Noise Roadmap Topics

- Noise Measurements
- Noise Wall Satisfaction Surveys
- Research
- Planned Miles Of Noise Walls
- Noise Wall Maintenance
- Noise Data Management
- Online Noise Training Course Being Developed
- Lessons Learned
Noise Measurement Plans (NMP)

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

- opposite anticipated noise walls
- at ends of anticipated walls
- in anticipated noise wall gap areas
Noise measurement categories

- NMP for Type I or II Project
- Precon and postcon complaint driven measurements
- Precon and postcon behind vegetative screening to be cleared
- Precon and postcon behind new walls
- Behind existing small height berms and small height walls
- Precon and postcon for new pavement projects
- Research driven measurements
Streamlined Noise Measurements

- Piloting 10 minute measurements in lieu of 15 minute measurements

- Based on over 200 measurements, difference between the 10\textsuperscript{th} minute LEQ and the 15\textsuperscript{th} minute LEQ is 0.26 decibels for both arterials and interstates
Streamlined Noise Measurements

![Graph showing noise level difference from Leq over time.](graph.png)
ODOT’s Type I and Type II Noise Wall Programs

- 16 Type I (highway projects) and 7 Type II (communities that predate the highway) projects scheduled out to 2021-2022
- 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 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
- 473 total homes surveyed
- 17% SA/A the noise wall has substantially reduced my exposure to highway noise
- 3% had no opinion
- 14% D/SD the noise wall has substantially reduced my exposure to highway noise (wall not high enough, wall not long enough, lack of notable reduction in noise levels)
- 66% no response
Noise Data Management

- Noise Measurement Results
- Noise Analyses Results
- Noise Public Involvement 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?
Small Height Earth Berm Research Report Preparation *(completed)*

Comparison of Predicted and Actual Insertion Loss for ODOT Traffic Noise Barriers; Edge Of Shoulder vs ROW *(completed)*

Noise Wall Overhang Design *(authorized)*

Median Berm Testing Research Project *(future)*
- Continue collecting cumulative LEQ for every minute of all 15 minute noise measurements

- **Noise, Atmospheric, Traffic, Time Of Day Research (future)**

- **Vertical solar noise wall panels (future)**

- **ODOT-OTS’ Transportation Data Management System (TDMS); Continuous 24/7 Count Sites available!!**
ODOT Involvement in National Noise Research

- Innovative Noise Mitigation Technologies
- Quiet Bridges: Design, Construction And Modification
- Practitioner's Handbook For The Noise Analysis Process For Design-build Projects
- Methodology For Analyzing Noise And Vibration Impacts On Different Terrestrial Species
- Practitioners Handbook For Noise Wall Inspection Procedures During And Post Construction
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 (manage waste, address complaints, reduce noise levels for communities that don’t meet criteria).
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!
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
Takeaways; Where do we go from here?

1. Focus on noise measurements and more field data
2. Finds ways to better manage our noise data
3. Streamline noise analysis processes
4. Continue piloting 10 minute measurements and collecting cumulative LEQ for every minute of all 15 minute noise measurements
Takeaways; Where do we go from here?

5. Continue Sending Out Noise Wall Satisfaction Surveys Looking For Trends

6. Implement online Noise Training Course (for the NEPA specialist or new noise analyst)

7. Future Updated Noise Manual
Takeaways; Where do we go from here?

8. Future Noise Webinars

9. Continue finding better noise wall design and construction materials and methods (work with OSE, OMM, OHE, ORE)

10. Continue list of Noise Lessons Learned

11. Continue ppt of noise wall construction inspection images
Takeaways; Where do we go from here?

12. Moving Noise Research ideas forward (24/7 noise data and Vertical solar noise wall panels)

13. Based on truck noise research and public feedback on new noise walls, trending “build walls shorter (height) and longer”
Questions, comments?

Questions or comments?

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