Grant Road
Widening and Improvements

Noise Review: Grant Road
Hampton St to Santa Rita Rd

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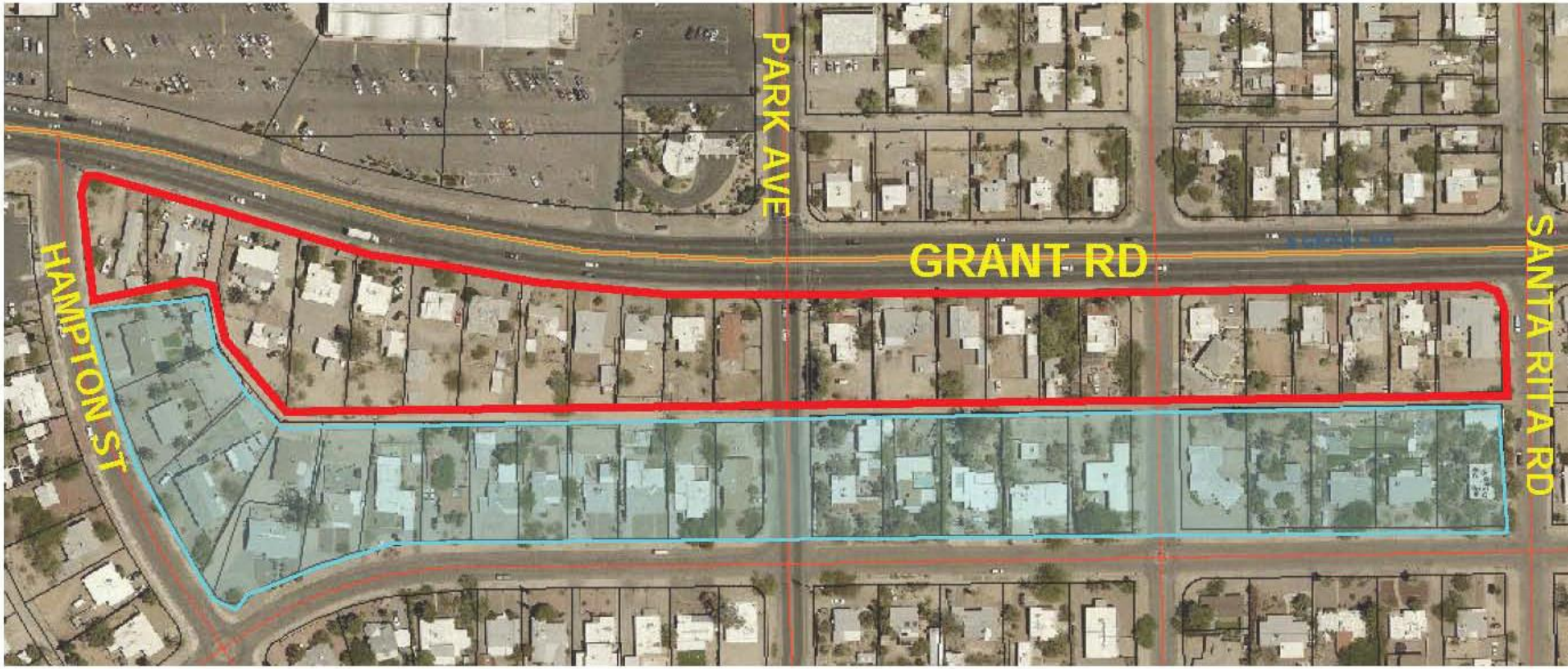
Study Area for Noise

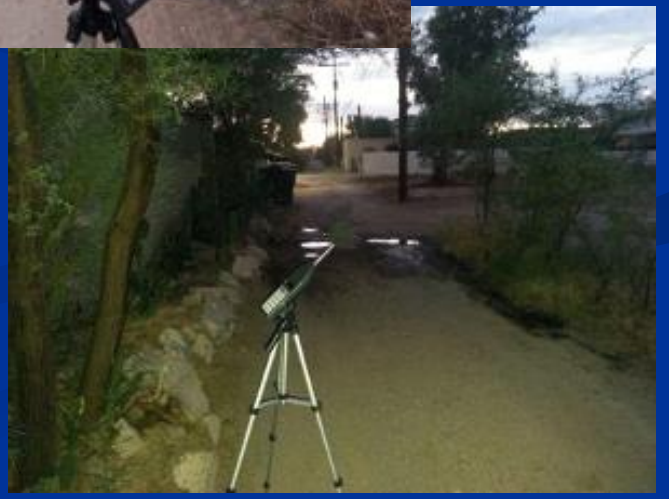


Noise Study Steps

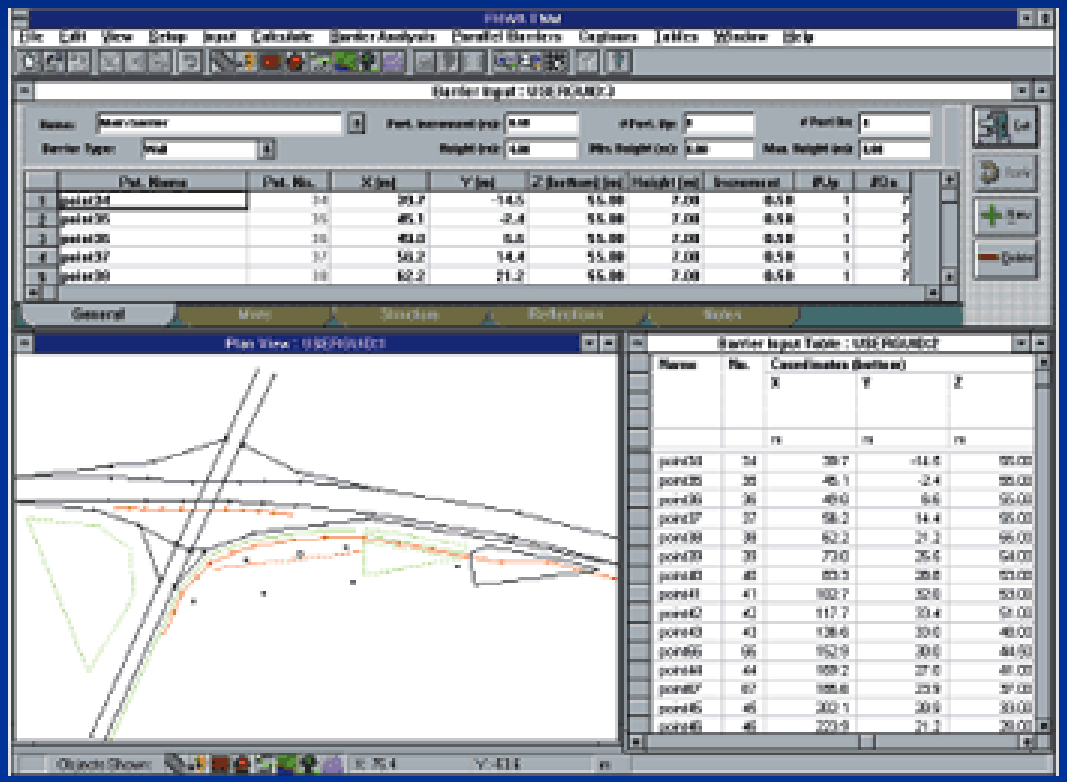
1. Measure Existing Noise and Calibrate Noise Model
2. Predict Existing Noise
3. Predict Future Noise
4. Compare with Guideline

Measure Existing Noise

Verify and Calibrate Noise Model



Predict Existing Noise Levels



FHWA Traffic Noise Model (TNM)

- Volume
- Mix
- Topography
- Traffic controls

Predict Future Noise Levels

- Noise predicted for peak traffic hour 20 years following project completion
- In our case → 2037

Acoustics Background

- 60 dBA – conversation at 3 feet
- dBA – A-weighted decibel scale
- Leq – equivalent noise level
- Logarithmic scale
  - 1 dBA imperceptible change
  - 3 dBA just noticeable change
  - 6 dBA clearly noticeable change

City/RTA Noise Guideline

Mitigation to be considered if:

- **66 dBA** or higher (future noise level)

or

- **15 dBA** increase (existing to future)

(if either exceeded, noise mitigation measures need to be considered)

Noise mitigation (where required) can be accomplished using Rubberized asphalt (RAC), walls, road alignment, traffic control, truck routing

Noise Mitigation with Sound Walls

If noise levels exceed limits,
Evaluate Reasonability and Feasibility
(all of the following must be met)

1. Provide at least 5 dBA noise reduction
2. Cost per benefitted receiver <$35k
3. 2 or more benefited receivers
4. 10 ft max wall height
5. Majority of residents approve

Mitigation with Noise Walls

- To be effective must block line-of-sight from source
- Walls are most effective when close to barrier or receiver
- Only impacts noise sources that it blocks - no impact on Air Conditioning, dogs, aircraft, etc

Noise Mitigation with Rubberized Asphalt Concrete (RAC)

- Mitigates tire-road noise
  (no impact on other noise sources)
- Not effective for engine noise: trucks, intersections, hills
- Maintenance is costly
- 3 dBA reduction in noise

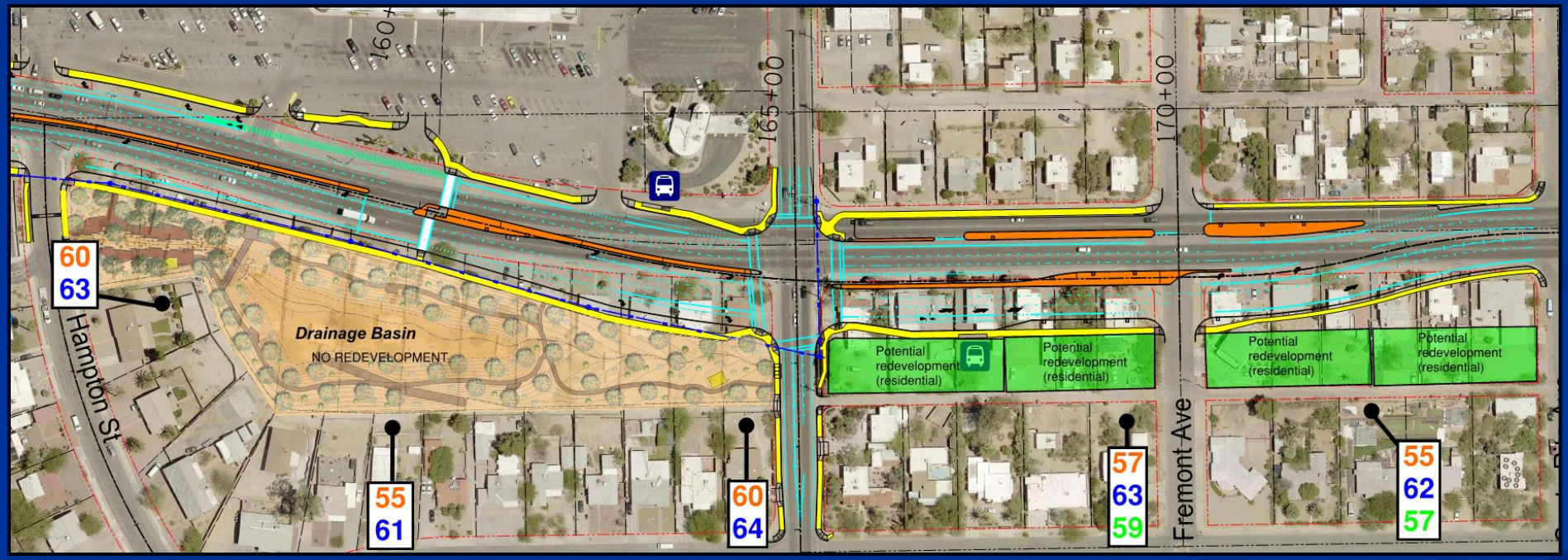
Noise Prediction Summary

Existing and Future (No mitigation)

55 Predicted Before Project
62 Predicted Future - No mitigation

Noise Prediction Summary

Existing and Future with new homes in remnant parcels



XX	Predicted Before Project
XX	Predicted Future (2037) - No mitigation
XX	Predicted Future (2037) - No mitigation, homes in remnant parcels

Conclusion

- The predicted Future Build noise levels are below the Regional Transportation Authority (RTA) noise limits for mitigation
- No noise mitigation measures are needed.

Questions?