Metro Soundwall Program

Abdollah Ansari, SEO

Highway Program

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Ad-Hoc Congestion, Highway and Roads Committee

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Soundwall Program History

- Soundwalls are constructed:
  1. as part of the new freeway capacity enhancement projects where warranted per established criteria, or
  2. as retrofit for protection of residential neighborhoods constructed before an adjacent freeway where eligible per the established criteria

- Prior to 1998 Caltrans nominated soundwalls for funding through the California Transportation Commission (CTC)

- In 1998, State law transferred the programming role from Caltrans to regional agencies

- In Los Angeles County, Metro identifies and programs funds, and delivers soundwall projects

Soundwall Program History

- Metro has developed and established the Post May 1989 Phase I and II soundwall priority lists

  - **Phase I** – Soundwalls where HOV lanes were constructed without the required soundwalls

    - Priority 1: Soundwalls were constructed on one side of the freeway only
    - Priority 2: Soundwalls were not constructed
    - Priority 3: Soundwalls that met requirements to be in Phase I but were identified after establishment of the initial Phase I list

  - **Phase II** – Soundwalls for all other freeways

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Soundwall Project Funding & Delivery Steps

1. Noise Investigation:
   - Pre 2016: Funding by Caltrans
   - Post 2016: Funding by Metro

2. Prepare Noise Barrier Scope Summary Report (NBSSR) to identify the proposed heights and locations of soundwalls; identify utilities and provide the cost estimate

3. Secure funding to proceed to design and construction phases

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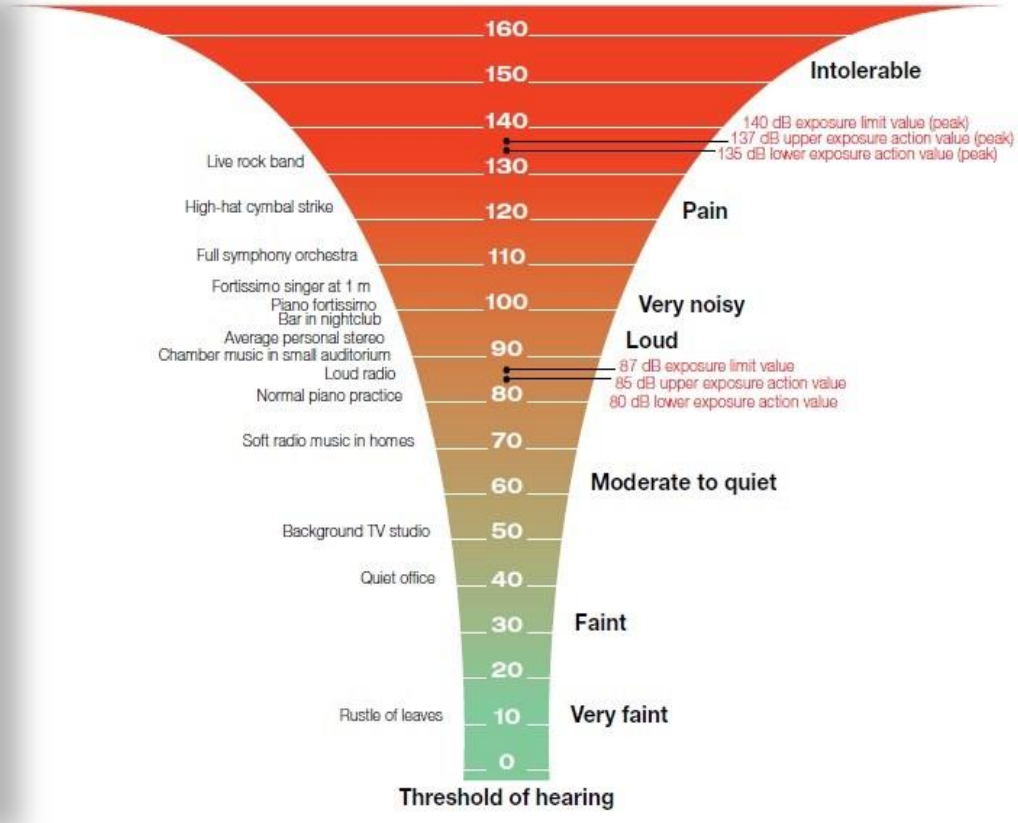
Understanding Noise Levels

Sound sources (noise) Examples with distance	Sound pressure Level L_p dB SPL
Jet aircraft, 50 m away	140
Threshold of pain	130
Threshold of discomfort	120
Chainsaw, 1 m distance	110
Disco, 1 m from speaker	100
Diesel truck, 10 m away	90
Curbside of busy road, 5 m	80
Vacuum cleaner, distance 1 m	70
Conversational speech, 1 m	60
Average home	50
Quiet library	40
Quiet bedroom at night	30
Background in TV studio	20
Rustling leaves in the distance	10
Hearing threshold	0



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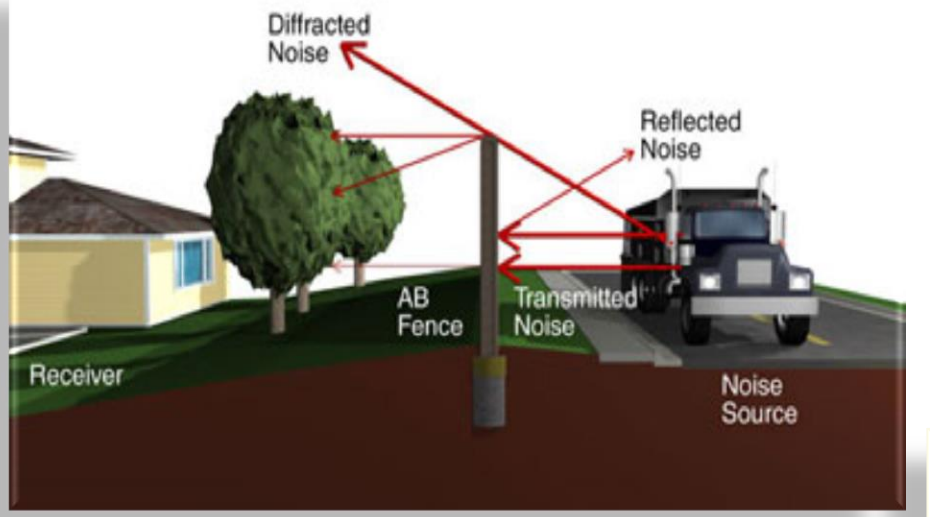
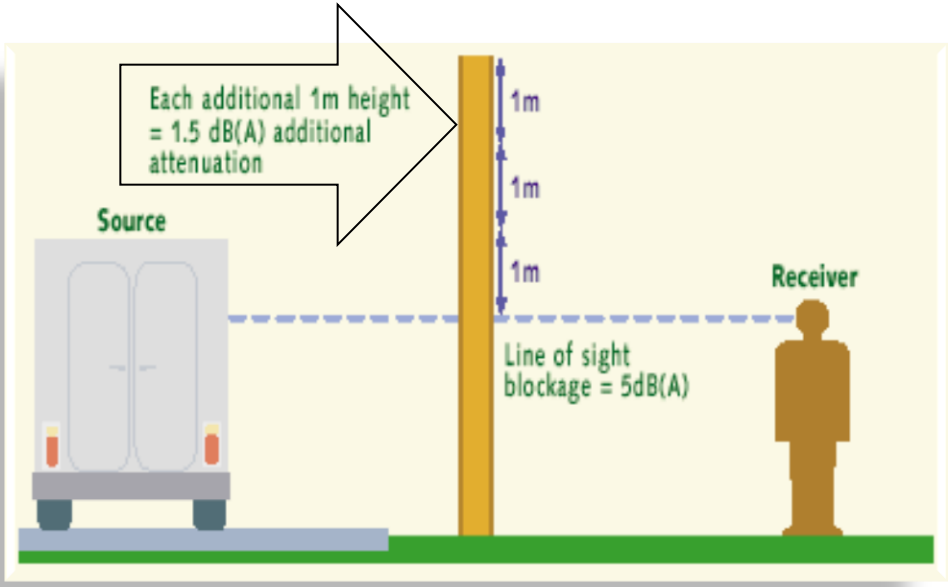
Understanding Highway Noise Barriers

Freeway Soundwalls:

- Can reduce the loudness of traffic noise by as much as half;
- Can be effective, regardless of the material used;
- Do not completely block all traffic noise;
- Should not have openings;
- Should not increase noise levels perceptibly on the opposite side of a highway;
- Are most effective within 200 feet (usually the first row of homes);
- Are designed to preserve aesthetic values and scenic vistas;
- Must be tall enough and long enough to block the view of a highway from the area that is to be protected;
- Provide very little benefit for homes on a hillside overlooking a highway or for buildings which rise above the barrier;
- Must achieve a 5 dBA noise level reduction

Understanding Highway Noise Barriers





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Eligibility Criteria

1. **Noise Level Threshold** - A minimum noise level of 67 dBA for one hour (the highest one hour noise reading) and min. 5 dBA reduction with a proposed wall.
2. **Cost Feasibility** - Max. $92,000 cost per dwelling unit.
3. **Feasible Test** - A soundwall of a reasonable height constructed adjacent to a freeway must be able to attenuate noise

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Phase I, Packages 1-11

Package 5: I-405 (2.5 Miles)
Devonshire to San Fernando
Mission Blvd.
Los Angeles

Package 7: SR-134: (2.1 Miles)
Cahuenga Blvd. to Roverside Dr.
Burbank

Package10: I-210 (3.4 Miles)
1. Fair Oaks Ave. to I-210/DR-134 Interchange;EB/WB
2. Baldwin Ave. to Arcadia Wash: WB
3. Baldwin Ave. to Arcadia Wash: EB
Pasadena & Arcadia

Package 3: I-210 (1.9 Miles)
W Michillinda Ave. to E Baldwin Ave.
Arcadia

Package 1: SR-170 (1 Mile)
1. Saticoy to Roscoe Blvd.
Los Angeles

Package 4: I-210 (2.3 Miles)
Santa Anita Ave. to E. Mayflower Ave.
W. Magnolia to E California Ave. : EB
Arcadia & Monrovia

Duarte Companion Soundwall I-210 (0.4 Mile)
W Highland to Duncannon Ave.
Duarte

Package 2: I-210 (1.8 Miles)
E Citrus Ave. to W Barrance Ave:EB
W Citrus Ave. to E Big Dalton Wash:EB
Azusa & Glendora

Package 11: I-405 & SR-170 (6.6 Miles)
1. NO/SO Stagg St. (I-405): SB
2. SR-170 from US-101 to Sherman Way

Package 8: I-605 (2.9 Miles)
1. Saluson Ave. to Dunlap Crossing
2. Whittier Blvd. to Obregon St.
3. Walnut Creek to Route 10: NB
Santa Fe Springs

Package 6: I-405 (1 Mile)
San Gabriel River to Atheron
Long Beach

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Soundwall Program Status

Phase/Package	Status
Phase I, Priority 1, Packages 1-8	Completed
Phase I, Priority 2, Package 10	In Design
Phase I, Priority 2, Package 11	Advertised for Construction (Package 9 Scope included in Package 11)
Phase I, Priority 2, Packages 12-14	NBSSR Completed Not Funded for Design or Construction
Phase I, Priority 3	List not funded/not prioritized
Phase II	List not funded/not prioritized

Soundwall Cost

- Current design and construction costs:
  - $10 Million/mile if placed adjacent to the freeway shoulder
  - $20 Million/mile if on bridge structures or retaining walls
- Total cost of the Phase I packages 1 through 11: $300 Million

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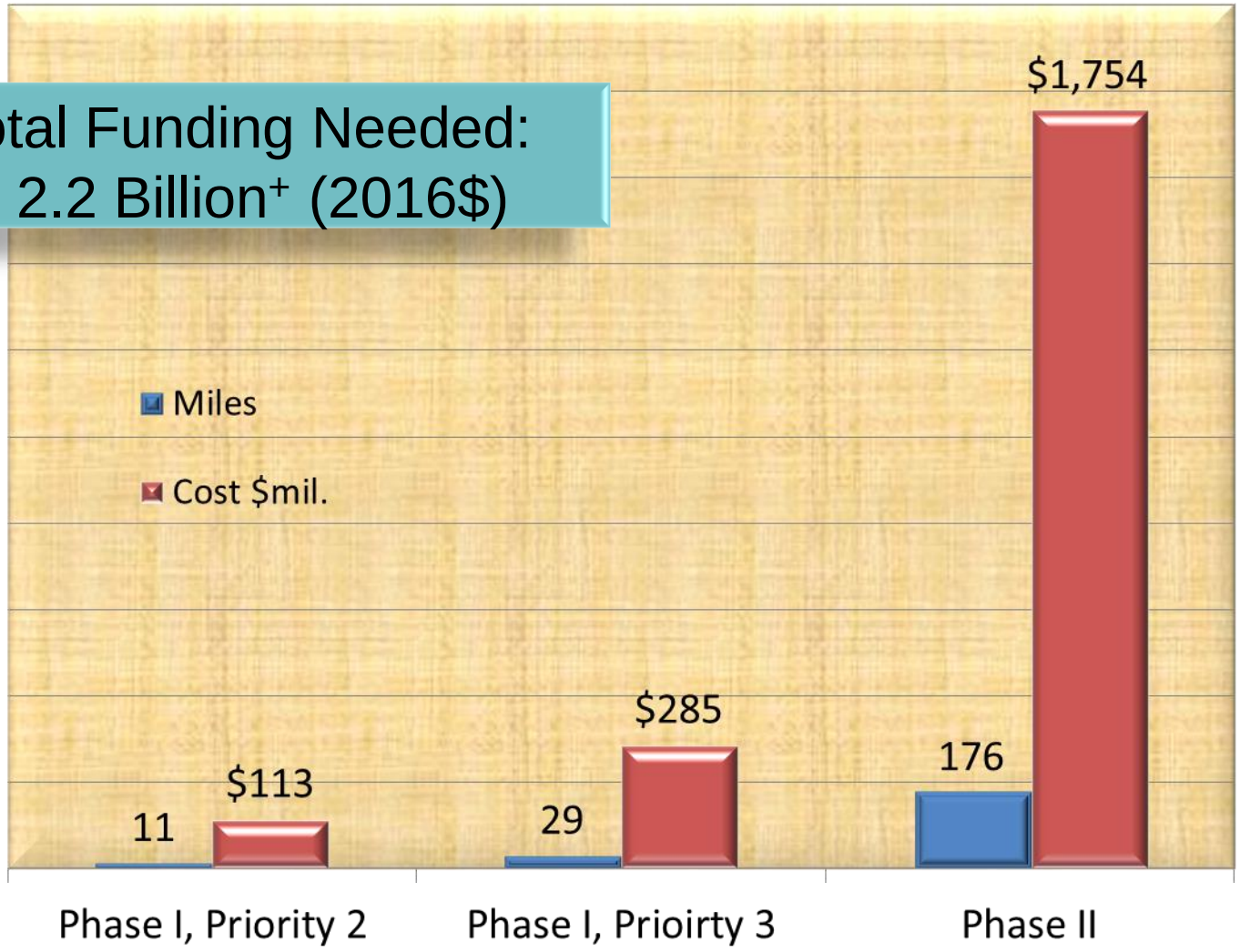
Remaining Unfunded Soundwalls

Total Funding Needed:
$ 2.2 Billion+ (2016$)



Soundwall Funding

Eligible Fund Source	Eligible Phase	Comments
Proposition C 25%	I	Limited Funding Availability in Near-Term
Measure R		
Metro Allocation	I & II	Nearly all funds are programmed to other projects and programs
Subregional Highway Funds & Local Return	I & II	Only Arroyo Verdugo and Gateway Cities have programmed part of their allocations to build soundwalls
Measure M		
Subregional Highway Funds & Local Return	I & II	Guidelines Under Development
SB 1 Local Partnership Program	I & II	Guidelines Under Development (Anticipate $100 Million Per Year Statewide)

For More Information

Soundwall Program Webpage:
https://www.metro.net/projects/soundwalls