

POSSIBLE NOISE CONTROL BENEFITS of HIGHWAY CROSS-SECTION SELECTION

A Presentation to the TRB ADC40
Transportation-Related Noise & Vibration Committee
Highway Noise Subcommittee

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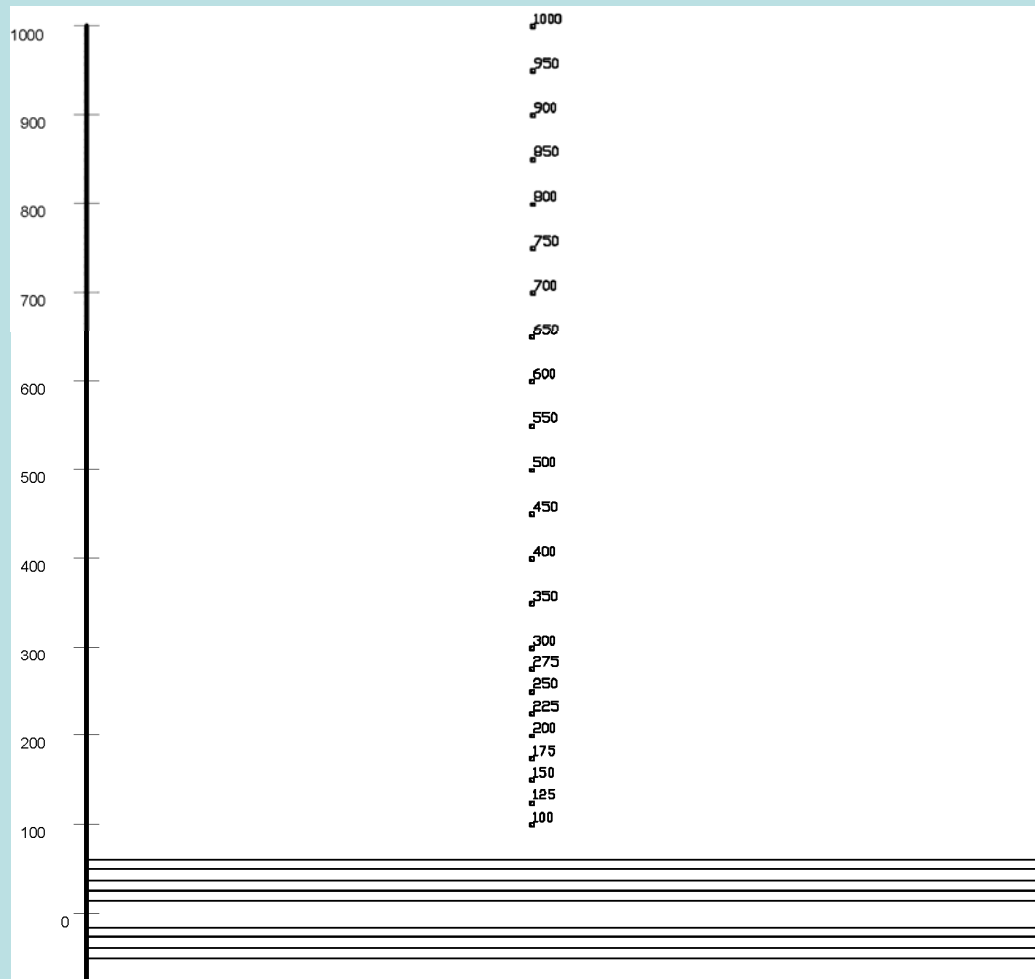
STAIANO ENGINEERING, INC.

ASSUMED SCENARIO

- 200-ft wide right-of-way
- 6-lane, divided highway
- 10-ft center and side paved shoulders
- 0–40-ft additional median
- Various median features
- Receptors at 100–1000 ft re centerline
- Flat ground

TNM SITE MODEL

20-ft Soft Median

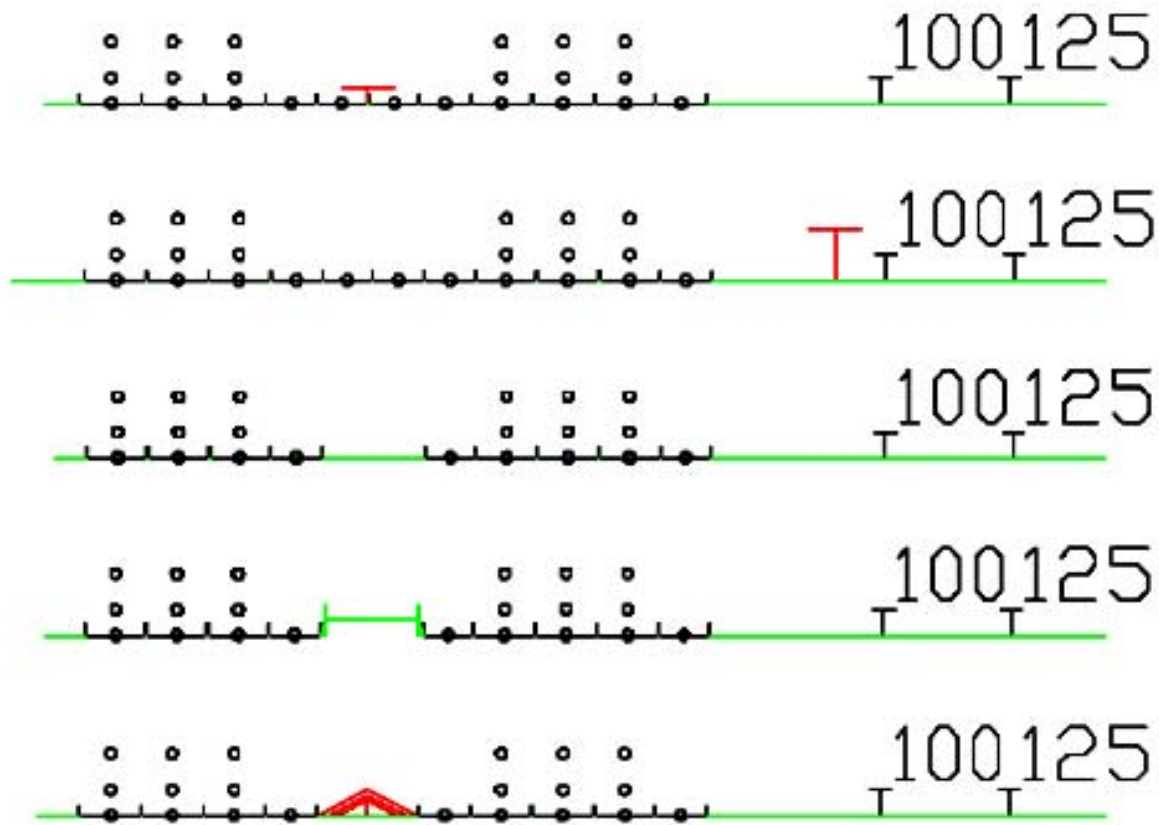


ANALYZED SECTIONS

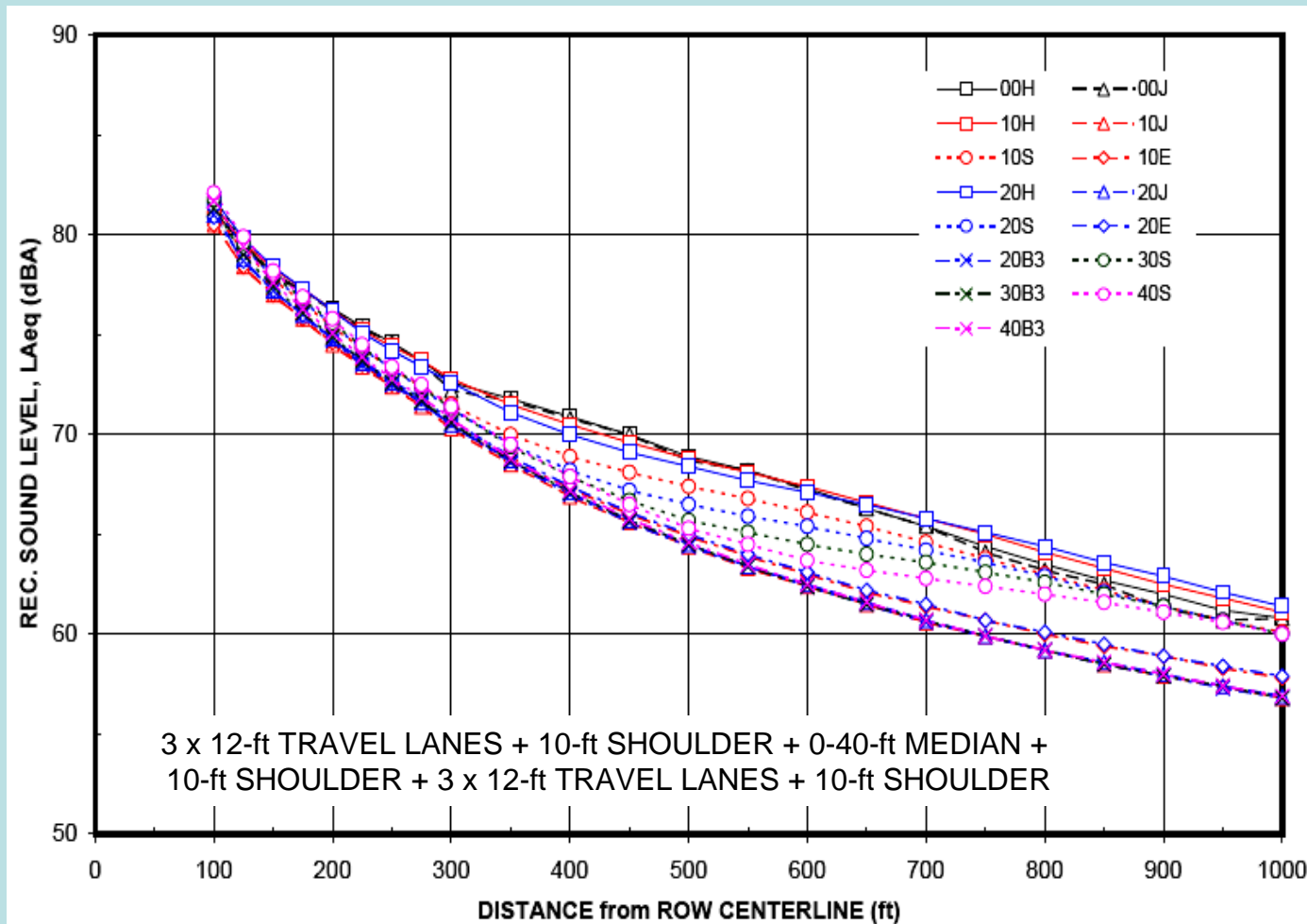
CONFIGURATION	MEDIAN WIDTH (ft)				
	0	10	20	30	40
Hard Median	00H	10H	20H		
Hard Median/Jersey Barrier	00J	10J	20J		
Hard Median/ROW Wall	00HW	10HW	20HW		
Jersey Wall/ROW Wall	00JW	10JW	20JW		
Soft Median		10S	20S	30S	40S
Elevated Soft Median		10E	20E		
Median Berm			20B	30B	40B
Soft Median/ROW Wall		10SW	20SW	30SW	40SW
Elevated Median/ROW Wall		10EW	20EW		
Median Berm/ROW Wall			20BW	30BW	40BW

SECTION DESIGNS

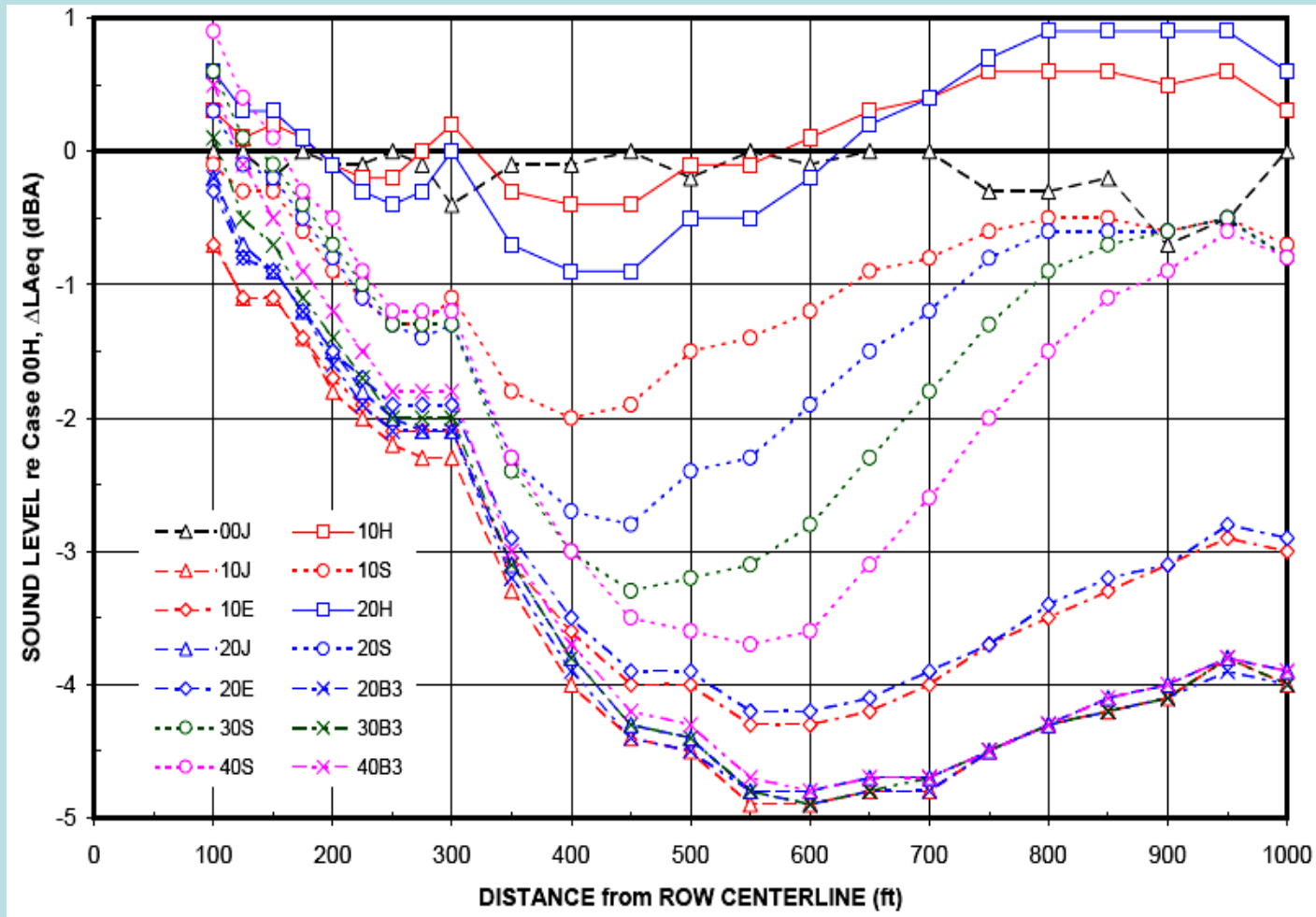
10-ft Center Shoulders + 20-ft Median



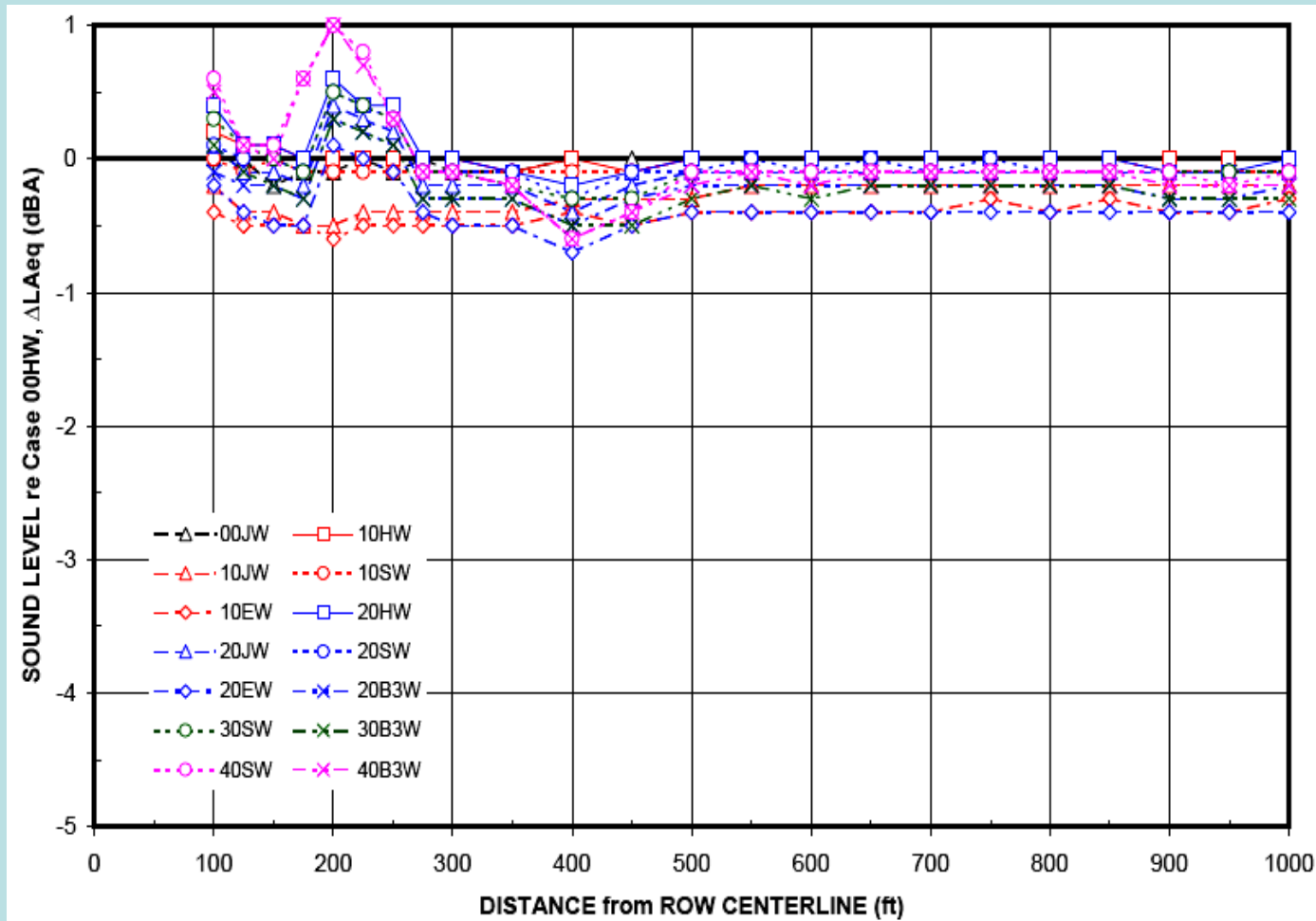
SOUND LEVELS by ROADWAY CROSS-SECTION



SOUND LEVEL CHANGE by CROSS-SECTION Without ROW Barrier

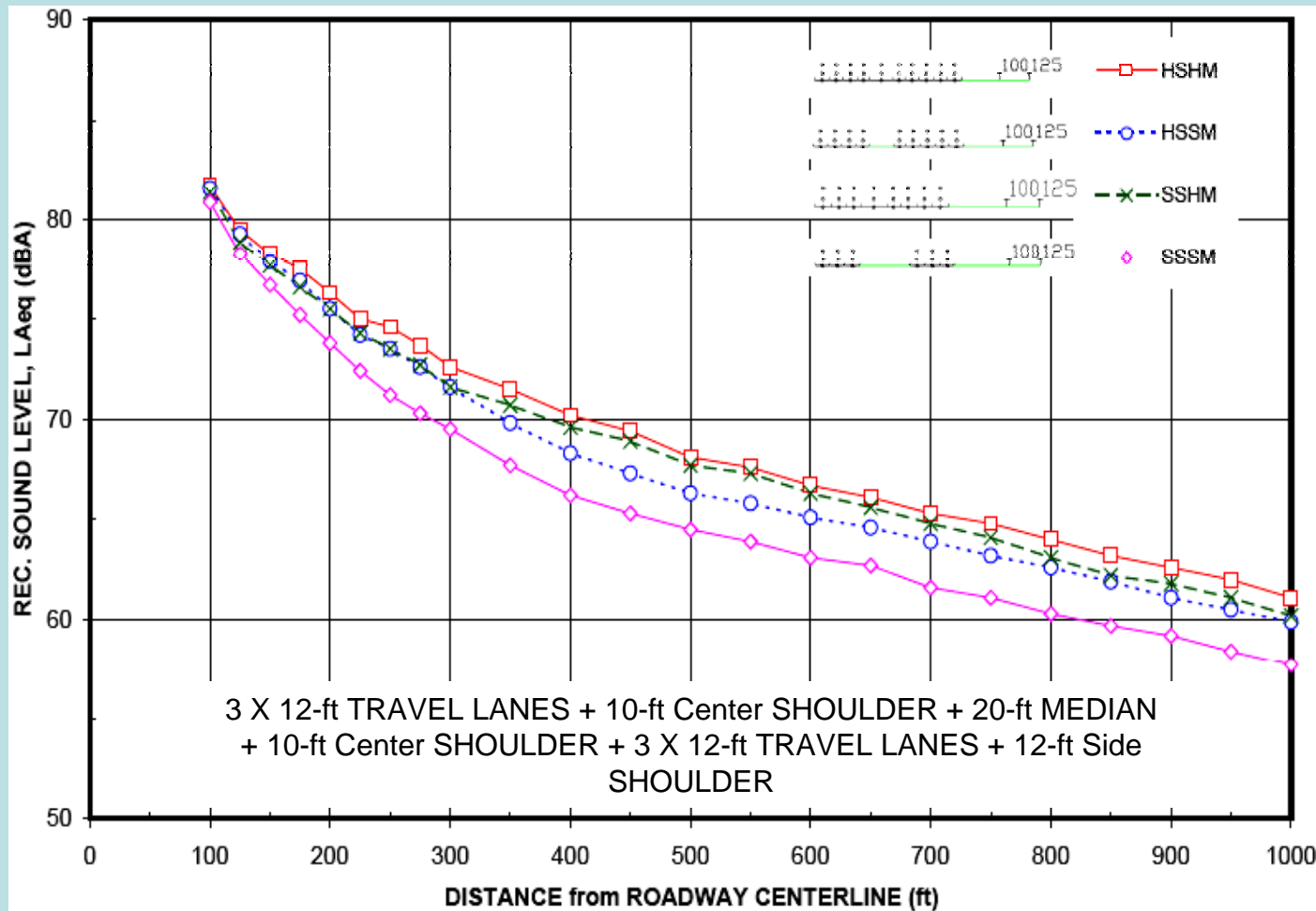


SOUND LEVEL CHANGE by CROSS-SECTION With 10-ft ROW Barrier



ABSORPTIVE SHOULDERS

Predicted Sound Levels—300 v. 20,000 rayl Shoulders



ABSORPTIVE SHOULDERS

Sound Level Reductions—300 v. 20,000 rayl Shoulders

