

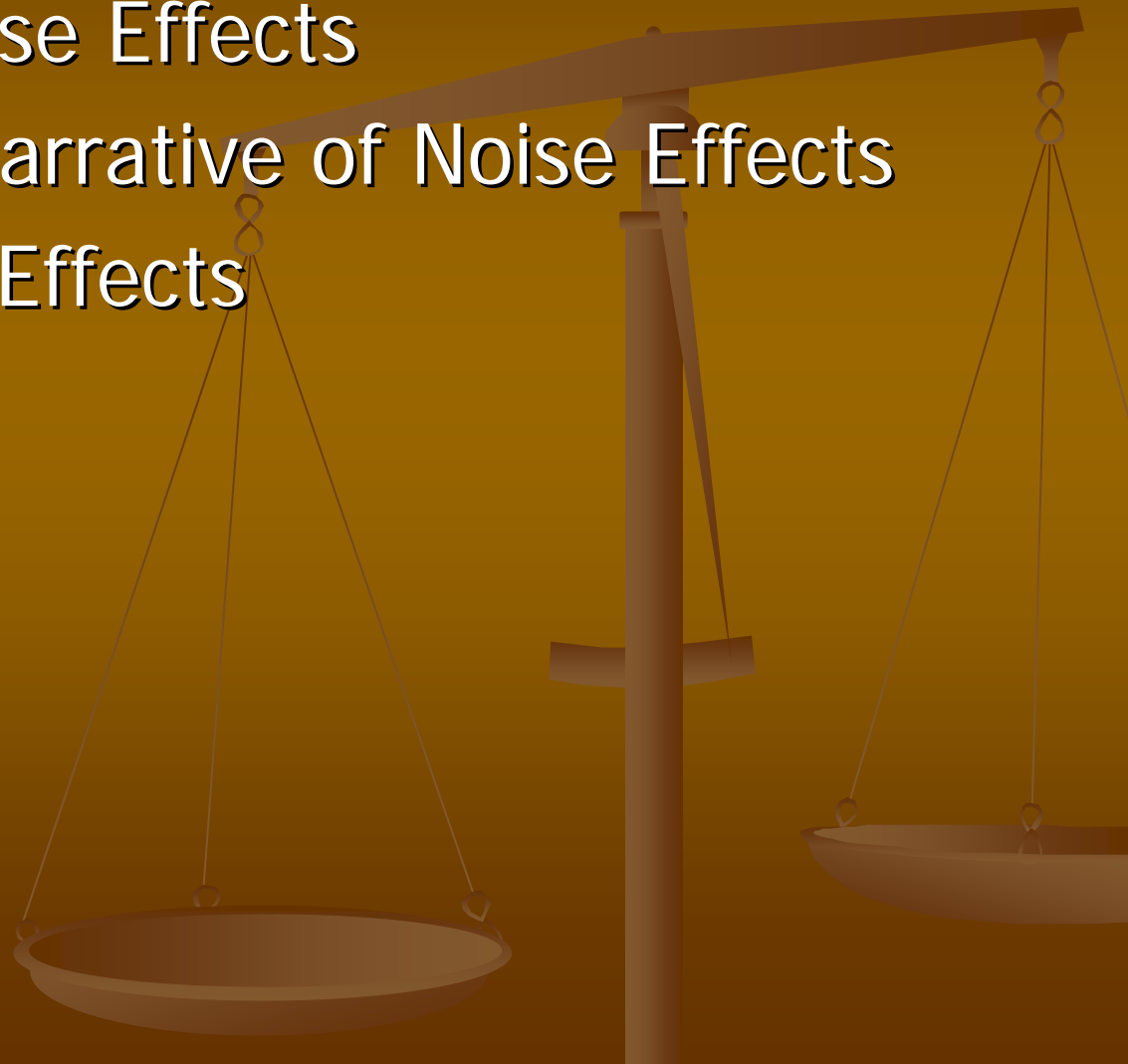
Independent Consultant's Overview of Noise Results

Boston Logan Airport Noise Study

November 9, 2006

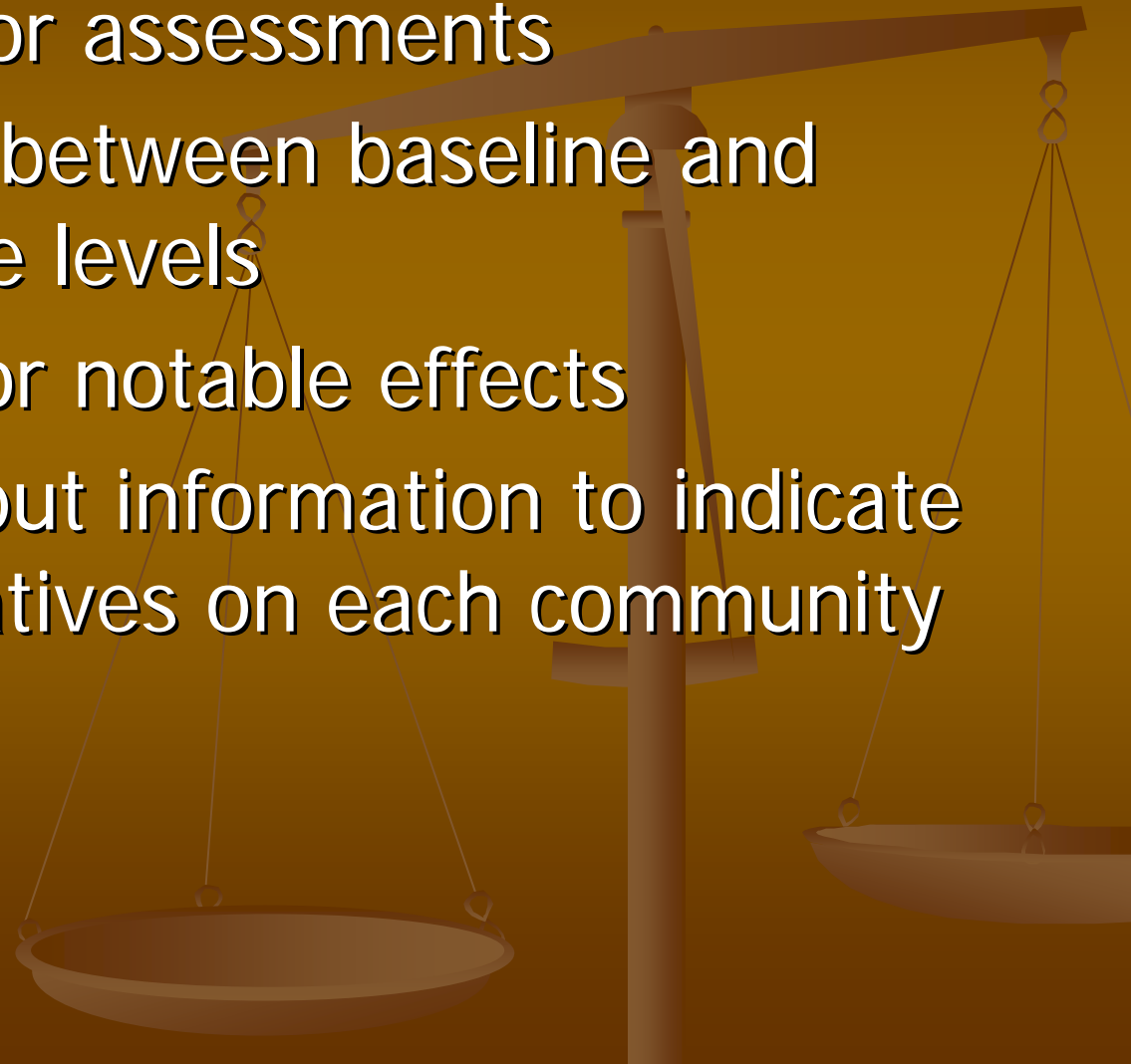
Components of Evaluation

- Narrative of Noise Effects
- Supplemental Narrative of Noise Effects
- Matrix of Noise Effects

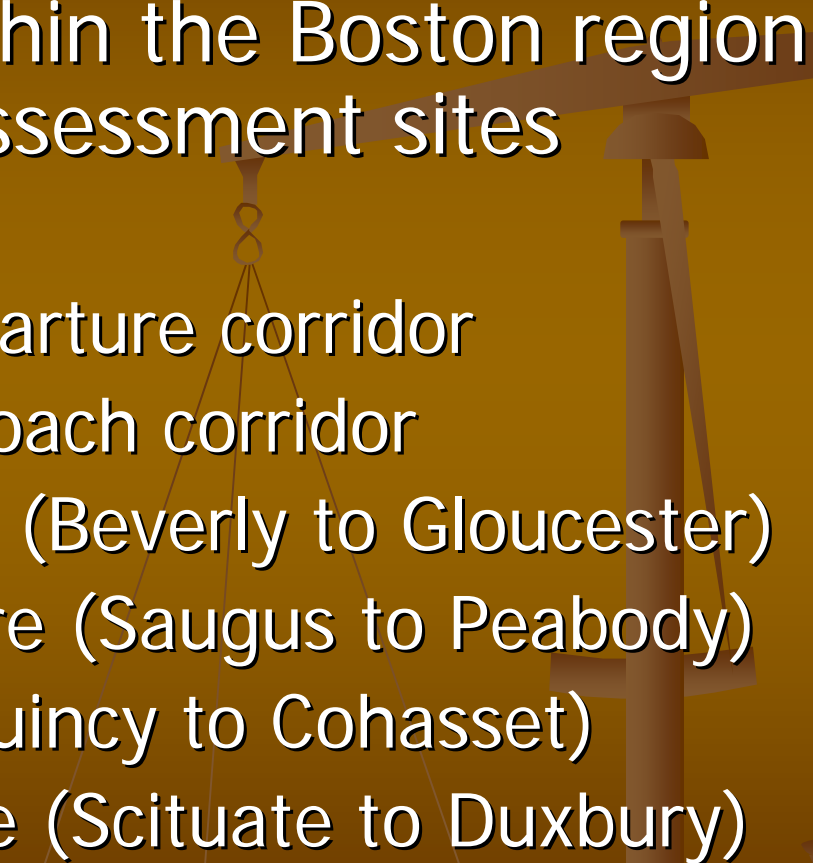


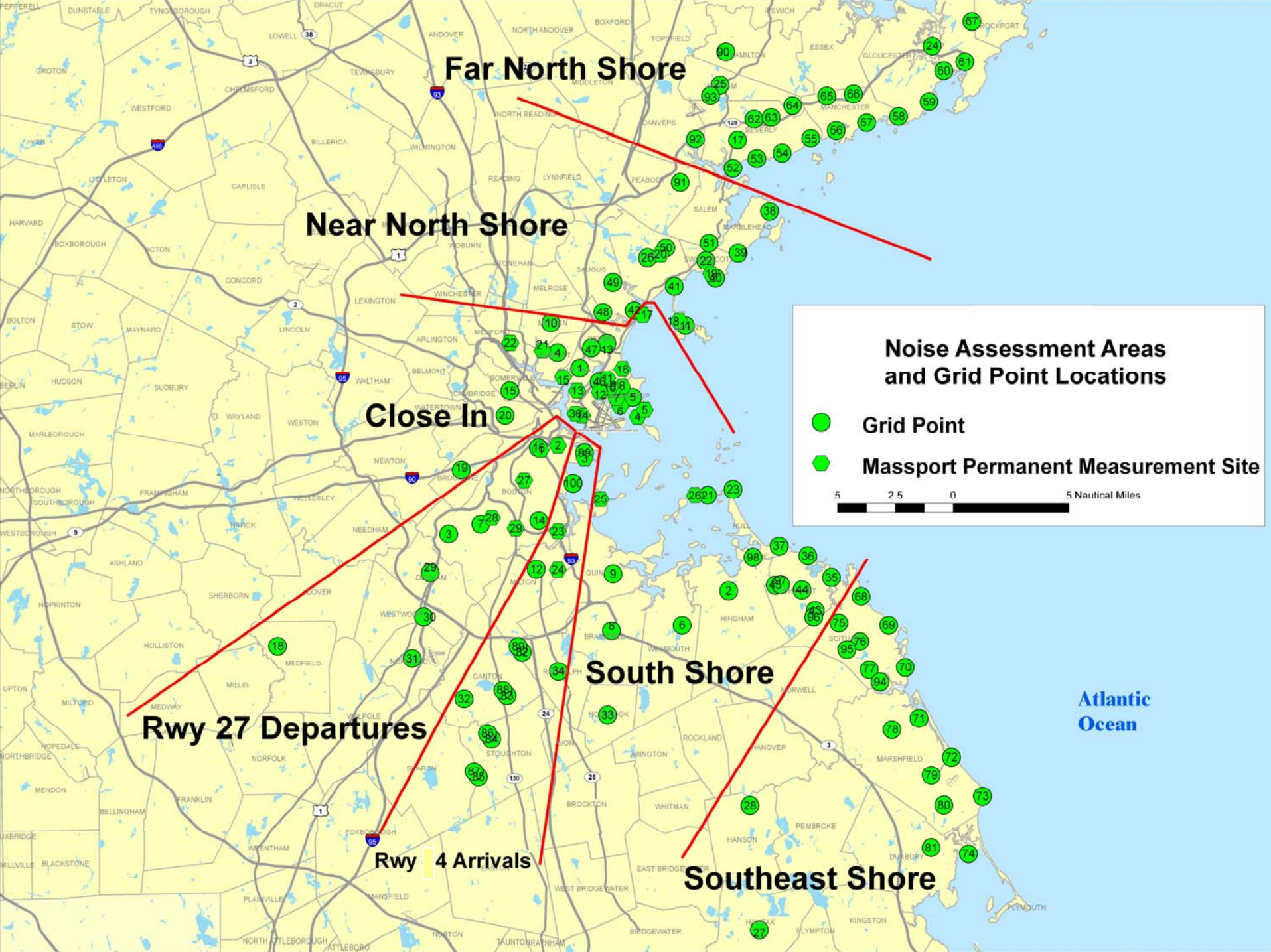
Evaluation Process

- Identify areas for assessments
- Review change between baseline and alternative noise levels
- Select criteria for notable effects
- Process PC output information to indicate effect of alternatives on each community



Assessment Locations

- Seven areas within the Boston region including 130 assessment sites
 - Close-in
 - Runway 27 departure corridor
 - Runway 4 approach corridor
 - Far north shore (Beverly to Gloucester)
 - Near north shore (Saugus to Peabody)
 - South shore (Quincy to Cohasset)
 - Southeast shore (Scituate to Duxbury)
- 



Far North Shore

Near North Shore

Close In

South Shore

Southeast Shore

Rwy 27 Departures

Rwy 4 Arrivals

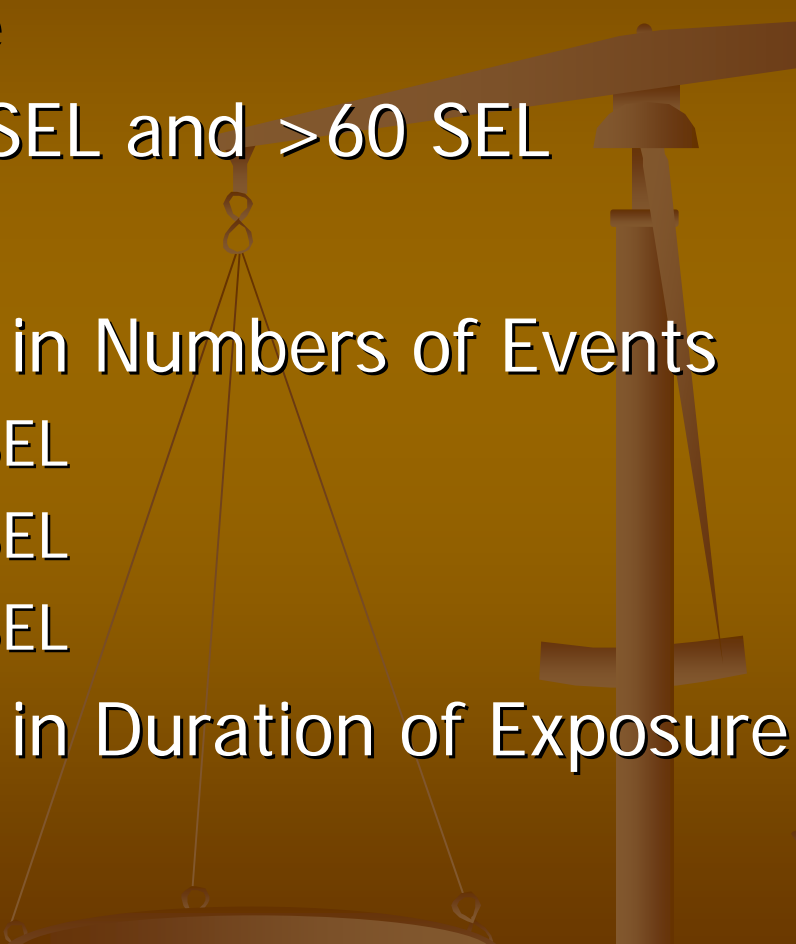
Noise Assessment Areas and Grid Point Locations

-  Grid Point
-  Massport Permanent Measurement Site

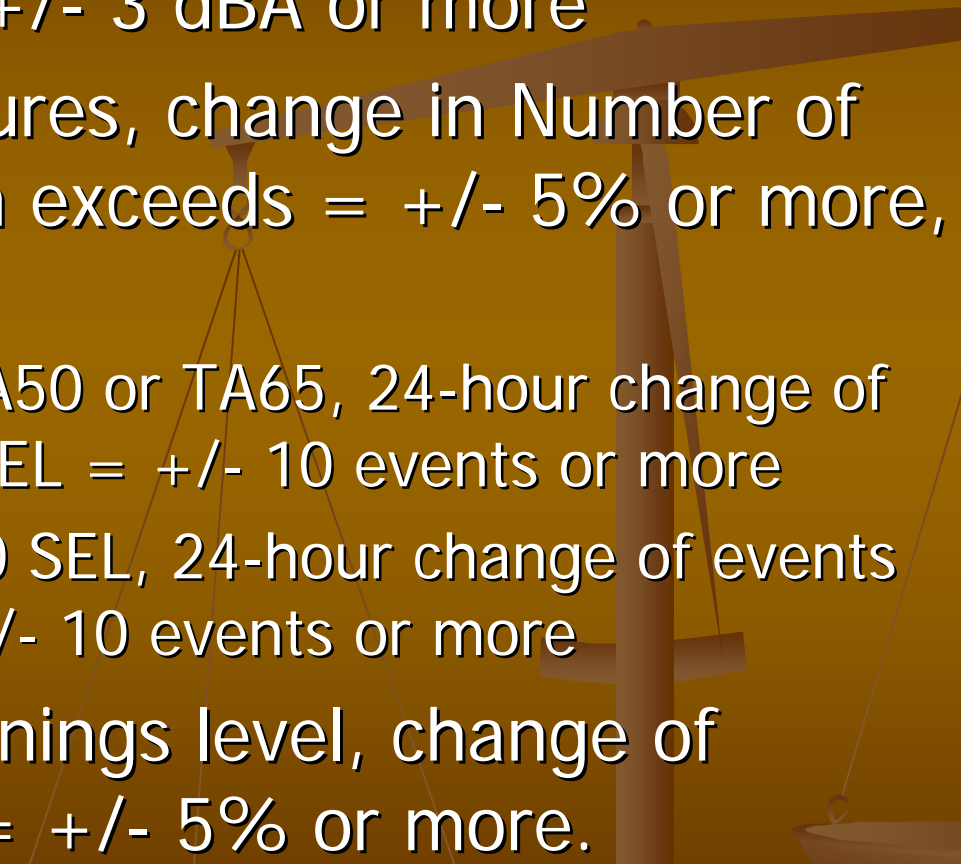
5 2.5 0 5 Nautical Miles

Atlantic Ocean

Data Comparisons

- Change of Altitude
 - Total Events >50 SEL and >60 SEL
 - Change in DNL
 - Degree of Change in Numbers of Events
 - Above 50 dBA of SEL
 - Above 60 dBA of SEL
 - Above 80 dBA of SEL
 - Degree of Change in Duration of Exposure
 - Above 50 dBA
 - Above 65 dBA
- 

Notability Criteria

- Change of DNL – +/- 3 dBA or more
 - For 24-hour measures, change in Number of Events or Duration exceeds = +/- 5% or more, and ...
 - For NEA 50 and TA50 or TA65, 24-hour change of events above 50 SEL = +/- 10 events or more
 - For NEA 60 and 80 SEL, 24-hour change of events above 60 SEL = +/- 10 events or more
 - For NEA 70 awakenings level, change of nighttime events = +/- 5% or more.
- 

Sample Results in the Matrix

Alternative 2 – North Shore

Community	Grid Point	Baseline		Change		DNL	NEA			TA	
		50+	60+	50+	60+		+50	+60	+80	+50	+65
Beverly	PT017	116	54	-4	-2		▨	▨		▨	
Beverly	PT052	139	69	-4	-6		▨	▨	▨	▨	▨
Beverly	PT053	121	59	-2	3		▨	▨	▨	▨	
Beverly	PT054	110	48	3	11		▨	■		▨	
Beverly	PT055	89	27	10	16		■	■		■	
Beverly	PT062	100	40	-2	3		▨	▨		▨	
Beverly	PT063	95	35	2	5		▨	▨		▨	
Danvers	PT092	120	60	-10	-12		■	■		■	



= Notable increase



= Notable increase



= < 5% Change

Sample Results in the Matrix

Alternative 2 – South Shore

Community	Grid Point	Baseline		Change		DNL	NEA			TA	
		50+	60+	50+	60+		+50	+60	+80	+50	+65
Cohasset	PT045	343	195	-35	-32		■	■	■	■	■
Cohasset	PT096	278	145	-20	-15		■	■	■	■	■
Cohasset	PT097	337	193	-31	-30		■	■	■	■	■
Hingham	PT002	350	165	-38	-32		■	■	■	■	■
Hingham	PT098	387	219	-37	-38		■	■	■	■	■
Holbrook	PT033	164	64	-9	-1		▨	▨	■	■	■
Hull	PT021	582	343	-14	-28		▨	■	■	▨	■
Hull	PT023	525	292	-12	-37		▨	■	▨	■	▨
Hull	PT037	376	231	-25	-40		■	■	■	■	■