James River Freeway Sound Wall Public Meeting

Glenstone Ave. to National Ave.

May 2, 2017

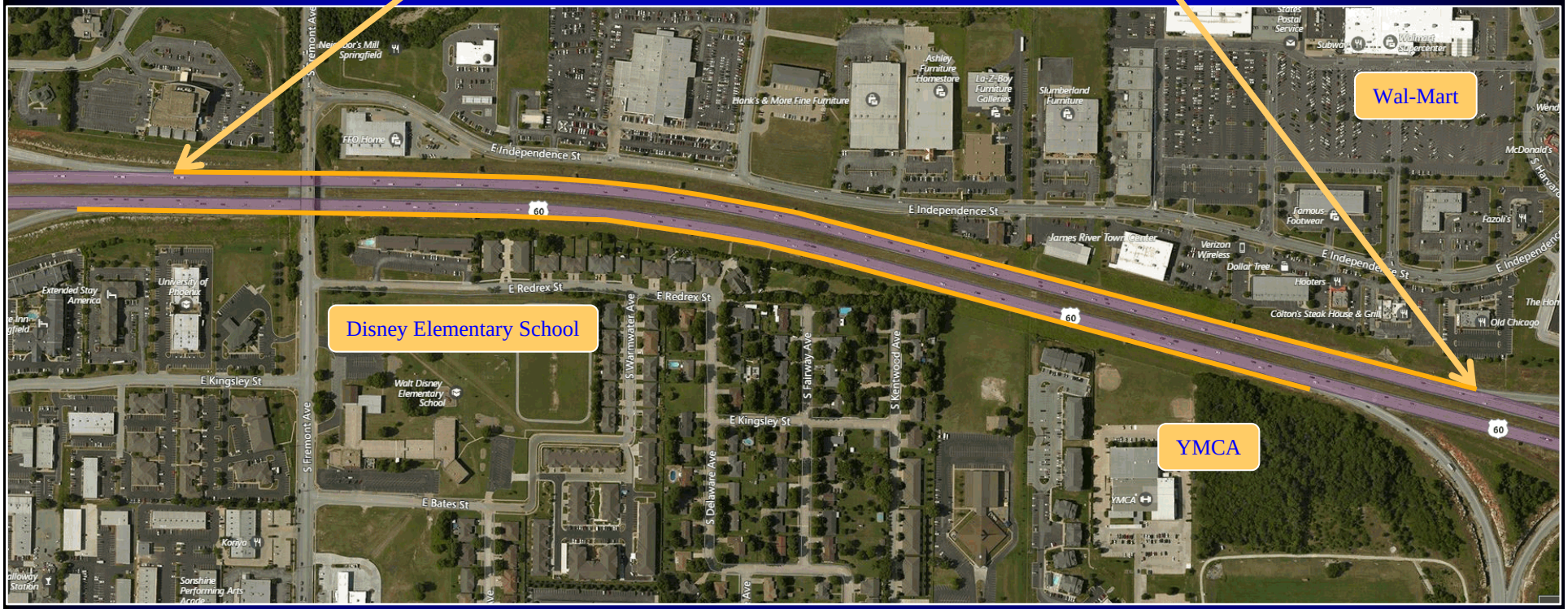
Don Saiko and Andy Mueller
Missouri Department of Transportation

Outline of Discussion

- What initiated the noise/sound wall study?
- Highway noise
- Types of noise abatement (ways to lessen noise)
- Sound wall criteria
- The study areas for US 60
- What's next? – the vote

How was noise study initiated?

Limits of auxiliary lanes



Source: Bing Maps

Main Causes of Noise

Truck Exhaust

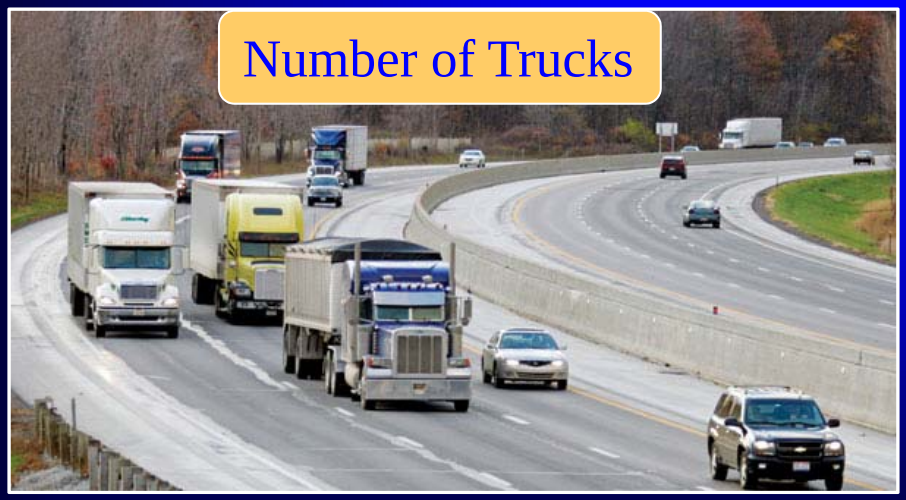
Tire/Road Noise

Vehicle Engines

What Determines Noise Level

Number of Vehicles

Number of Trucks



Speed of Traffic

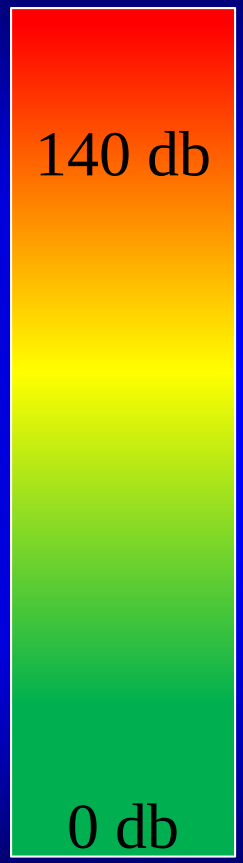
Example of Noise Level

V.S.

Traffic traveling at 65 MPH is twice as loud as traffic traveling at 30 MPH

How is Noise Measured?

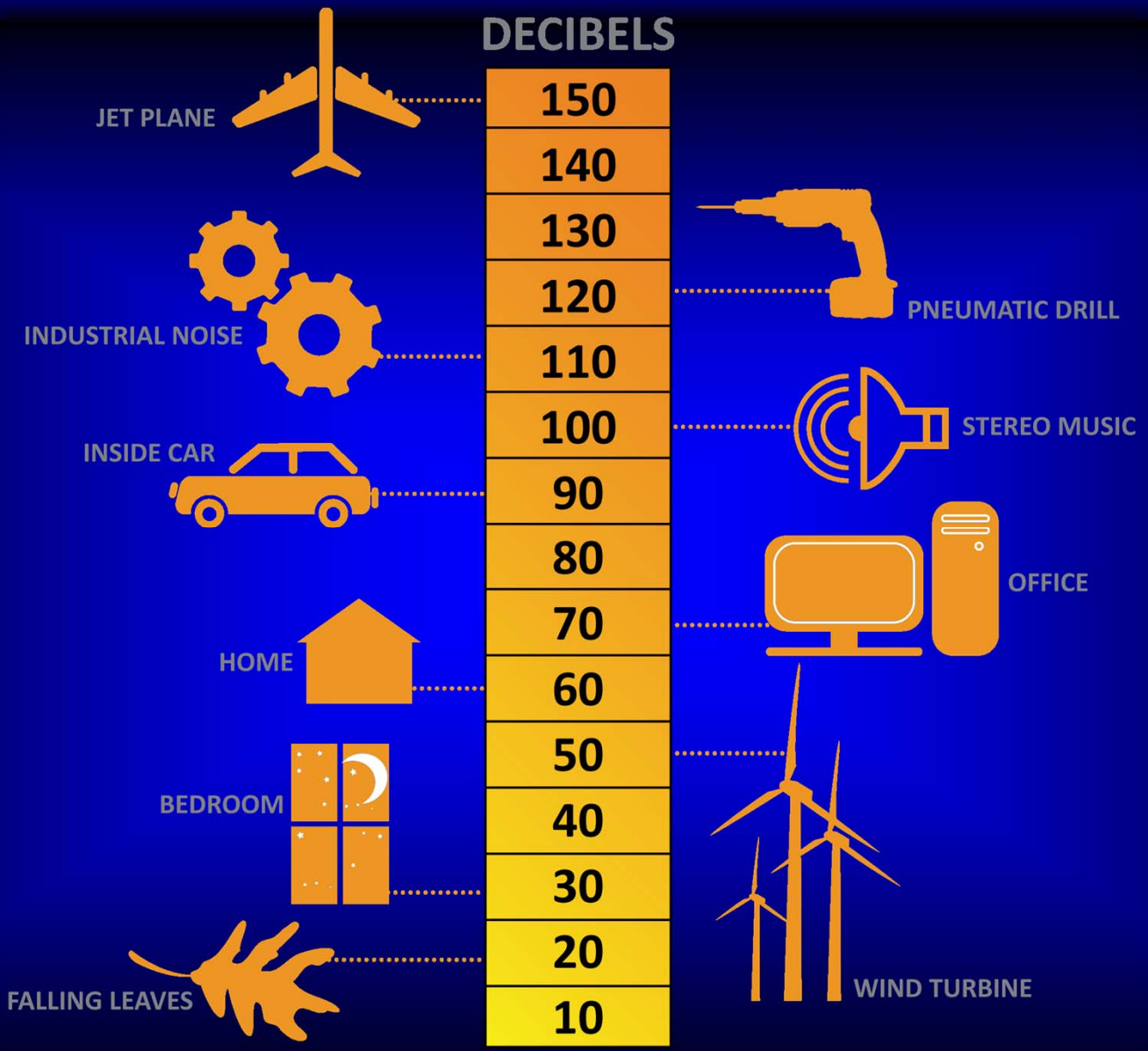
A scale known as Decibel



Threshold of pain

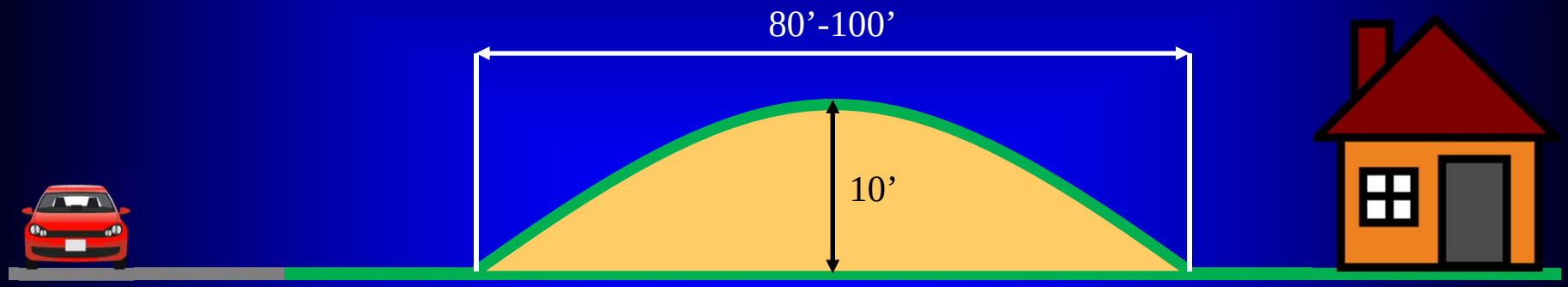
Threshold of hearing

Examples of Noise Levels



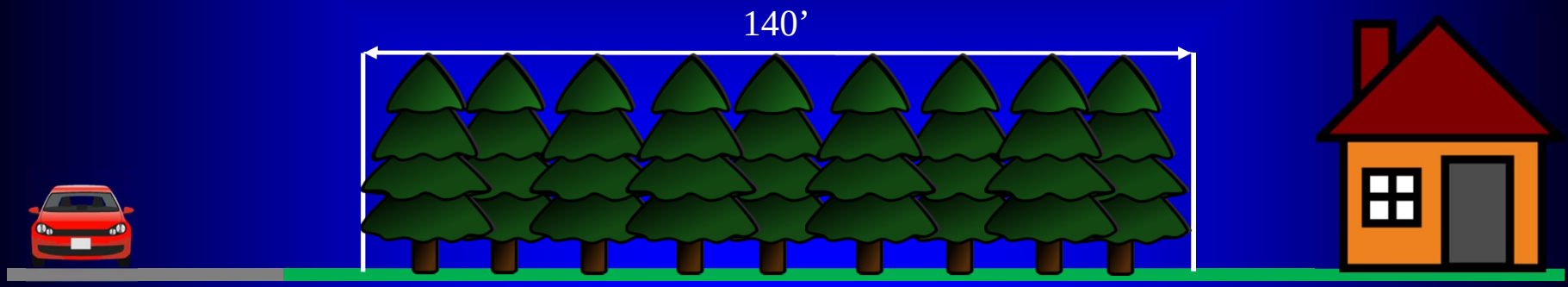
Examples to Decrease Noise

Earth Berm



Requires more right of way due to width of berm

Dense Wall of Trees



Requires 20’ of width to reduce decibel level by 1 decibel

Requires more right of way due to width of trees

Takes time to establish growth

Sound Wall

Can be constructed within existing highway right of way

Most are made of concrete (durability and low maintenance)

Able to withstand elements (sun, temperature, moisture)

US 65 Sound Walls

Definitions

Impacted Receiver/Receptor

- Any receptor (property) that approaches 66 decibels or greater.

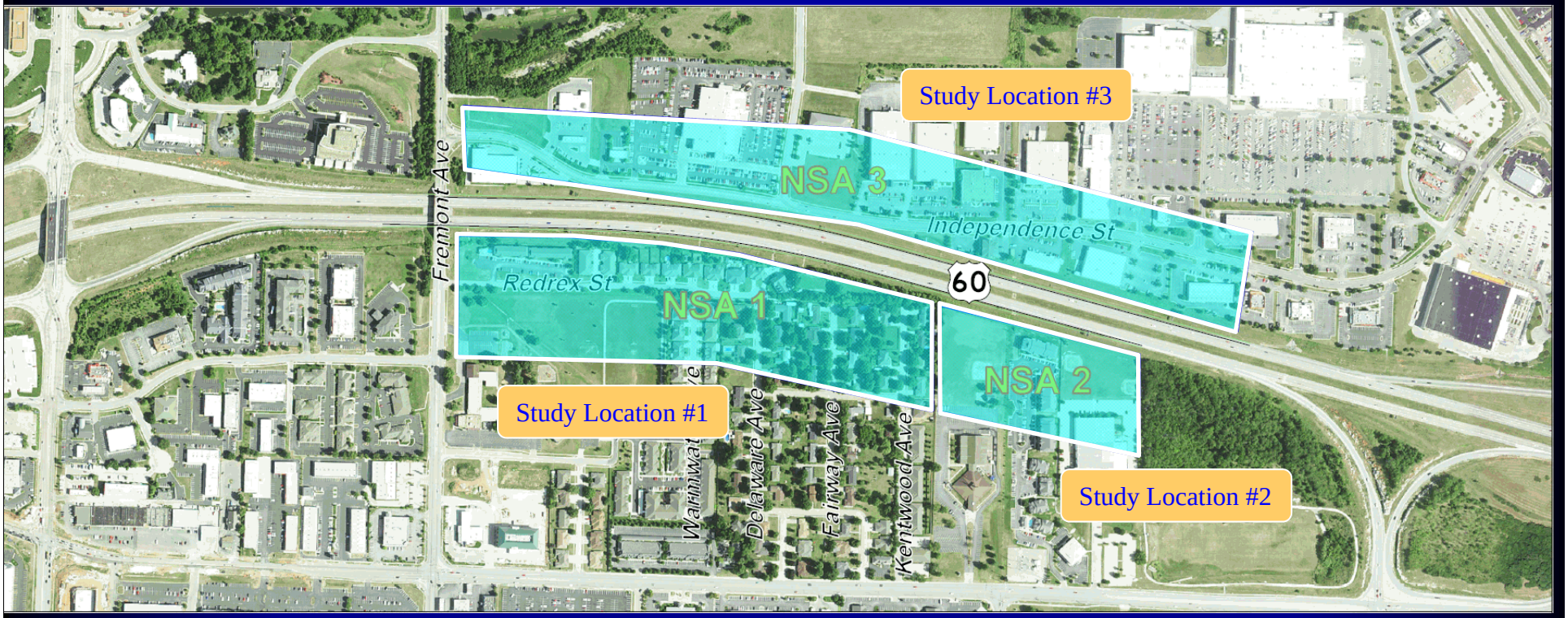
Benefited Receiver/Receptor

- A receptor (property) that receives at least a 7 decibel reduction in noise level with the addition of a sound wall.

Noise Policy Criteria

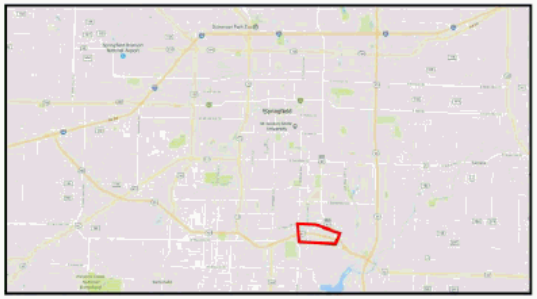
- Noise level must exceed 66 dBA
- Wall must provide a minimum 7 dBA reduction
- Wall must be no higher than 20 feet
- Wall must be built on state property and meet safety and maintenance needs
- Majority of benefited property owners must agree to wall
- Can’t exceed 1300 Sq. Ft. of wall per benefited receptor

US 60 Study Areas



Wall Study Location No. 1

Exhibit 2 - Receiver Map
US-60 Traffic Noise Study

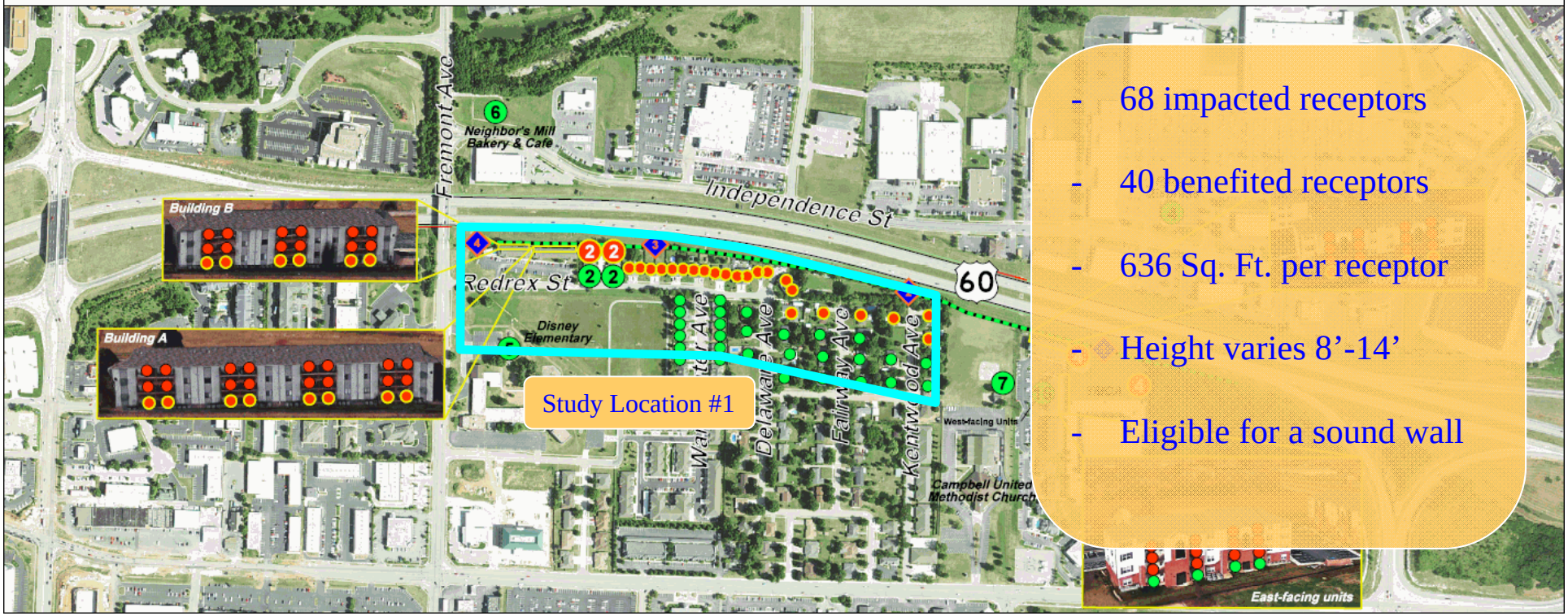


Not To Scale

NOTE: Noise Levels Based On 2038 Traffic Projections

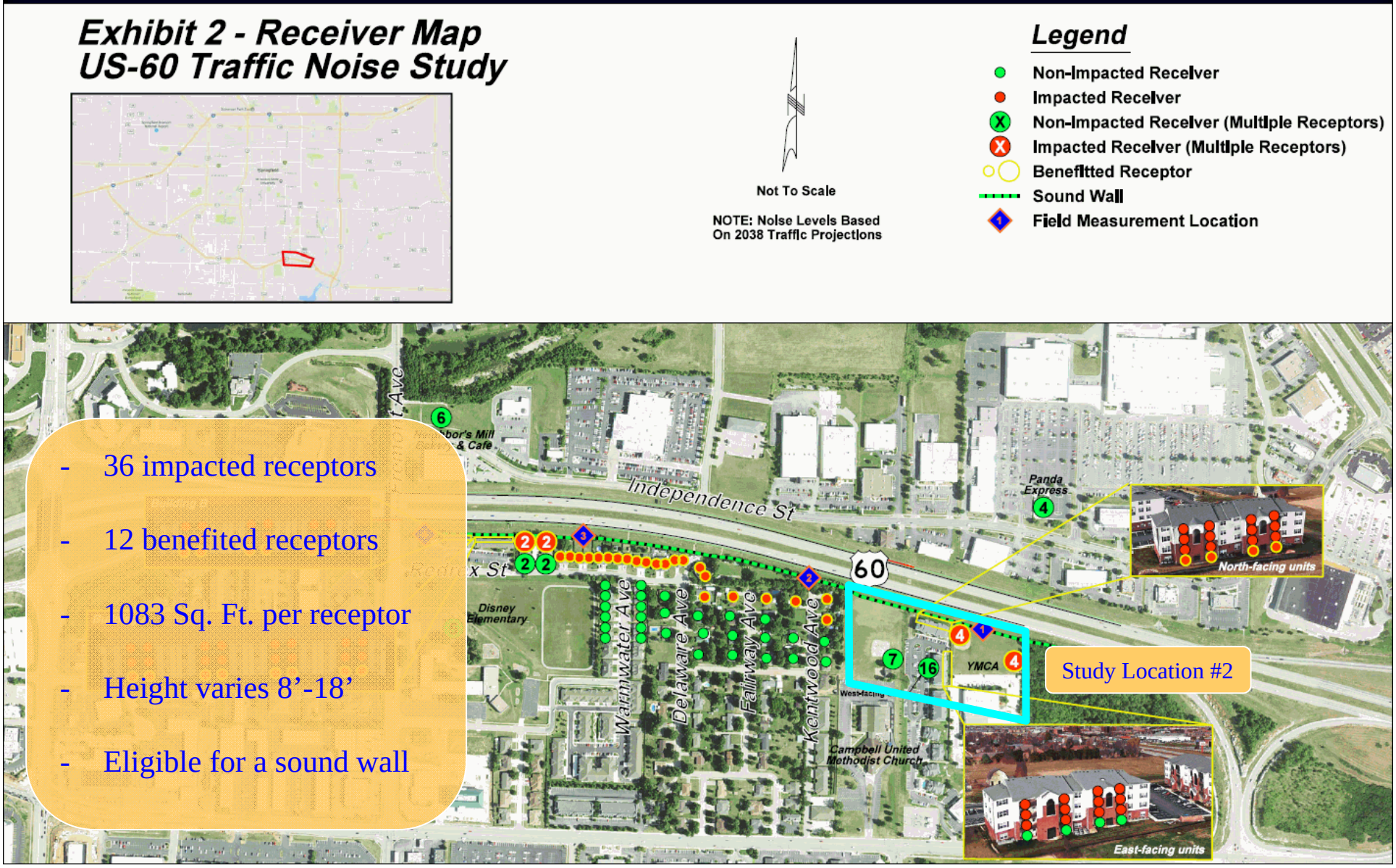
Legend

- Non-Impacted Receiver
- Impacted Receiver
- Non-Impacted Receiver (Multiple Receptors)
- Impacted Receiver (Multiple Receptors)
- Benefitted Receptor
- Sound Wall
- Field Measurement Location

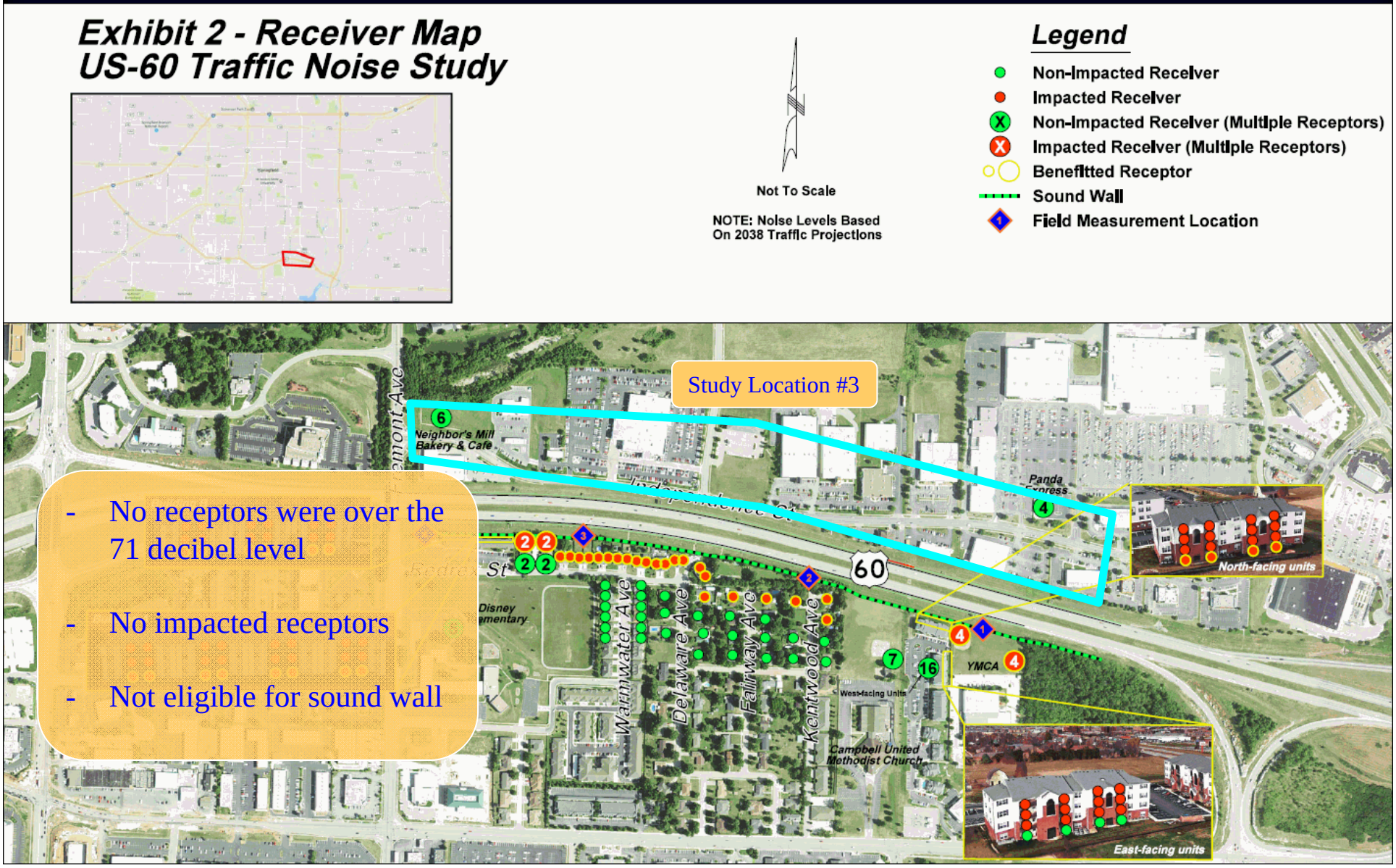


- 68 impacted receptors
- 40 benefited receptors
- 636 Sq. Ft. per receptor
- Height varies 8’-14’
- Eligible for a sound wall

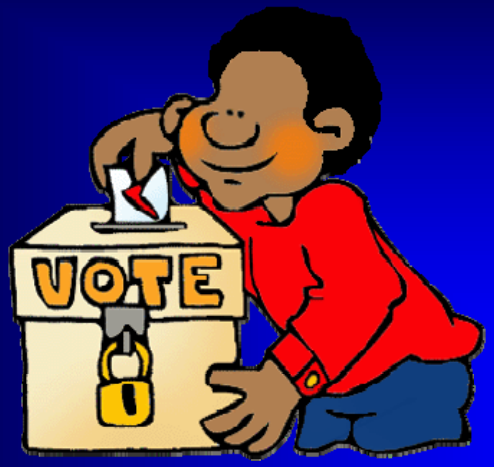
Wall Study Location No. 2



Wall Study Location No. 3



What's next?



Letters for voting will be sent out to all first-row benefited receptors.

Majority of property owners and tenants must vote 'yes' for wall to be built.

Visit other areas with walls and ask questions.

Additional Information

www.fhwa.dot.gov/environment/noise/

U.S. Department of Transportation
Federal Highway Administration

About Programs Resources Briefing Room Contact Search FHWA

Office of Planning, Environment, & Realty (HEP)

Planning | Environment | Real Estate | HEP | Events | Guidance | Publications | Glossary | Awards | Contacts

Highway Traffic Noise

- Construction Noise
- Measurement
- Noise Barriers
- Noise Compatible Planning
- Noise Effect on Wildlife
- Regulation and Guidance
- Tire Pavement Noise
- Traffic Noise Model
- Training

Contacts

For more information, please contact:

FHWA Headquarters

Adam Alexander
Phone: 202-366-6799

Aileen Varela-Margolles
Phone: 202-366-1701

FHWA Resource Center

Mary Ann Rondinella
Phone: 720-963-3207

Michael Roberts
Phone: 404-562-3928

FHWA → Environment

Highway Traffic Noise

The Federal Highway Administration (FHWA) is the agency responsible for administering the Federal-aid highway program in accordance with Federal statutes and regulations. The FHWA developed the noise regulations as required by the Federal-Aid Highway Act of 1970 (Public Law 91-605, 84 Stat. 1713). The regulation, 23 CFR 772 Procedures for Abatement of Highway Traffic Noise and Construction Noise, applies to highway construction projects where a State department of transportation has requested Federal funding for participation in the project. The regulation requires the highway agency to investigate traffic noise impacts in areas adjacent to federally-aided highways for proposed construction of a highway on a new location or the reconstruction of an existing highway to either significantly change the horizontal or vertical alignment or increase the number of through-traffic lanes. If the highway agency identifies impacts, it must consider abatement. The highway agency must incorporate all feasible and reasonable noise abatement into the project design.

However, effective control of the undesirable effects of highway traffic noise requires a 3-part approach: Noise Compatible Planning, Source Control and Highway Project Noise Mitigation.

Land Use Planning and Control

State and local governments have the authority to regulate land use planning or the land development process. The FHWA and other Federal agencies encourage State and local governments to practice land use planning and control in the vicinity of highways to avoid future noise impacts and the need to provide noise abatement for future highway projects. The Federal Government advocates use of local government authority to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized.

Recent Items

- FHWA Traffic Noise Model Version 3.0 - (2016 Draft Release Version Information) (1/3/17)
- *Updated:* FHWA Traffic Noise Model Version 3.0 (11/7/16)

Hot Topics

- Updated Noise Policy FAQs (HTML or PDF (190Kb))
- NCHRP 791: Supplemental Guidance on the Application of FHWA's Traffic Noise Model (TNM)
- Noise Barrier Acceptance Criteria Analysis and Evaluation Tools.

Related Topics

- Pavements
- Construction

Questions or Comments

Don Saiko, P.E.
Transportation Project Manager
(417) 895-7692
Email: Donald.Saiko@modot.mo.gov

Andy Mueller, P.E.
Assistant District Engineer
(417) 895-7685
Email: Andrew.Mueller@modot.mo.gov