Noise and Vibration Policy

R2023-15

Executive Committee

05/04/2023

SOUNDTRANSIT

Why we are here

- Resolution No. R2023-15: Link light rail noise and vibration policy
- Proposed policy revisions
- Background and current practice
- Executive Committee action

Existing Policy: Motion No. M2004-08

- Light rail noise mitigation
- Detailed procedures
- Outdated references
- Does not fully reflect current practice
- Does not reflect lessons learned

Link Noise Mitigation Policy

This Link Noise Mitigation Policy ("Policy") establishes Sound Transit policies intended to guide both the assessment and mitigation, as appropriate, of noise impacts associated with Link Light Rail project components.

I. ASSESSMENT OF LINK NOISE IMPACTS

As a general matter, the assessment of potential Link noise impacts will occur as part of the environmental review process. The following policies shall guide Sound Transit's assessment and control of potential Link noise impacts:

A. Sound Transit shall comply with applicable federal, state, and local noise requirements in evaluating noise impacts, determining appropriate mitigation measures, and implementing Link projects;

B. Sound Transit will seek to identify potential noise impacts and potential mitigation measures early in the project development process, as practicable;

C. Sound Transit will seek to reduce expected noise impacts, as practicable, through reductions in source emissions and project design;

D. Sound Transit will seek to work with local jurisdictions to provide that development occurs which is compatible with expected or existing project operational noise.

II. GENERAL MITIGATION POLICIES

A. Consistency with Sound Transit Scope Control Policy

In implementing noise mitigation for each Link project, Sound Transit shall comply with the Scope Control Policy (Board Motion M2002-121) for both construction-related and operational mitigation.

Why Update Now?

- Lessons Learned: Redesign late in projects to address new development or uses (LLE and DRLE) creates cost and delay
- Agency practice and experience has matured since 2004
- Most ST3 light rail projects are now in planning and environmental review

Proposed Policy Update

Proposed Policy Revisions

- Clarify that impacts and mitigation are identified during environmental review for existing uses
- Affirm commitment to mitigate all “moderate” and “severe” impacts
- Include vibration
- Define “sensitive receiver” and “reasonably foreseeable”
- Remove outdated references
- Relocate detailed procedures

Proposed Policy Update

Retain Key Policy Points

- Comply with applicable federal, state, and local requirements
- Update analysis and finalize mitigation design prior to construction
- Prioritize mitigation “at the source”
- Residential sound insulation
- Mitigation must be reasonable and feasible

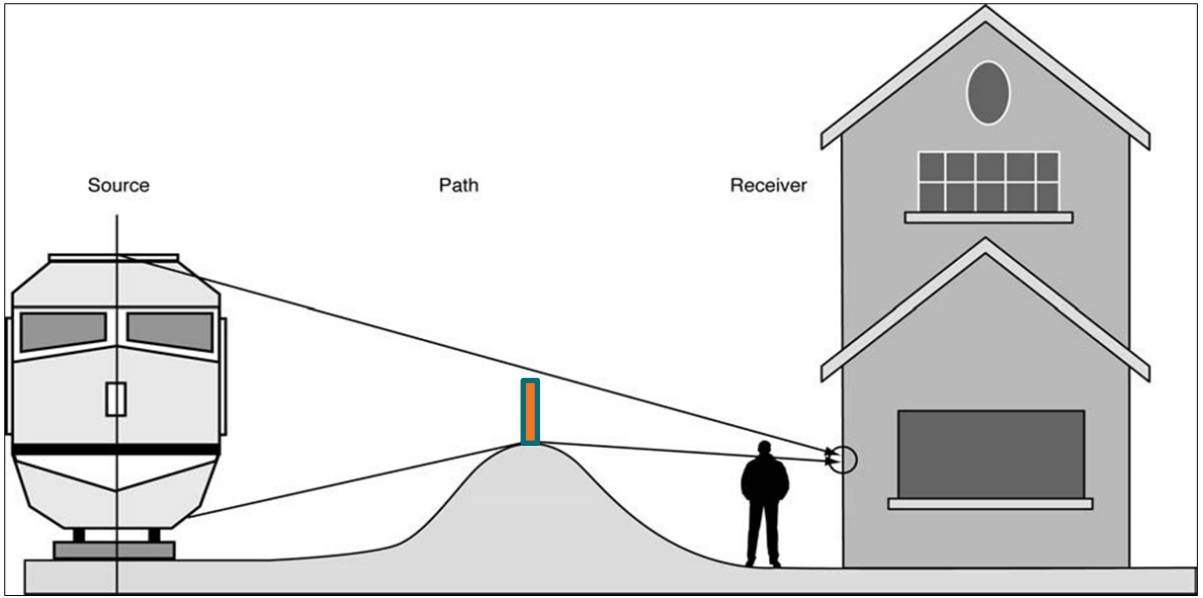
Planning and Impact Assessment

- **When?** During environmental review
- **Who?** “Sensitive Receivers”
- **How?** FTA guidance and local regulations
- **Why?** Informs Board decisions and design

Design and Construction

- Develop detailed design for mitigation or refine design and construct it
- Implement construction noise mitigation
- Verify mitigation performance during pre-revenue testing and initial operations

Typical Train Noise Mitigation



Source Mitigation
Rail Grinding
Rail Lubrication
Wheel Truing

Path Mitigation
Sound Walls
Berms

Receiver Mitigation
Sound Insulation
(Windows and air conditioning)

Operations Maintenance and Monitoring

Proactively monitor noise and vibration trends to determine need for additional preventive maintenance intervention.

- Periodic onboard noise monitoring
- Periodic review of vibration trends from UW vibration monitors

Thank you.

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