



# **I-80 Truck Lane and Wildlife Improvements**

**Noise Study  
Information Meeting**

June 13, 2017

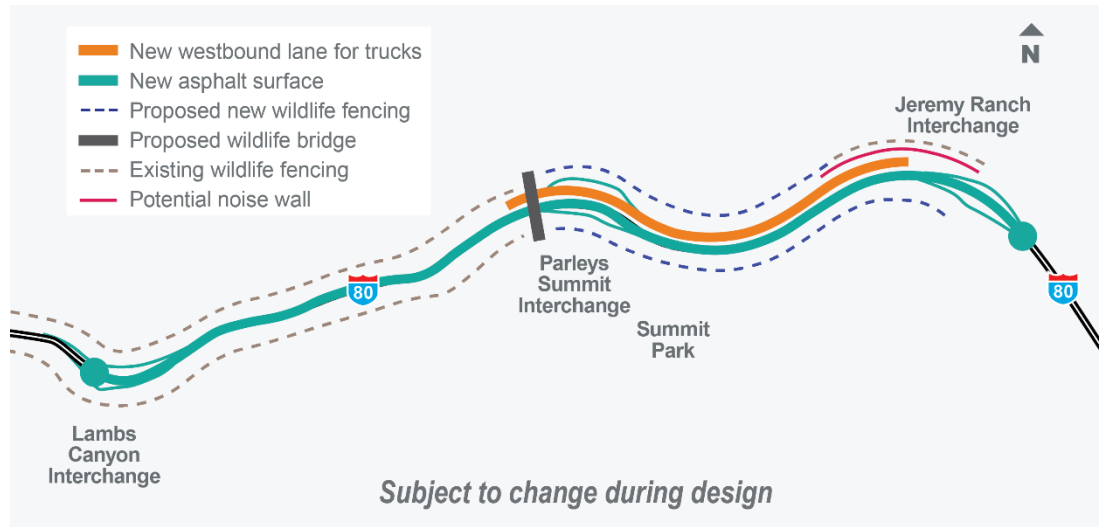
# Agenda

- Project and environmental analysis overview
- UDOT Noise Abatement Policy
- What is noise?
- I-80 Noise Study process and results
- Noise balloting (scheduled for late June)
- Open house for questions



# Project Overview

- New WB truck lane from Jeremy Ranch to Parleys Summit
- New asphalt pavement in both directions between Jeremy Ranch and Lambs Canyon
- Wildlife fencing between Jeremy Ranch and Parleys Summit
- Wildlife crossing near county line

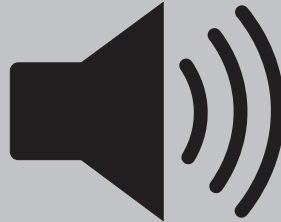


# Environmental Analysis



## Threatened and Endangered Species/ Wildlife

No impacts. Fencing and wildlife bridge will be a benefit.



## Noise Impacts

Noise will increase as a result of the new truck lane. One potential noise wall will be evaluated and balloted.



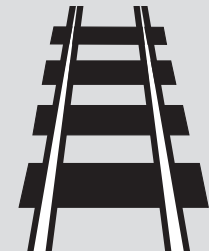
## Waters of the U.S.

Less than 1/10 -acre of impact to wetlands.



## Right-of-Way

No impacts associated with this project.



## Cultural Resources

No adverse effect to an historic rail line on top of the vertical cut slope north of I-80.



# UDOT Noise Abatement Policy

- Purpose: Establish a procedure for conducting traffic noise studies, implementing noise abatement measures and coordinating with local municipalities and the public
- Noise abatement will be considered for Type I Projects:
  - Climbing lane functions as a through traffic lane
- Consider mitigation that is feasible and reasonable



# What is Noise?

- Noise is defined as loud, unexpected, or annoying sound
- Common Noise Levels
- Measure in decibel units converted to approximate human ear conditions= $\text{dB(A)}$



# Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 mph	— 80 —	Food blender at 3 feet Garbage disposal at 3 feet
Noisy urban area, daytime	— 70 —	Vacuum cleaner at 10 feet Normal speech at 3 feet
Gas lawn mower, 100 feet Commercial area	— 60 —	
Heavy traffic at 300 feet	— 50 —	Large business office Dishwasher next room
Quiet urban daytime	— 40 —	Theater, large conference room (background)
Quiet urban nighttime	— 30 —	Library
Quiet suburban nighttime	— 20 —	Bedroom at night, concert hall (background)
Quiet rural nighttime	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013



# Noise Study Process



- Determine sensitive receptors
  - noise abatement is only considered where frequent human use occurs and where a lowered noise level would be beneficial (Policy)
- Develop a noise model using the FHWA TNM 2.5
- Collect field measurements to verify the model
- Run the model:
  - Existing Conditions
  - Future Conditions



# Noise Abatement Criteria (NAC)

Activity Category	FHWA Criteria Leq(h)	UDOT Criteria Leq(h) <sup>2</sup>	Description of Activity
A	57 (Exterior)	56 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (Exterior)	66 (Exterior)	Residential
C	67 (Exterior)	66 (Exterior)	Active sports areas, amphitheatres, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings
D	52 (Interior)	51 (Interior)	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72 (Exterior)	71 (Exterior)	Hotels, motels, offices, restaurants/bars and other developed lands, properties or activities not included in A–D or F
F	---	---	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	---	---	Undeveloped lands that are not permitted

1. Hourly A-Weighted Sound Level Decibels (dB(A))

2. Hourly A-weighted sound level in decibels reflecting a 1 dB(A) "approach" value below 23 CFR 772 values.

Source: UDOT Noise Policy



# Noise Study Results

- Impacts:
  - 38 Residential properties
  - 5 Recreational areas
- No substantially higher impacts (>10 dB(A))

Alternative	Outdoor				Indoor			
	Noise Level dB(A)		Increase over Existing dB(A)		Noise Level dB(A)		Increase over Existing dB(A)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Existing (No-Build)	49	73	N/A	N/A	41	43	N/A	N/A
Build	50	74	0	2	42	44	1	1



# Noise Study Results

- One noise barrier investigated
  - Meets “feasible” and “reasonable” criteria of the Policy
- Provides abatement to 24 residences and two recreational areas
- 3,200 feet long
- 18 feet high
- Cost: \$1,152,000
- Recommended for balloting



# Noise Balloting

## *What is a benefitted receptor?*

A noise sensitive receptor that receives a noise reduction of at least 5 dB(A)

- 22 benefitted receptors
- Process:
  - Ballots are sent to:
    - All benefitted receptors
    - Receptors that border or that are directly adjacent to the end of a proposed noise wall that are not, by definition, benefitted by the wall are balloted.
  - 75% of ballots mailed must be returned.
  - Walls recommended if 75% of votes returned are in favor
- Schedule: Ballot late June





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