



## PROCESS

**1** Identify noise sensitive areas (homes, churches, etc.) of a potential traffic noise impacts

**2** Determine existing noise levels by conducting noise measurements

**3** Predict future noise levels and identify impacts of 64-dBA or more or if noise levels exceed existing by 15-dBA.

**4** Evaluate and Propose abatement measures:

- City of Scottsdale allows a maximum of \$60,000 per benefitted property for at least a 5-dBA reduction
- Noise levels must be reduced to 64-dBA or lower

Noise abatement measures include:

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- Noise walls, berms or a combination
- Acquisition of Right-of-Way to provide a Buffer Zone
- Change to Horizontal or Vertical Alignment
- Traffic Management Measures (Control Devices or Traffic/Vehicle Restrictions)
- Break the Line-of-Sight
- Noise abatement measure modeled out to 20 year estimations

## COMMON INDOOR & OUTDOOR NOISE LEVELS



## FACTS ABOUT NOISE

- Noise is unwanted sound. Noise is perceived differently by every individual.
- An increase of 10-dBA will cause the noise to be perceived as sounding twice as loud.
- The smallest change in noise level that can be detected by the human ear is about 3-dBA.
- Doubling the traffic volume on a highway will increase the noise level by 3-dBA.
- Barriers are designed to reduce noise to an acceptable or tolerable level.
- Noise barriers along a roadway are most effective for homes within about 300 feet of the closest travel lane.
- Noise walls range in height from 8 to 20 feet, depending on what height is needed to reduce the noise to an acceptable level.
- An earth berm (a large mound of packed dirt usually with landscaping) will provide slightly more noise reduction than a vertical barrier wall of the same height.
- Vegetation is another noise reducing element. Typical roadside landscaping does not affect noise levels.
- A noise barrier that breaks the line of sight between the source (traffic) and the receiver (residents) reduces noise by approximately 5-dBA. Each additional foot of height reduces the noise level by another half decibel.

