interstates**

Streamlining Noise Measurements



Noise Wall Satisfaction Surveys

1. The noise wall has substantially reduced my exposure to highway noise (SA,A,NO,D,SD)
2. I am satisfied with the color of the noise wall
3. I am satisfied with the texture of the noise wall
4. Overall, I am satisfied with the noise wall being constructed
5. I felt involved in the planning process of the noise wall
6. The project was completed in a reasonable amount of time

Noise Wall Satisfaction Surveys

- Benefited receptors of 6 NSAs surveyed
- 231 total homes surveyed
- 18% SA/A the noise wall has substantially reduced my exposure to highway noise
- 3% had no opinion
- 13% D/SD the noise wall has substantially reduced my exposure to highway noise
- 66% no response

ODOT Noise Research

- Small Height Earth Berm Research Report Preparation (Authorized)
- Comparison of Predicted and Actual Insertion Loss for ODOT Traffic Noise Barriers; Edge Of Shoulder vs ROW (Authorized)
- Noise Wall Overhang Design (Reviewing proposals)
- Median Berm Testing Research Project (Submitted to Office of Research)

ODOT Noise Research (cont'd)

- Continue collecting cumulative LEQ for every minute of all 15 minute noise measurements
- Noise, Atmospheric, Traffic, Time Of Day Research (Submitted to Office of Research)
- ODOT's Transportation Data Management System (TDMS); Continuous 24/7 Count Sites available!!

New Draft Process For Constructing Small Height Earth Berms In The ROW Using Waste Material

- New draft process and flowchart for constructing small height earth berms (3’-6’) in the ROW using waste material being implemented (manage waste, address complaints, reduce noise levels for communities that don’t meet criteria).

New Section 307.6.4 of LDM (Disposal of Waste in ODOT ROW)

- 307.6.4 Adjacent to Noise Sensitive Areas

"Excess or disposable fill material may be placed adjacent to a noise sensitive area via the construction of a small height berm. Consult with the Office of Environmental Services-Policy Section-Noise Unit regarding opportunities. A minimum 3'-6' tall berm height is recommended. Consult with the Office of Geotechnical Services regarding taller berm heights. Designer must adhere to clear zone requirements in LDM Vol 1 Section 600 and grading requirements in LDM Section 307. The designer must consider issues including but not limited to ***underground utilities, tower lighting, signage, landfills, floodplains, utility markers, valve boxes, manholes, hydrants, exposed conduits, drainage concerns, tree removal, ecological items, etc."***

New Draft Process For Constructing Small Height Earth Berms In The ROW Using Waste Material

- Section 307.6.4 of ODOT LDM in place
- Two small height berms already designed using waste material!

ODOT's Type I and Type II Noise Wall Programs

- 16 Type I and 7 Type II projects scheduled out to 2021
- 10 Type II Noise Wall Requests Pending Approval
- Columbus, Dayton, Springfield, Mansfield, Akron, Toledo, Cincinnati, Canton
  - 10.7 miles of new wall in 2016
  - 3.7 miles of new wall in 2017
  - 6.6 miles of new wall in 2018
  - 10.3 miles of new wall programmed in 2019
  - 5.6 miles of new wall programmed in 2020
  - 6.4 miles of new wall programmed in 2021

ODOT's Type I and Type II Noise Wall Programs

- Columbus, Dayton, Springfield, Mansfield, Akron, Toledo, Cincinnati, Canton

Noise Wall Maintenance

- 2 Noise Wall Maintenance projects each completed in 2016, 2017 and 3 projects scheduled in 2018
- Full replacements, panel replacements/repair, resealing, concrete patching, post covers on steel posts

Noise Data Management

- Noise Measurement Results
- Noise Analyses Results
- Noise PI Results
- Pre And Post Construction Measurements
- Complaint-Driven Measurements
- Research Driven Measurements
- Noise Measurement Database
- Constructed Projects
- Noise Barrier Inventory
- How Do We Manage Noise Data As A Whole And What Can We Learn From The Data?

Noise Lessons Learned

- Unapproved Noise Analysis Results Discussed With Receptors
- Noise Barrier Icon Issue; new spec implemented
- Consider Two Separate NEPA documents For Contiguous Project with two different scopes, independent utility, and logical termini (i.e. Adding Capacity and pavement rehab); Cuts Noise Work In Half
- Commercial businesses located between and in front of NSAs

Takeaways

- Focusing on noise measurements and more field data
- Continue piloting 10 minute measurements and collecting cumulative LEQ for every minute of all 15 minute noise measurements
- Continue Sending Out Noise Wall Satisfaction Surveys Looking For Trends
- Finds ways to better manage our noise data
- Online Noise Training Course By End Of 2018??

Questions, comments?

Questions or comments?

Noel Alcala, PE, Noise and Air Quality Coordinator, 614-466-5222, Noel.alcala@dot.ohio.gov