



## Board Report

File #: 2018-0787, File Type: Motion / Motion Response

Agenda Number: 7.

**REVISED**  
**AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE**  
**FEBRUARY 20, 2019**

**SUBJECT: SOUNDWALL PROGRAM ANALYSIS, DELIVERY OPTIONS AND FUNDING**

**ACTION: RECEIVE AND FILE**

### **RECOMMENDATION**

RECEIVE AND FILE Countywide soundwall program outline and analysis of potential delivery options to construct the remaining prioritized retrofit soundwall projects, utilizing materials currently approved by the California Department of Transportation (Caltrans) for construction of soundwalls and funding opportunities in response to the October 25, 2018 Board Motion 9.1.

### **ISSUE**

In October 2018, the Board directed staff to identify options to fund and construct the remaining soundwalls on the Post-1989 soundwall lists. This report presents a short term plan to fund the remaining Phase I soundwalls and a long term plan to fund the soundwalls in Phase II.

### **BACKGROUND**

Metro assumed the responsibility for delivery of the retrofit soundwall projects in Los Angeles County after the passage of SB 45 in ~~1999~~ 1998. Prior to that, Caltrans was responsible for nominating soundwalls for funding through the California Transportation Commission (CTC) and constructing soundwalls along the freeway system.

The majority of the soundwall needs after passage of SB 45 consisted of retrofit soundwalls needed to alleviate noise levels in qualified communities adjacent to freeways with no active freeway improvement projects. New freeway improvement projects are required to evaluate noise impacts and consider the construction of soundwalls as part of project mitigation requirements.

In order for a location to qualify for retrofit soundwalls, it must meet all of the following criteria:

- Residential property built prior to the freeway or prior to a freeway capacity enhancing project.
- Exposed to an hourly noise level exceeding the 67-decibel (Leg) threshold established by Federal and State agencies.
- Achieve at least a 5-decibel noise reduction at an eligible residence after installation of

soundwall(s).

- Cost may not exceed \$92,000 per residential unit (“2017” dollars).

Between 2001 and 2003, Metro developed the list of priority retrofit soundwalls by classifying them in “Phases”.

Phase I: Soundwalls that were required to be constructed as part of the High Occupancy Vehicle Lanes (HOV) projects but were deferred; and

Phase II: All other retrofit/after-the-fact soundwall locations deemed eligible along the various freeways.

Within Phase I, three priority lists were established:

Priority 1: Soundwalls warranted for construction within the limits of newly-constructed HOV lane projects but built only on one side of the freeway.

Priority 2: Soundwalls warranted for construction within the limits of newly-constructed HOV lane projects but not built on either side of the freeway.

Priority 3: Soundwalls that met the requirements to be in Phase I but were identified after establishment of the initial Phase I list.

Within those priorities, soundwall “packages” were identified which consisted of bundled walls that could be built together for project delivery and cost effectiveness.

All Phase I Priority 1 Soundwalls are constructed.

Package 10 in Priority 2 is in final design and soundwall package 11 in Priority 2 group is in construction.

The list of the remaining walls under Priorities 2 and 3 are included as Attachment A.

The Phase II list is currently not funded.

From time to time, Metro staff may request and the Board may approve, to the extent that funds are available, funding to implement soundwalls.

To identify and validate soundwall needs on the highway system, standard Caltrans process must be followed. The first step in determining the need for soundwalls is to prepare a Noise Barrier Scope Summary Report (NBSSR). An NBSSR identifies the locations, lengths, and heights of walls, as well as the resulting impacts to the roadway, structures, right of way, and the environment within the project limits. Reasonableness and feasibility tests are applied to see if a project can be recommended to move to design and construction, if funded.

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Priority and order of implementation is determined by a soundwall Priority Index Number (PIN), which is calculated with consideration of the existing noise level, the anticipated noise reduction after implementation, the number of residential units benefiting from the project and the project's estimated cost. The PIN helps determine the magnitude of benefit received by residential units upon construction of a soundwall. Currently, all walls in Phase I have a PIN. Not all walls in Phase II have PINs.

As for construction, Caltrans requires that all walls placed along the edge of freeway shoulders be constructed on a safety barrier. Walls constructed on bridges are to be installed on top of the bridge railing. Walls to be constructed in a safe distance from the freeway have more flexible design criteria.

To-date, Caltrans has approved and utilized only a limited number of materials for soundwalls, the list of which is provided in Attachment B. The most frequently used material is masonry block. Acrylic clear panels are an alternative material to masonry block and have been approved for mounting on bridge rails. For any other material approved by Caltrans, walls must be located in the Clear Recovery Zone which is 30 feet from the traveled way or located a minimum 18 inches behind a barrier that meets the Manual for Assessing Safety Hardware (MASH) criteria. Thus, very few LA County locations may be able to use one of the approved alternative systems.

## **DISCUSSION**

Soundwall packages 12 through 14 in Phase I, Priority 2 and all walls in Priority 3 require NBSSR updates to commence design. Funds are identified and available in the Long Range Transportation plan as early as 2024 for implementation of soundwalls. Upon Board approval, funds may be obligated for early development work.

The Phase II list contains 100 freeway segments that had qualified noise readings for soundwalls. No funds have been identified for development and implementation of the Phase II list. A cursory check of the land use along the freeway segments under Phase II suggests approximately 68.8 miles of soundwall would be needed (Attachment A).

It is the Board's intention to identify possible options to fund and implement as many eligible soundwalls as possible.

Staff will continue construction of soundwalls on the current order of priority starting with completion of Phase I priorities as funds become available.

The current estimate of cost of implementation of the remainder of Phase I; Priority 2 (Packages 12-14) and Priority 3 soundwalls is between \$216 to \$433 Million.

Upon completion of Phase I or depletion of available funds, staff will report back to the Board and identify alternative approaches to implementation of Phase II soundwalls as well as any potentially remaining Phase I walls.

**Pros:** Implementation of soundwall program in accordance with the current Board policies.

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Cons: Implementation of Phase II walls would not occur any time soon as the cost of implementation of Phase I priorities is not budgeted and is rising due to market conditions.

## **FINANCIAL IMPACT**

Using the current average cost range of \$10 to \$20 million per mile for soundwall design, right-of-way, and construction (including potential roadway and structure work), the current Rough Order of Magnitude (ROM) cost estimate to complete the remaining Phase I (Priority 2, Package 12-14 and Priority 3 lists) is between \$216.6 million to \$433.2 million, and the non-prioritized Phase II list at \$688 million to \$1.3 billion. The Measure R Expenditure Plan designated a total of \$250 million for countywide soundwalls. In addition, the LRTP (as amended) programmed \$57.6 million of Proposition C 25% transit related highway funds and \$282.1 million in State Regional Improvement Program (RIP) funds for eligible Phase I soundwalls through FY 2040, for a total of \$589.7 million for the completion of Phase I projects.

To-date, the Board has approved Life-of-Project (LOP) budgets totaling \$238.9 million in Measure R funds towards the completion of Phase I, Priority 1 (Packages 4-8) and Priority 2 (Packages 10 and 11), which leaves a balance of \$350.8 million in LRTP funds between FY 2025 and FY 2040, plus any project savings from the completion of Priority 1 and 2 projects, available to deliver the remaining Phase I Priority 2 (Packages 12-14) and Priority 3 projects.

There are no funds assigned to Phase II at this time. Availability of funds for Phase II walls is highly unlikely due to other Metro funding priorities. A long-term plan for the implementation of Phase II could include the following strategies:

- Authorize a reasonable percentage of the Subregional Measure M allocations to be spent on construction of soundwalls at the election of the Subregion and allow the Subregions to construct soundwalls based on established priorities within each subregion.
- Seek Caltrans funding contribution from the ~~State Highway Operations and Protection Program (SHOPP)~~ SB1 LPP - Local Partnership Program for the Phase II walls.

Staff will continue to identify other funding sources to support the implementation of the Countywide Soundwall Program.

Additionally, as new highway capacity enhancement projects are developed, soundwall segments on the Phase I or Phase II list that are within the limits of those projects will be built as part of the project if deemed eligible.

## **Impact to Budget**

This report is for information only, does not recommend funding beyond the current levels, and therefore does not impose any impact to Metro's budget. Depending on the Board's direction for the next steps, budget impacts will be identified and explained in the follow up reports to the Board.

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## **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

Recommendation supports strategic plan goal #5: Provide responsive, accountable and trustworthy governance. This report is intended to identify best practices, access the full life-cycle costs of infrastructure investments and identify trade-offs.

## **ALTERNATIVES CONSIDERED**

Alternative 1: Revise Board's policies and priorities on implementation of soundwalls.

De-prioritize implementation of Phase I soundwalls; identify alternative methodologies to reprioritize the program blending the remainder of Phase I priorities with the Phase II walls and conducting noise studies across the board for all projects.

Pros: Potential opportunities for advancing some of the Phase II walls that otherwise may not be built any time soon.

Cons: Potential delay in implementation of eligible soundwalls that were required to be constructed as part of the HOV lane projects but were deferred due to other priorities.

This alternative is not recommended. Conducting noise studies, preparing documents, and assigning priority index numbers to all candidate walls requires substantial investment without a guarantee of being able to pay for the environmental, design, and construction of those walls.

## **NEXT STEPS**

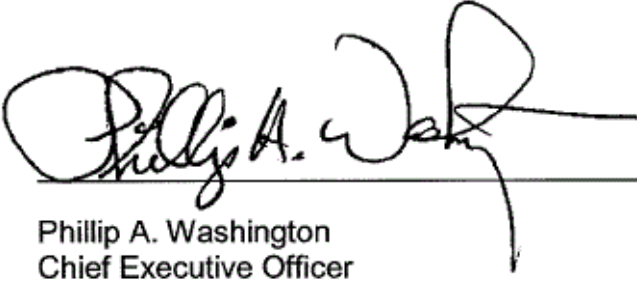
Staff will return to the Board in June 2019 to seek budget authority to continue implementation of the remaining walls in Phase I. Upon completion of Phase I, staff will return to the Board to identify potential available funding and recommend alternatives to establish order of priority for Phase II soundwalls.

## **ATTACHMENTS**

Attachment A - Countywide Soundwall Lists  
Attachment B - Soundwall Types Approved by Caltrans  
Attachment C - Soundwall Location Maps by Subregion

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## Remaining Post 1989 Retrofit Soundwall Projects

### Phase I, Priority 2, Packages 12, 13 and 14 (Unfunded)

Rte.	City/Unicorp.	Project Description	SW Length	Notes
<b>PACKAGE 12</b>				
210	Glendora	EB Off-ramp Grand Ave / Big Dalton Wash: EB	0.45	NBSSR analysis completed on 8/8/2007
210	Glendora	W of Bonnie Cove Ave / E of Bonnie Cove Ave: EB	0.19	NBSSR analysis completed on 8/8/2007
210	Glendora	W of Lyman Ave / E of Sunflower Ave: EB	0.49	NBSSR analysis completed on 8/8/2007
<b>PACKAGE 13</b>				
405	Long Beach/Carson	Long Beach Blvd / 213 St: NB & SB	2.65	NBSSR analysis completed on 3/8/2004
<b>PACKAGE 14</b>				
134	Eagle Rock	W of Mt. Helena Ave / W of Figueroa St: EB	0.28	NBSSR analysis completed on 6/20/2003
			<b>4.06</b>	Total Estimated Length of Potential SW Projects (In Miles)
			<b>\$ 40.6 - 81.2</b>	Total Estimated Cost of Potential SW Projects (In Millions, 2018)

### Phase I, Priority 3 (Unfunded)

Contains soundwalls that met requirements to be in Phase I but were identified after the Board action of 4-27-2000  
(Not in Rank Order)

Rte.	City/Unicorp.	Project Description	Estimated SW Length	Notes
57	Diamond Bar	North of Brea Cyn Road / North of Sunset Crossing: NB & SB	3.90	Commercial frontage
91	Bellflower	Los Angeles River / Lakewood Blvd: NB & SB	1.12	Existing SWs within project limits
118	Los Angeles	East of Tampa Ave to West of Havenhurst Ave: WB & EB	6.66	
118	Los Angeles	East of Woodley Ave to San Fernando Road: WB & EB	5.12	
134	Toluca Lake	Rte. 101/134 / Ensign Ave: EB	0.20	
134	Burbank	West Riverside Dr. UC: WB	0.10	
134	Burbank	0.2 Mi East of Buena Vista St to Forest Lawn Drive: WB	0.15	Parkland and vacant land frontage
405	Long Beach	0.1 Mi North of Lakewood Blvd/0.4 North of Lakewood Blvd: SB	0.30	
405	Los Angeles	Denker Ave./Normandie: NB	0.00	
			<b>17.6</b>	Total Estimated Length of Potential SW Projects (In Miles)
			<b>\$ 176 - 352</b>	Total Estimated Cost of Potential SW Projects (In Millions, 2018)

Key	
SW	Soundwall
NBSSR	Noise Barrier Scope Summary Report
Estimated SW Length	Derived from freeway frontage analysis

## MTA Post 1989 Retrofit Soundwall Projects

### Phase II (Unfunded)

Other qualified soundwalls including soundwalls identified prior to the adoption of Metro Soundwall Policies (Not in Rank Order)

Rte.	City/Unicorp.	Project Description	Estimated SW Length	Notes	Potential to be Built with a Highway Project
2	Los Angeles	Route 5 / Route 134: WB & EB	4.07	Commercial and parkland frontage	No
5	Los Angeles	0.1 South of Olympic / First St: NB & SB	4.50		No
5	Los Angeles	Fletcher Dr / South of Glendale Blvd: NB & SB	0.64	Commercial and parkland frontage	
5	Los Angeles	Fletcher Dr. to Route 2: SB	0.30		
5	Los Angeles	South of Broadway to South of Humboldt St: NB	0.40		
10	Santa Monica	Lincoln Bl / East of 27th St: WB & EB	1.05	Existing SWs within project limits	No
10	Santa Monica/LA	East of Centinela Ave / Motor Ave: WB & EB	3.22	Existing SWs within project limits	
10	Los Angeles	Motor Ave / Palms / National Blvd: WB & EB	0.20	Existing SWs within project limits; commercial frontage	
10	Los Angeles	West of Palms / Fairfax Ave: WB & EB	1.47	Existing SWs within project limits	
10	Los Angeles	Redondo Blvd / East of Albany St: WB & EB	3.72	Existing SWs within project limits	
10	Alhambra	West of Route 5 / Garfield Ave: WB & EB	3.36	Existing SWs within project limits	I-710 North Project
10	Alhambra	East of Atlantic Bl. To West of 9th St: WB	0.02		
10	Monterey Park	New Ave / Walnut Grove Ave: WB & EB	0.96	Existing SWs within project limits	
10	Los Angeles	0.1 mile West of Indian Hills Bl to 0.1 mile East of Indian Hills Bl WB	0.02	Commercial frontage	No
14	Los Angeles	North of Red Rover Mine Rd: NB (Vasquez High School)	0.23		No
14	Lancaster	Ave P-8 / Ave I: NB	2.43	Commercial zones; schools	
14	Lancaster	1,800 Feet South of Ave. E to Ave. E: NB	0.34		
47	Los Angeles	East of Gaffey St to West of Harbor Bl: NB & EB 2,720 feet of wall	0.52		No
57	Pomona	0.2 South of Temple Ave / North of Campus: NB & SB	0.70	Existing SWs within project limits	No
60	Los Angeles	Rowan / Route 710: WB	0.55	Commercial frontage	No
60	Los Angeles	East of S. Dangler Ave. to Mednik Ave. EB	0.10		
60	Los Angeles	San Gabriel Blvd / Route 605: WB & EB	1.24	Existing SWs within project limits; commercial frontage	
71	Pomona	0.1 Mi. South of North Ranch Rd to Rte. 71/60 IC: NB	0.26	Existing SWs within project limits	SR-71 project
90	Los Angeles	Ballona Creek / Inglewood Blvd: WB & EB	0.45	Parkland frontage	No
90	Los Angeles	East of Mindanao Short Ave to West of Culver Blvd: EB	0.40		
90	Los Angeles	East of Centinela Ave. to West of Inglewood Blvd: WB	0.40		
90	Culver City	Inglewood Blvd / Route 405: WB & EB	0.50	Existing SWs within project limits	
91	Cerritos	East of Studebaker Rd to Coral Reef Cir. WB connector to NB LA-605	0.12		SR-91 WB Project
101	Los Angeles	1st Street to Kearney St: NB	0.06	Commercial frontage	No
101	Los Angeles	Beaudry Ave to Alvarado St: NB	0.61		
101	Los Angeles	South of Alvarado St / North of Vermont Ave: NB & SB	1.33	Existing SWs within project limits	
101	Los Angeles	Along Hollywood Blvd. On-Ramp	0.03		
101	Los Angeles	Cahuenga Blvd / 0.1 Mi North of Cahuenga Blvd: SB	0.02		
101	Los Angeles	North of Lankershim Blvd to North of Vineland Ave: SB	0.72		
101	Los Angeles	Vineland Ave / 0.2 Mi North of Moorpark St: NB & SB	0.38	Commercial frontage	
101	Los Angeles	Radford Ave / Laurel Canyon Blvd: NB	0.20		
101	Los Angeles	Fulton Ave. to 0.2 Mi. West of Fulton Ave. WB (Memo-12/14/06: PIN is not applicable to school noise abatement, private school))	0.20		
101	Los Angeles	North of Hayvenhurst Ave / Burbank Blvd: NB & SB	3.96		
101	Los Angeles	West of Reseda Blvd / Yolanda Ave: SB	0.24		
101	Woodland Hills	Winnetka Ave / Desoto Ave: NB	0.77		
101	Los Angeles	Canoga Ave / Owensmouth Ave: NB	0.30		
101	Los Angeles	West of Topanga Canyon to East of Farralone Ave: WB	0.14		
101	Los Angeles	Shoup Ave / E Woodlake Ave: NB	0.76		
101	Woodland Hills	Dunman Ave / 0.4 Mi South of Mulholland Dr: SB	0.06	Commercial frontage	



105	Hawthorne	East of Rte. 405 to West of Prairie Ave: WB	0.95		Express Lanes Project
105	Hawthorne	East of Inglewood Ave. to West of Hawthorne Blvd: EB	0.38		
105	Los Angeles	West of Inglewood Ave to Hawthorne Bl: WB	0.45		
105	Hawthorne	East of Prairie Ave. to West of Prairie Ave: EB	0.12	Commercial frontage	
105	Hawthorne	East of Prairie Ave. to West of Doty Ave: WB	0.05	Existing SWs within project limits	
105	Hawthorne	West to East of Dominguez Creek: EB	0.00	Parkland frontage	
105	Hawthorne	East of Crenshaw Blvd. to West of Crenshaw Blvd: WB	0.04	Existing SWs within project limits	
105	Hawthorne/LA	West of Normandie Ave. to West of Hoover St: EB	0.90		
105	Hawthorne	West of Budlong Ave. to West of Vermont Ave: WB	0.20		
105	Los Angeles	East of Rte. 110 to West of Main St: EB	0.35		
105	Los Angeles	East of Rte. 110 to East of Avalon Blvd: WB	0.70		
105	Willowbrook	West of Central Ave. to West of Wilmington Ave: WB	1.00		
105	Willowbrook	West of Central Ave. to East of Compton Ave: EB	0.28		
105	Willowbrook/Lynw	West of Wilmington Ave. to East of State St: WB	1.05		
105	Lynwood	West of State St. to West of Long Beach Blvd: EB	0.60		
105	Lynwood	West of Long Beach Blvd to West of Spruce St: WB	0.21		
105	Lynwood	West of Bullis St to East of Wright Rd: EB	1.27		
110	Los Angeles	North of Oliver St / 0.1 Mi North of 223rd St: NB & SB	0.89	Existing SWs within project limits	No
110	San Pedro	N El Beron Ave/ N Mac Arthur Ave: NB	0.30		
110	Los Angeles	Flower St / 23rd St: NB	0.00	Commercial frontage	
110	Los Angeles	23rd St to Washington Bl: SB	0.00	Commercial frontage	No
110	Los Angeles	South of College / Arroyo Seco Ave: SB	1.18	Parkland frontage	
118	Chatsworth	East of Topanga Canyon Bl to East of Topanga Blvd: WB	0.02		No
118	Chatsworth	Topanga Canyon Blvd / 118 Freeway Off-Ramp: EB	0.10		No
134	Burbank	East of S California to Bob Hope Drive Off-Ramp	0.11		
134	Glendale	W San Rafael Ave / E San Rafael Ave: EB	0.02	Commercial and vacant land frontage	No
134	Pasadena	From 574 ft West of Orange Grove Bl OC to 394' East: WB	0.15		No
210	Los Angeles	East of Foothill Blvd / West of MacClay St: WB & EB	4.52		
210	Los Angeles	Paxton St / South of Sunland Ave: WB & EB	0.87	Existing SWs within project limits	
210	Glendale	0.4 Mi. West of Honolulu Ave / Boston Ave: WB & EB	0.06	Existing SWs within project limits	
210	La Canada/Flintridge	Boston / Berkshire Place: WB & EB	5.04	Existing SWs within project limits	
210	Pasadena	N. Arroyo Blvd / Orange Grove Blvd: WB & EB	0.00	Existing SWs within project limits	
210	Arcadia	Santa Anita Ave Off-Ramp: WB	0.10		
210	Glendora	0.3 Mi. West of Gladstone St to 0.5 Mi. West of Via Verde in San Dimas: WB & EB	1.56	Commercial and vacant land frontage	
405	Long Beach	Clark Ave Bridge Structure: SB	0.04		No
405	Long Beach	LA-405 SB to LA-710 SB Connector: SB	0.38	Existing SWs within project limits	I-405 Aux Lanes
405	Los Angeles	W. Rosecrans Ave to W. El Segundo Bl: SB	1.05		
605	Long Beach	North of Coyote Creek OC to South of Spring St. NB On-Ramp: NB	0.17		No
605	Lakewood	El Dorado Park between Spring St & Carson St: SB	0.00	Parkland frontage	
605	Norwalk	South of I-105 to North of Rosecrans Ave: SB	0.23		I-605 Corridor Improvements Project
605	Pico Riviera	South of Telegraph Rd. to South of Slauson Ave: SB	0.12	Parkland frontage	
605	Whittier	UPRR Bridge to North of Beverly Bl: NB	0.41		
605	Irwindale	Route 210 / So Huntington Dr: NB & SB	0.39		No
710	Bell/South Gate	Imperial Hwy to South of Clara St: SB	0.60		I-710 South Project
			68.8	Total Estimated Length of Potential SW Projects (In Miles)	
			\$ 688-1,376	Total Estimated Cost of Potential SW Projects (In Millions, 2018)	

Key	
SW	Soundwall
NBSSR	Noise Barrier Scope Summary Report
Estimated SW Length	Derived from freeway frontage analysis

### Soundwall Materials Approved by Caltrans

Material Name	Material Description	Allowable Use	Current Status	Cost
Masonry Block	Masonry Blocks	Extensive use on the freeway system, on barriers or adjacent to the freeway shoulder	Approved	Construction Capital cost averages \$1,000/linear foot for a 14 foot high soundwall
Acrylite - Soundstop Masonry Wall System	Clear Acrylic Panels	Outside clear recovery zone of a highway or behind MASH approved barrier. Can not be mounted on Bridge Rails or Safety Barriers	Pending Caltrans Approval	The material is more expensive than masonry block according to the manufacturer
Acrylite - Soundstop Ready-Fit Noise Barrier Panel	Clear Acrylic Panels	Outside clear recovery zone of a highway or behind MASH approved barrier	Pending Caltrans Approval	The material is more expensive than masonry block according to the manufacturer
Acrylite - SoundstopTL4 System	Clear Acrylic Panels	On top of bridge rails crash, barriers or retaining walls	Approved	One example: \$109/sq ft or about \$1500/linear foot for a 14 foot soundwall. Used on I-405 Atherton St. undercrossing and 37th St. Harbor Transit Way Station



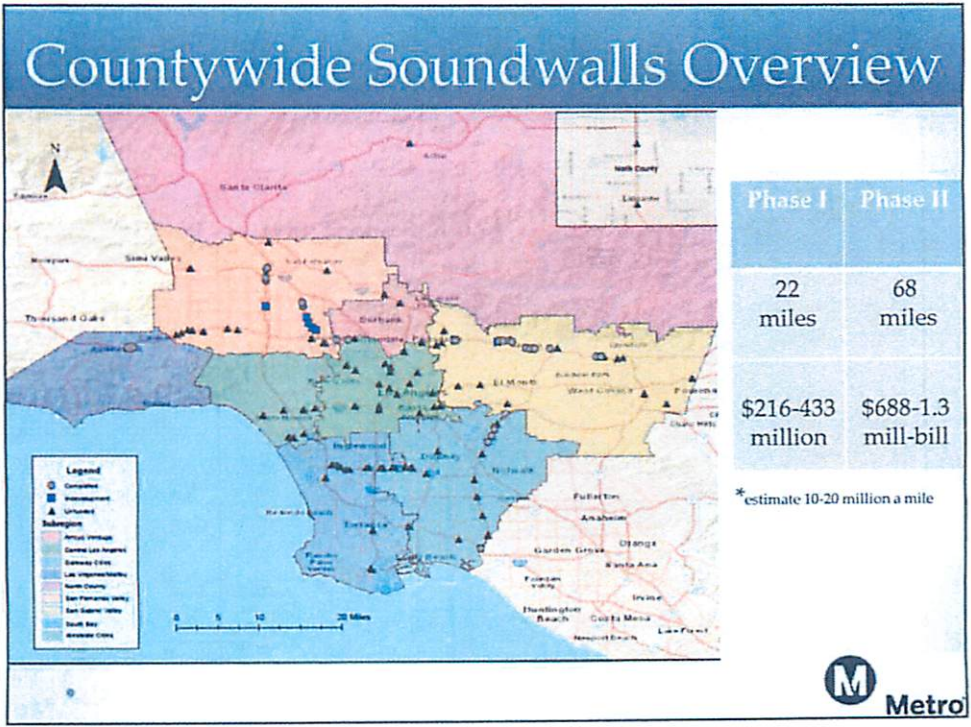
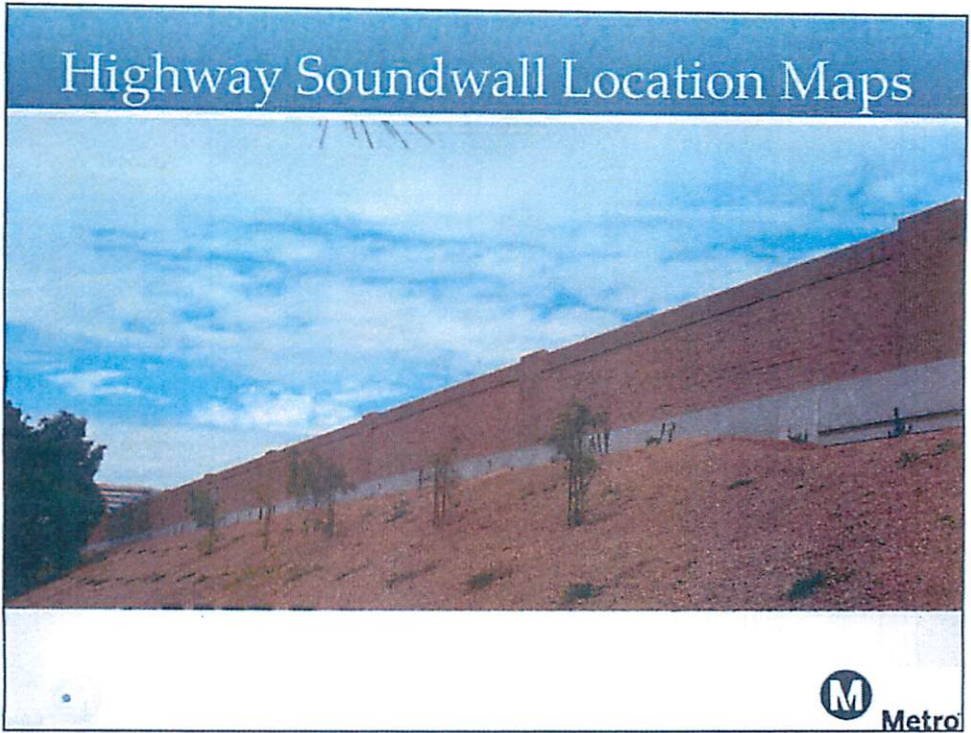
Masonry Block

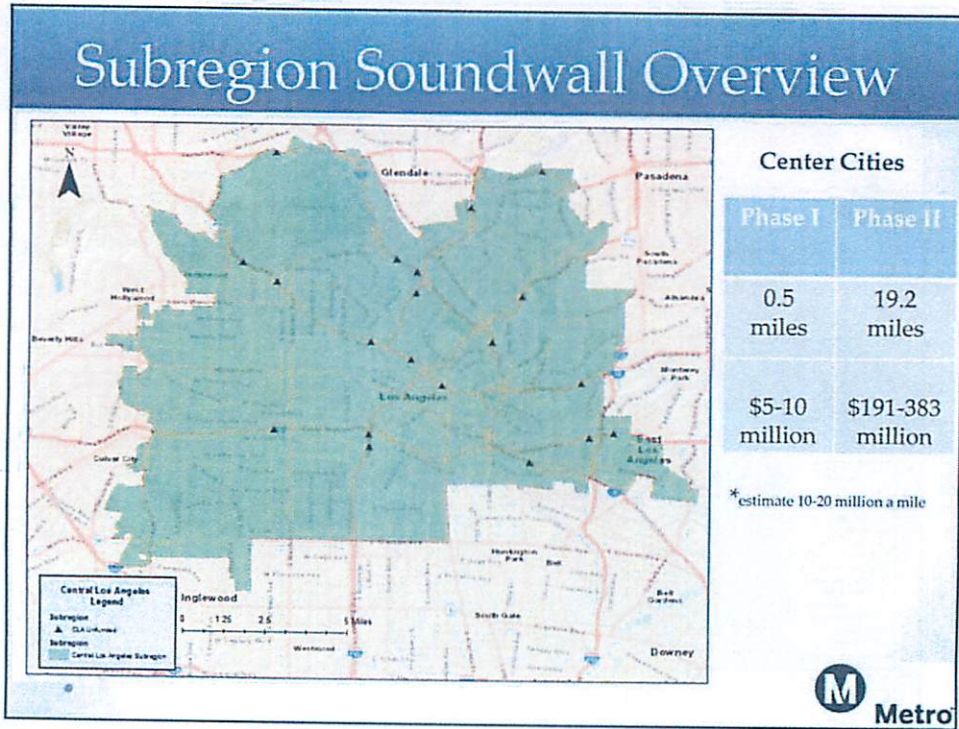
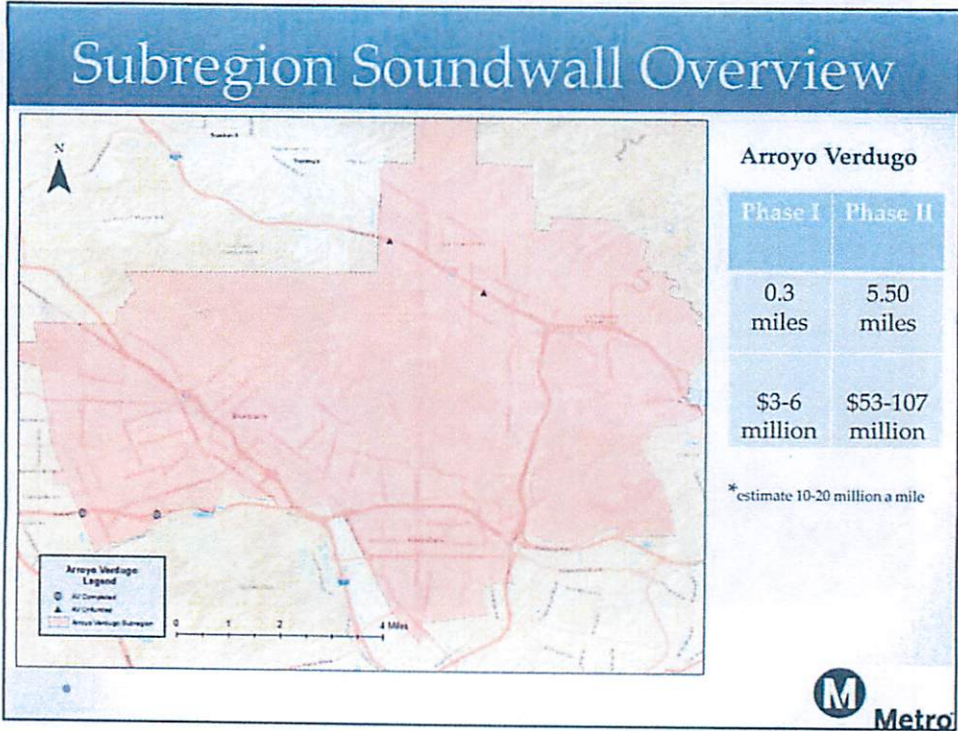


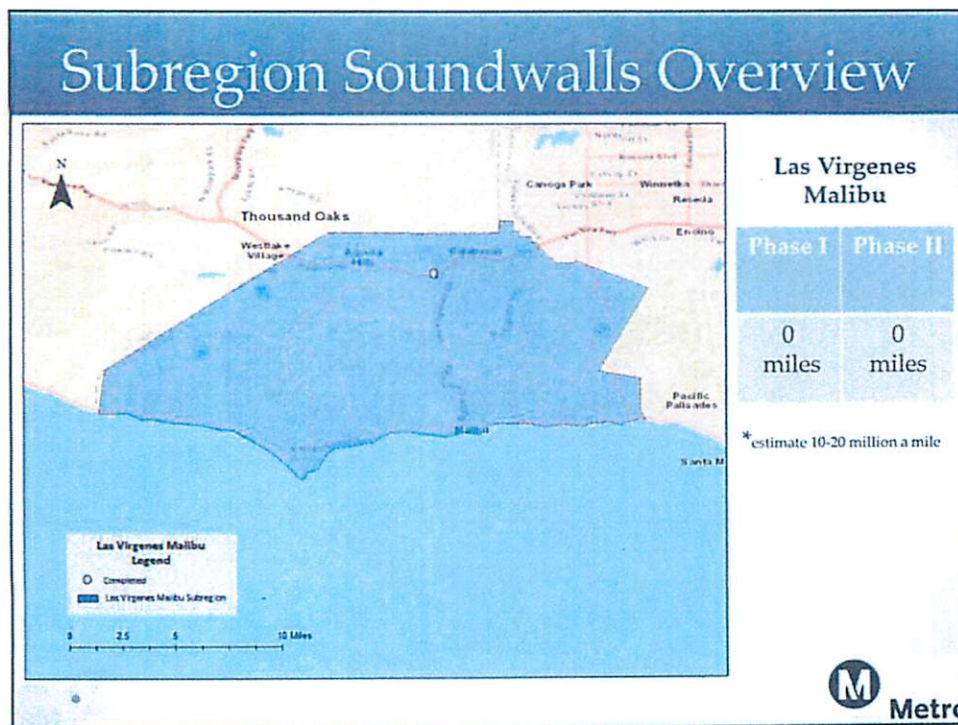
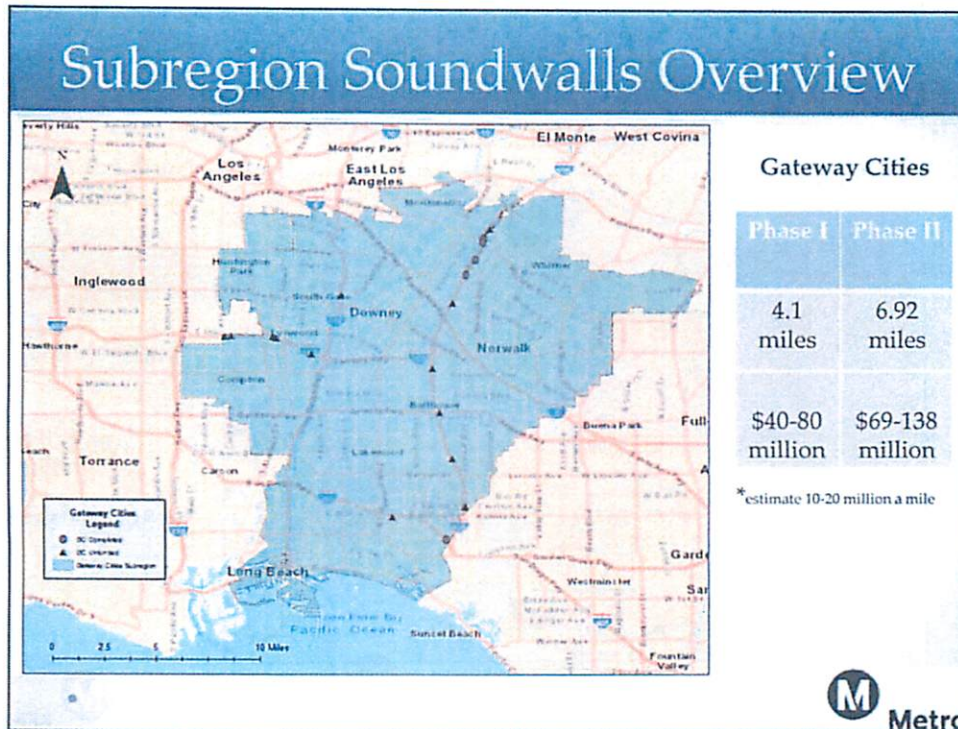
Acrylite - Soundstop Masonry Wall System & Ready-Fit Noise Barrier Panel

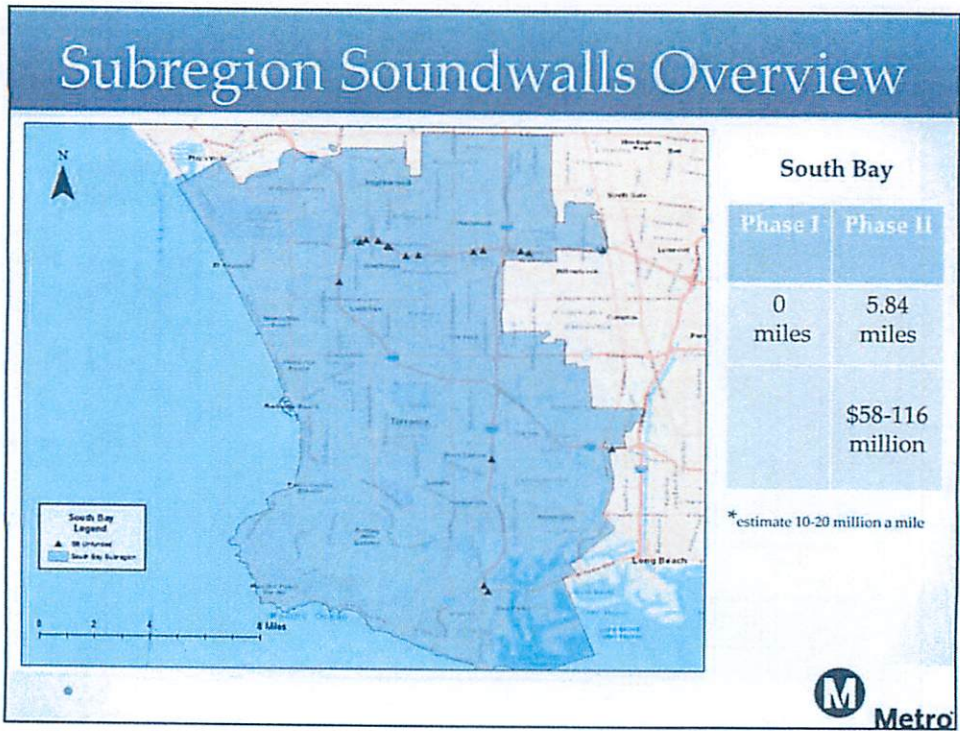


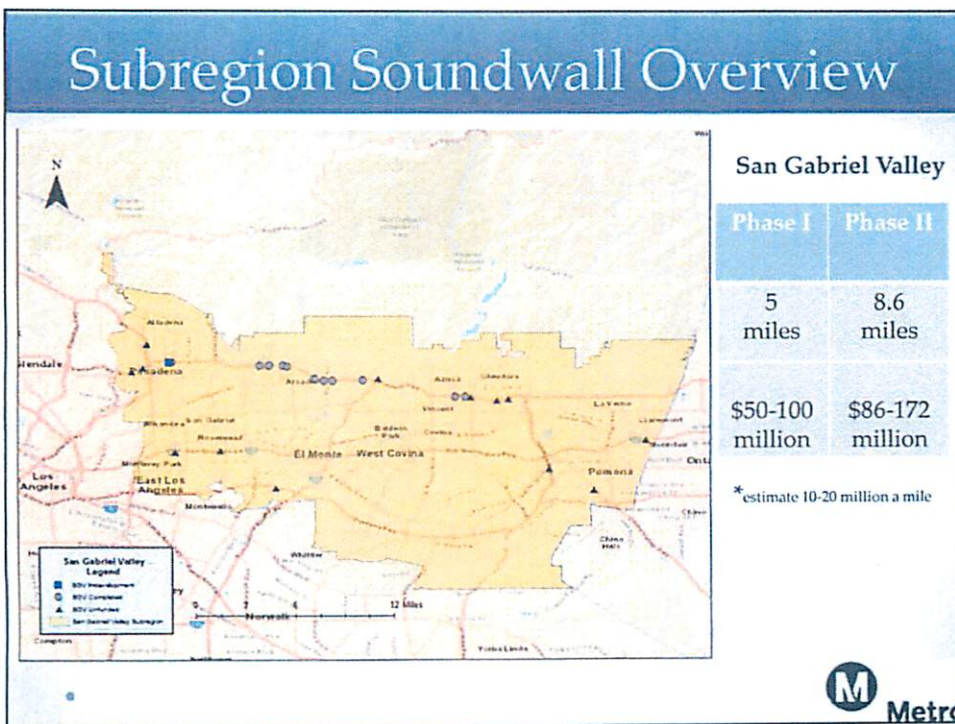
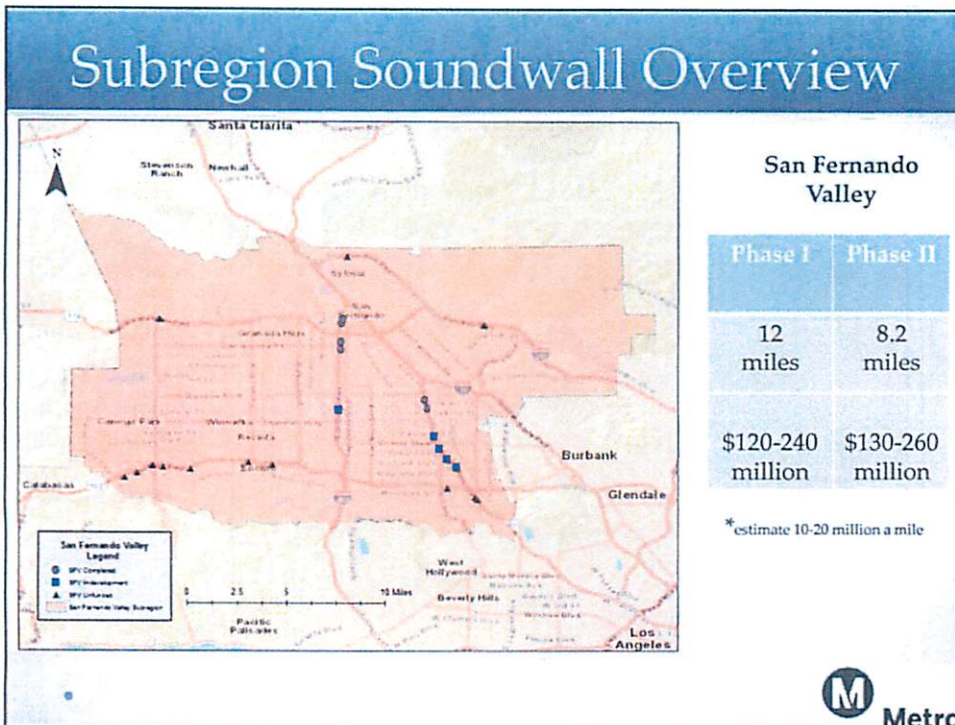
Acrylite - Soundstop TL4 System

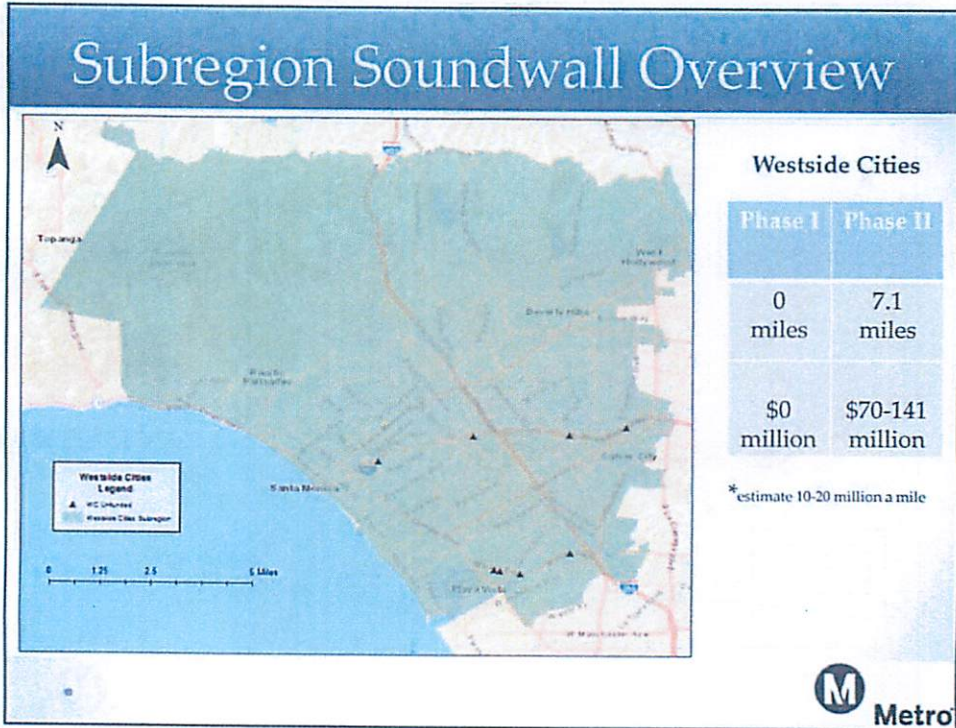














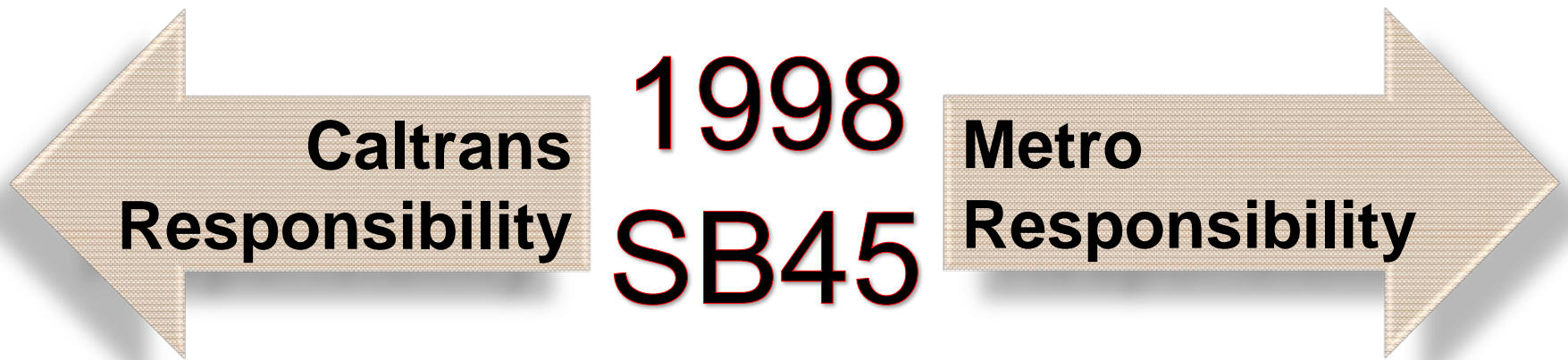
# Metro Soundwall Program

Highway Program  
February 2019



# 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 eligible residential neighborhoods constructed before an adjacent freeway





# Soundwall Program History



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 the requirements to be in Phase I but were identified after establishment of the initial Phase I list
- **Phase II** – All other soundwalls



# Eligibility Criteria for Soundwall Construction



**Feasibility Test** - A soundwall of a reasonable height constructed adjacent to a freeway must be able to attenuate noise.

- 1. Noise Level Threshold** - A minimum noise level of 67 dBA for one hour (the highest one hour noise reading)
- 2. Noise Reduction:** Min. 5 dBA reduction with a proposed wall
- 3. Cost Feasibility** - Max. \$92,000 cost per dwelling unit.



# Soundwall Project Funding & Delivery



1. Noise Investigation
2. Prepare Noise Barrier Scope Summary Report (NBSSR) to identify the proposed size and locations of soundwalls, environmental and other impacts, and provide the estimated cost
3. Priority assignment
4. Funding to proceed to design and construction phases

# Construction Requirements



# Alternative Materials



# 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	In 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



# Remaining Walls Phase I



## Priority 2

<u>Pkg</u>	<u>Route</u>	<u>Miles</u>	
12	210	1.7	Glendora
13	405	9	Long Beach, Carson
14	134	<u>0.6</u>	Eagle Rock
		<b>11.3</b>	<b>NET: 4.06 miles</b>

## Priority 3

	57	7.8	Diamond Bar
	91	5.6	Bellflower
	118	13.8	Los Angeles
	134	0.6	Toluca Lake, Burbank
	405	<u>0.7</u>	Long Beach, Los Angeles
		<b>28.5</b>	<b>NET: 7.6 miles</b>



Metro

**Total Miles: 39.8 (NET: 11.66)**

# Remaining Walls

## Phase II



<u>Route</u>	<u>Miles</u>	<u>Jurisdiction</u>
2	9.2	Los Angeles
5	10.2	Los Angeles
10	38.33	Santa Monica, LA, Alhambra, Monterey Park
14	8.4	Los Angeles, Lancaster
47	1.2	Los Angeles
57	2.8	Pomona
60	7.3	Los Angeles
71	1.7	Pomona
90	2.6	Los Angeles
91	0.12	Cerritos
101	14.77	Los Angeles, SFV, Calabasas
105	10.52	Los Angeles, Hawthorne, Lynwood, Willowbrook
110	18.55	Los Angeles, San Pedro
118	0.2	Los Angeles, Chatsworth
134	1.29	Los Angeles, Burbank, Glendale
210	42.6	Los Angeles, Glendale, Pasadena, Arcadia, Glendora,
405	3.04	Los Angeles, Long Beach
605	3.05	Lakewood, Pico Rivera, Whittier, Norwalk
710	<u>2.4</u>	Bell, South Gate
	<b>178.27</b>	<b>(NET: 68.8 miles)</b>





# Soundwall Cost



- ❑ Current cost (design and construction):
  - \$10 Million/mile if placed adjacent to the freeway shoulder
  - \$20 Million/mile if on bridge structures or retaining walls
  - Phase I: \$216.6 - \$433.2 million
  - Phase II: \$688 million - \$1.3 billion
  
- ❑ Funds in LRTP (starting in 2024): \$350.8 million

# Soundwall Funding



Eligible Fund Source	Eligible Phase	Comments
Prop. C 25% & RIP	I	2024-2040 Years New Funding is Available
<b>Measure R</b>		
Metro Allocation	I & II	\$17.3 (2024). 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
<b>Measure M</b>		
Subregional Highway Funds & Local Return	I & II	Guidelines Developed. Local return may be used to build soundwalls.
SB 1 Local Partnership Program	I & II	LPP Funds a broad variety of projects. Limited funding availability, soundwalls have to compete.





# For More Information

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

