CALIFORNIA HIGH-SPEED TRAIN SYSTEM

Map based on preferred alignments and station locations in 2005 and 2008* program EIR/Ss.

* Authority rescinded 2008 Pancheo Pass selection to comply with *Atherton* judgment. Board will make new decision after revising Bay Area to Central Valley PEIR. New decision could change depicted alignment connecting Bay Area and Central Valley.

- **Provide a new mode of high-speed intercity travel to link major metropolitan areas**
- **Forecasted to carry as many as 100 million passengers annually by the year 2035**
- **800-mile system with stations built to allow for express service**
- **Service linking the San Francisco Bay Area, Central Valley and Southern California**
- **100% clean electric power**
- **Estimated travel time from San Francisco to Los Angeles: less than 2 hours 40 minutes**

SAN JOSE TO MERCED

CALIFORNIA High-Speed Rail

WHY WE NEED HIGH-SPEED RAIL

JOBS

- **600,000 full-time, one-year, construction-related job-equivalents**
- **5,000 permanent operations and maintenance jobs**
- **450,000 economy-wide jobs by 2035**

MOBILITY

- **"Economic power is how fast you move people and goods around the state."**
  Gov. Arnold Schwarzenegger, January 15, 2008

ENVIRONMENT

- **Reduced greenhouse gases**
- **AB 32: California's 2006 landmark legislation to reduce greenhouse gas emissions 25% by 2020**
- **Population Growth**
- **California's population now: 38 million**
  By 2035: 50 million

CALIFORNIA
High-Speed Rail

WHY WE NEED HIGH-SPEED RAIL

We can build…

- **New freeways, airport runways and more departure gates to address our expected population growth**

or

We can achieve…

- **An 800-mile high-speed train system, powered by 100% renewable electricity generated by clean wind and solar energy**

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High-Speed Rail

DESIGN OBJECTIVES AND EVALUATION CRITERIA

OBJECTIVE

- Maximize ridership & revenue potential
- Maximize accessibility
- Minimize operating and capital costs

CRITERIA

- Minimize travel time
- Intermodal connections
- Minimize route length

EVALUATION MEASURES

- Minimize disruption to neighborhoods and communities
- Minimize impacts to environmental resources
- Minimize impacts to natural resources
- Land use
- Construction feasibility

INITIAL CONSTRUCTION

Why the Central Valley makes sense

Initial infrastructure construction will begin in the Central Valley, the backbone of the system:

- **Construction starting in second half of 2012, investing $5.5 billion into the economy**
- **Potential to create nearly 100,000 jobs**
- **120 miles from north of Fresno near Madera to Bakersfield – a choice that:**
  - **Meets state and federal requirements**
  - **Gives the greatest flexibility to build both north and south as funding becomes available**
  - **Constitutes the backbone of a system that will reach across the whole state**

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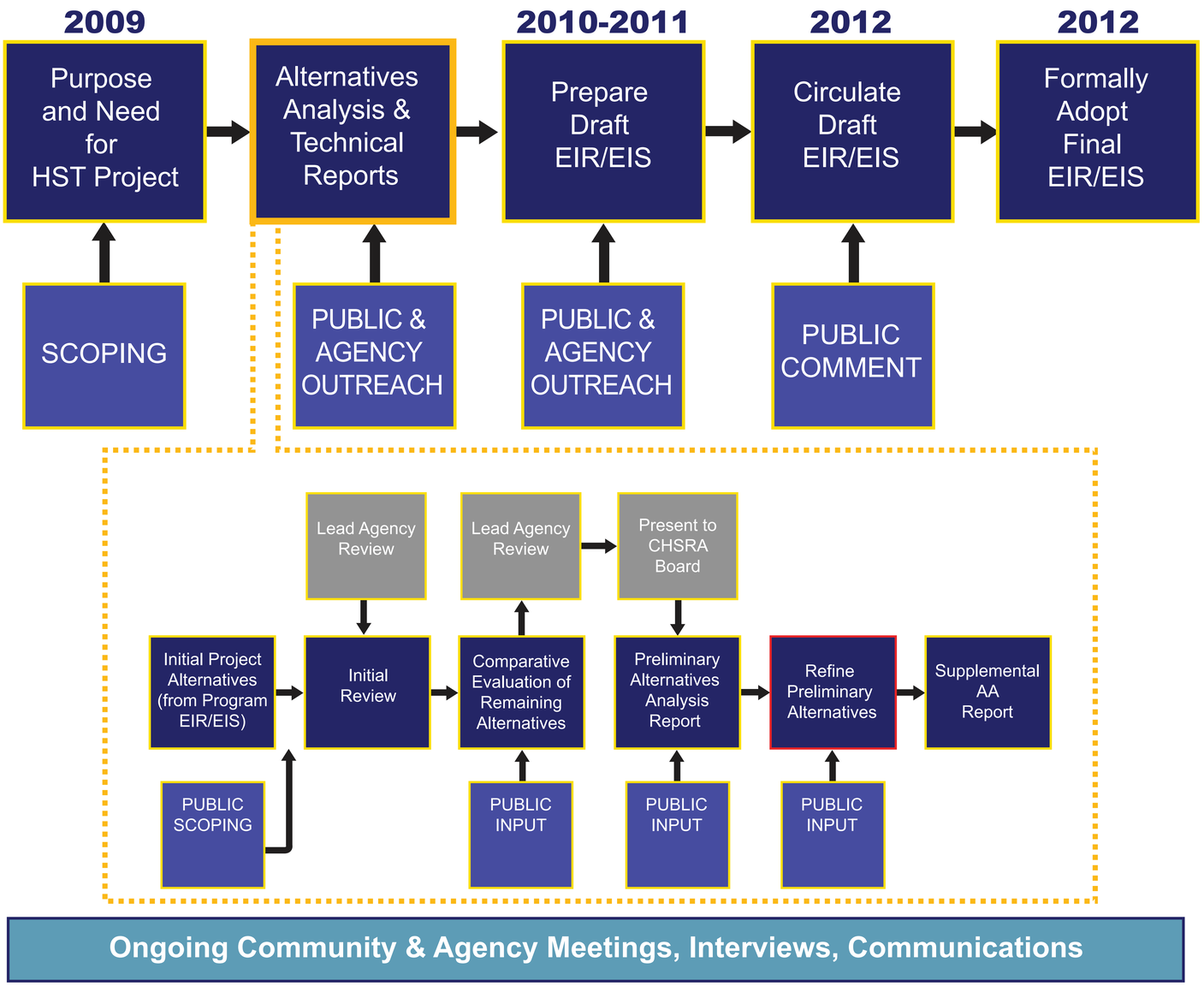
CALIFORNIA High-Speed Rail

PROJECT ENVIRONMENTAL REVIEW SCHEDULE AND ALTERNATIVES ANALYSIS PROCESS



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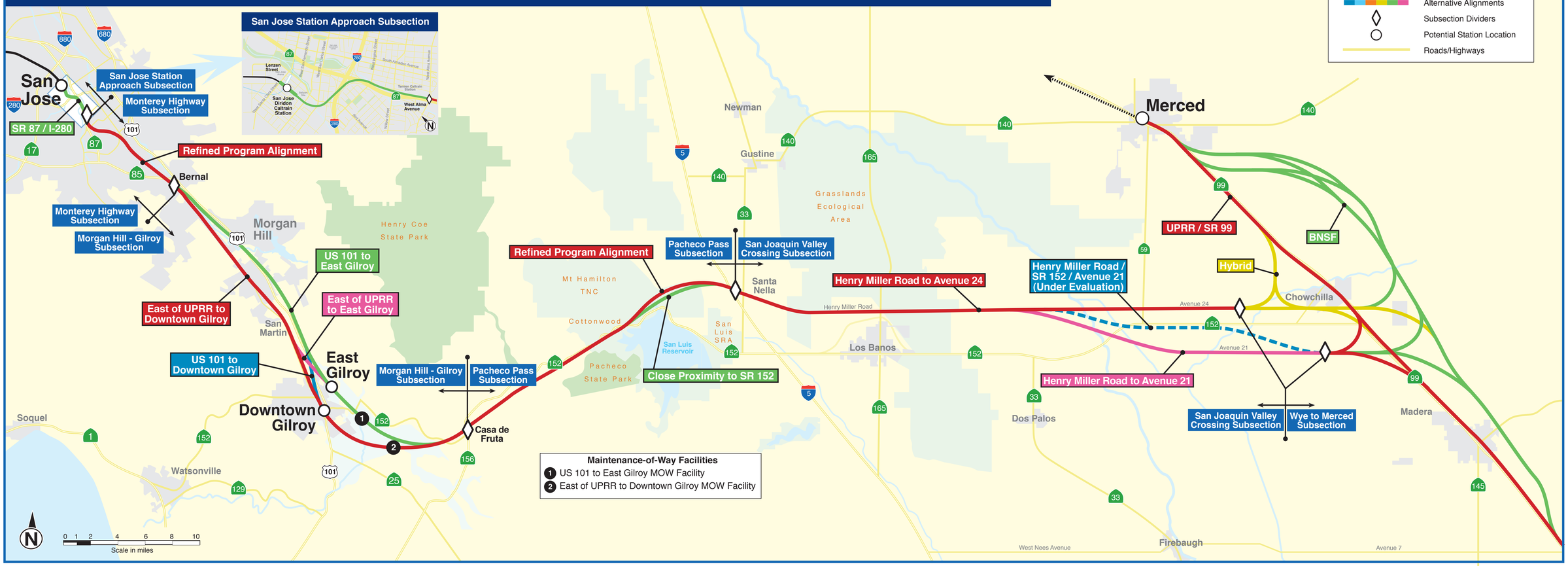
SAN JOSE TO MERCED SECTION ALIGNMENT ALTERNATIVES

San Jose to Merced Section - Alignment Alternatives



*Alignments subject to change

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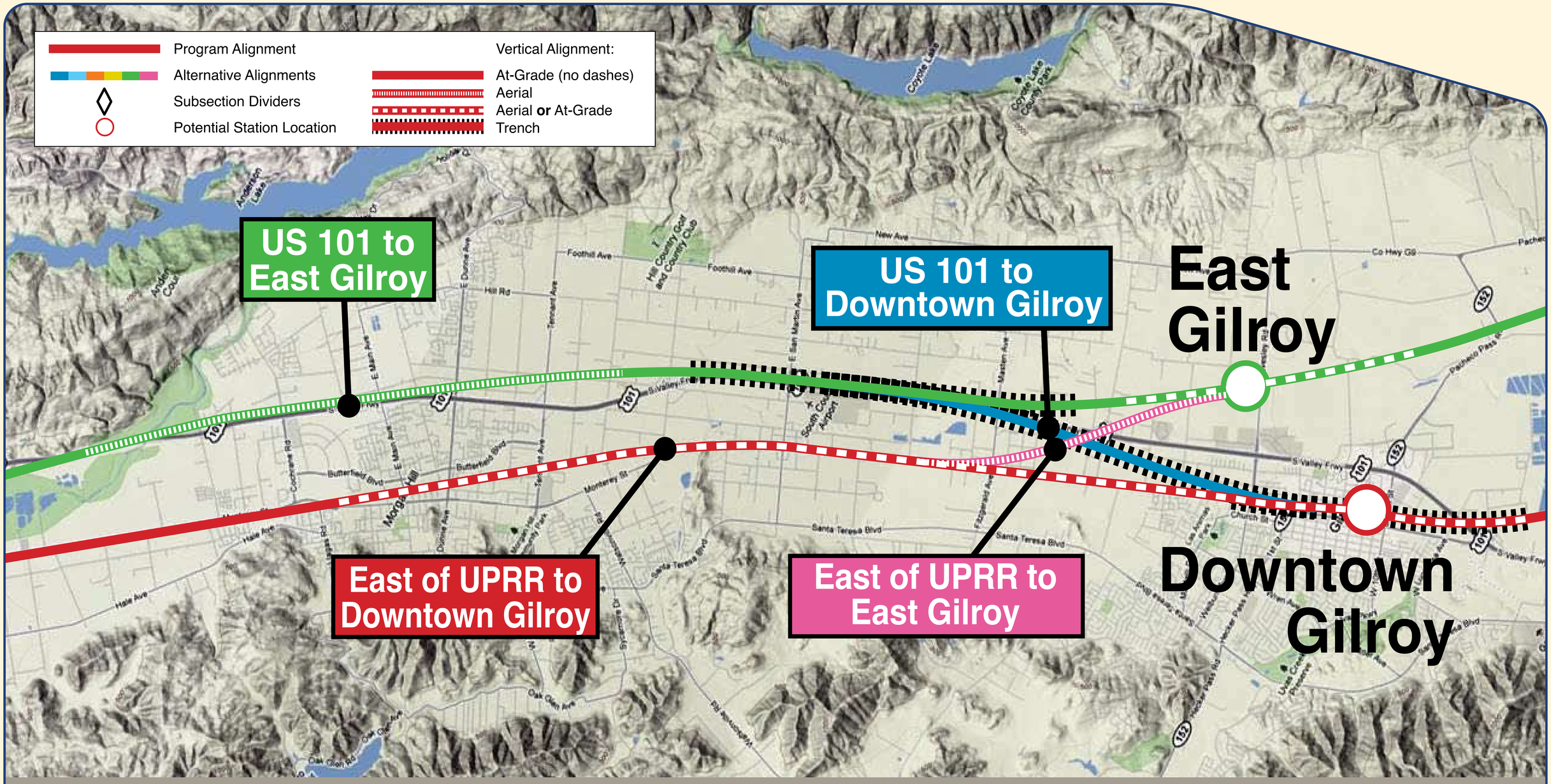
MORGAN HILL-GILROY SUBSECTION



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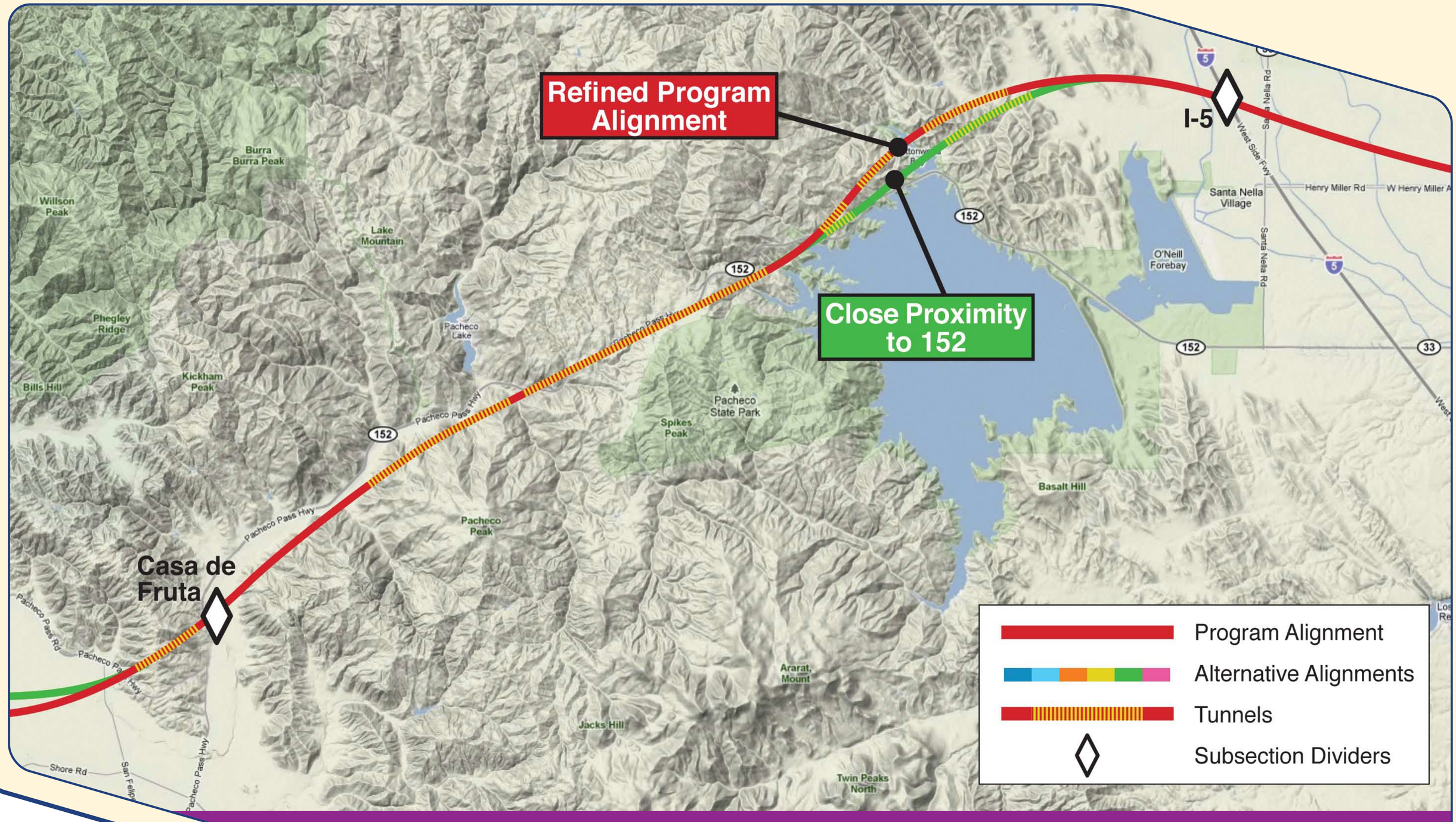
PACHECO PASS SUBSECTION



SAN JOSE TO MERCED

CALIFORNIA High-Speed Rail

SAN JOSE-MERCED SIMULATIONS

Downtown Gilroy (6th St.)

Casa de Fruta

Monterey Rd.

Los Banos Wildlife Area at Henry Miller Rd.

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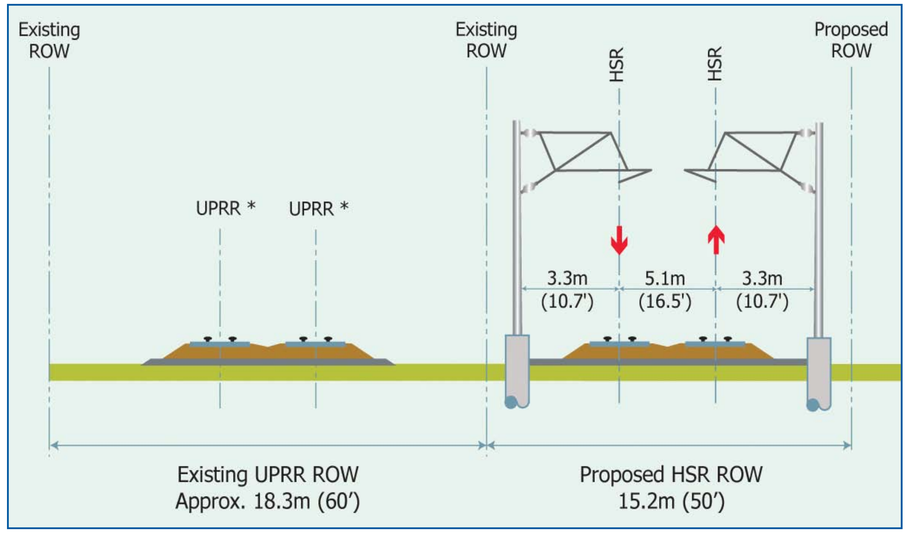
TYPICAL SECTIONS ALONG ALIGNMENT

Shared Railroad Corridor

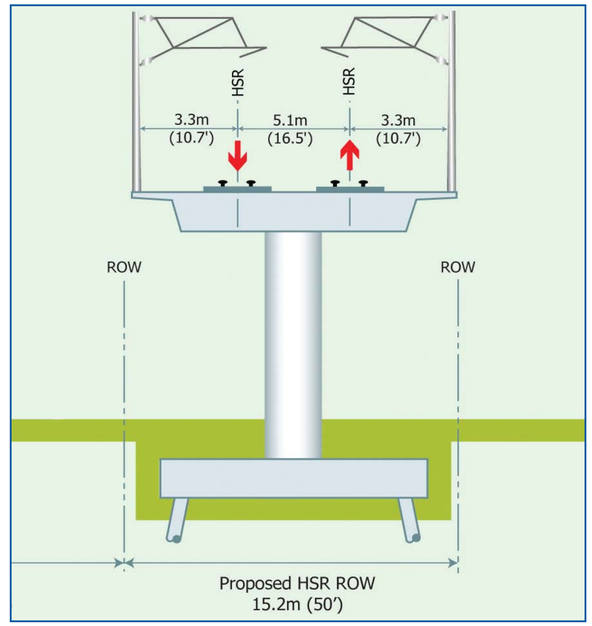


Portions of the alignment will need special structures to fit into the built environment

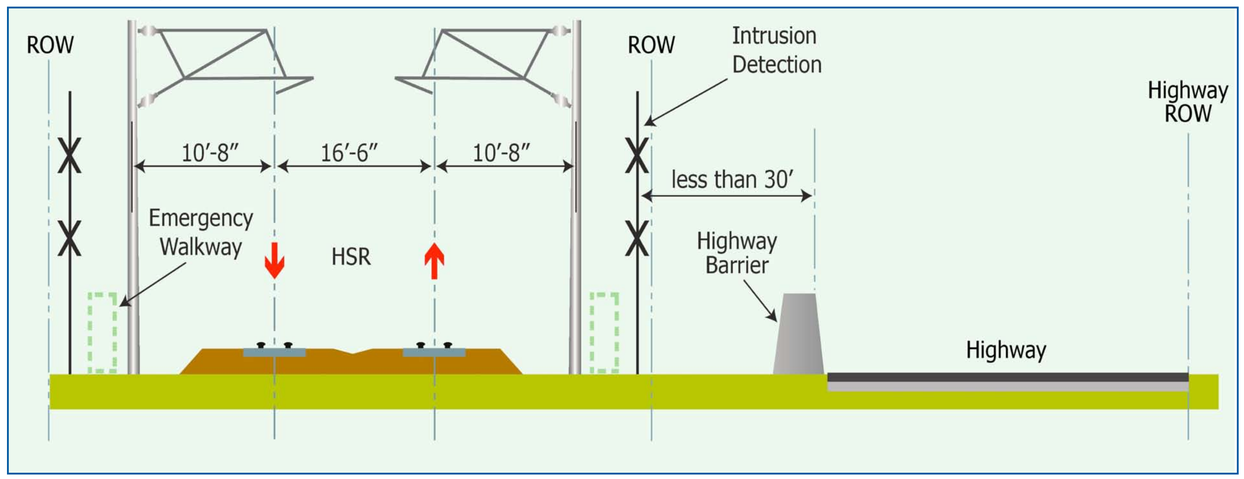
Structures could include:

- **Aerial structures**
- **At-grade**
- **Trenches**

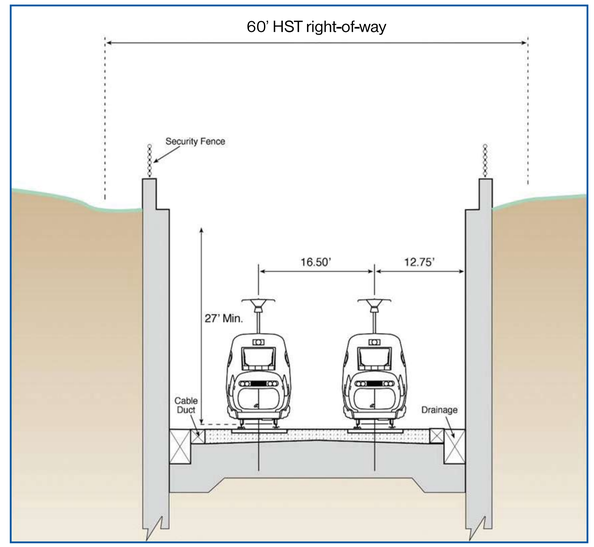
Aerial Structure



Shared Highway Corridor



Trench Section



CALIFORNIA High-Speed Rail

GRADE SEPARATIONS

Before

Typical Underpass

After

- **Grade separations are underpasses and overpasses where roadways cross railroad tracks**
- **Grade separations reduce congestion and noise and improve safety**
- **California High-Speed Train tracks will be grade-separated from adjacent roadways**

Typical Overpass

Grade Separated from Roadway

CALIFORNIA High-Speed Rail

MITIGATION MEASURES UNDER ELEVATED GUIDEWAY

Agricultural Use Under Guideway

- **FRA has approved joint use under HST Guideway**
- **Linear parks, paths and roadways may be considered**

Joint Use in Italy

CALIFORNIA High-Speed Rail

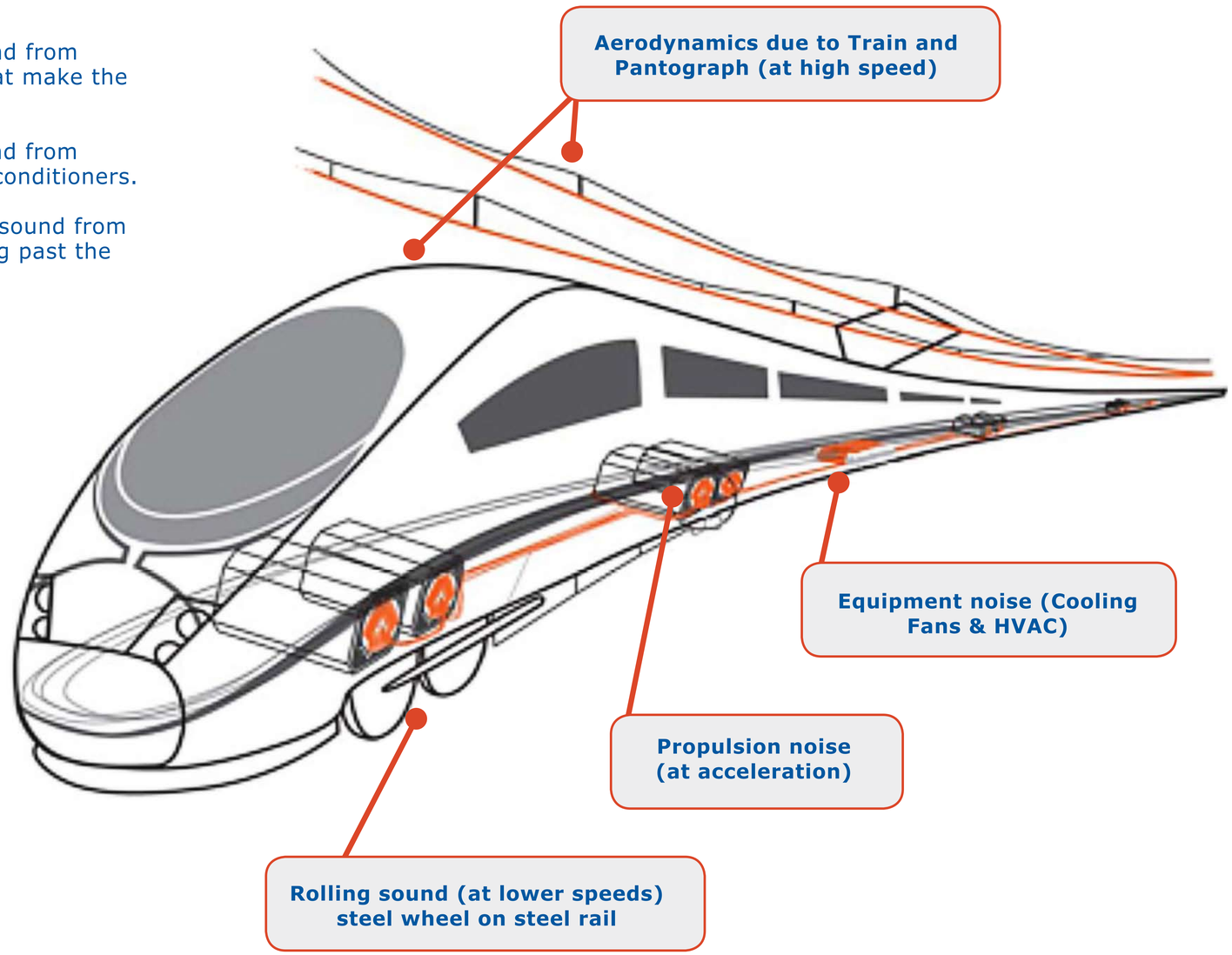
SOUND

Rolling – sound from the wheels as trains move along the tracks.

Propulsion – sound from motors and gears that make the train move.

Equipment – sound from cooling fans and air conditioners.

Aerodynamics – sound from the flow of air moving past the train at high speed.



The review will look at two key measurements:

One-Hour Equivalent Sound Level, which measures the moment-to-moment fluctuations in sound over a single hour – taking into account both the number of trains and the time they take to pass by – the best measure for assessing the impacts on offices, schools and libraries.

Day-Night Sound Level looks at sound fluctuations over a full 24 hours, taking into account the heightened sensitivity in residential areas to sounds made late at night.

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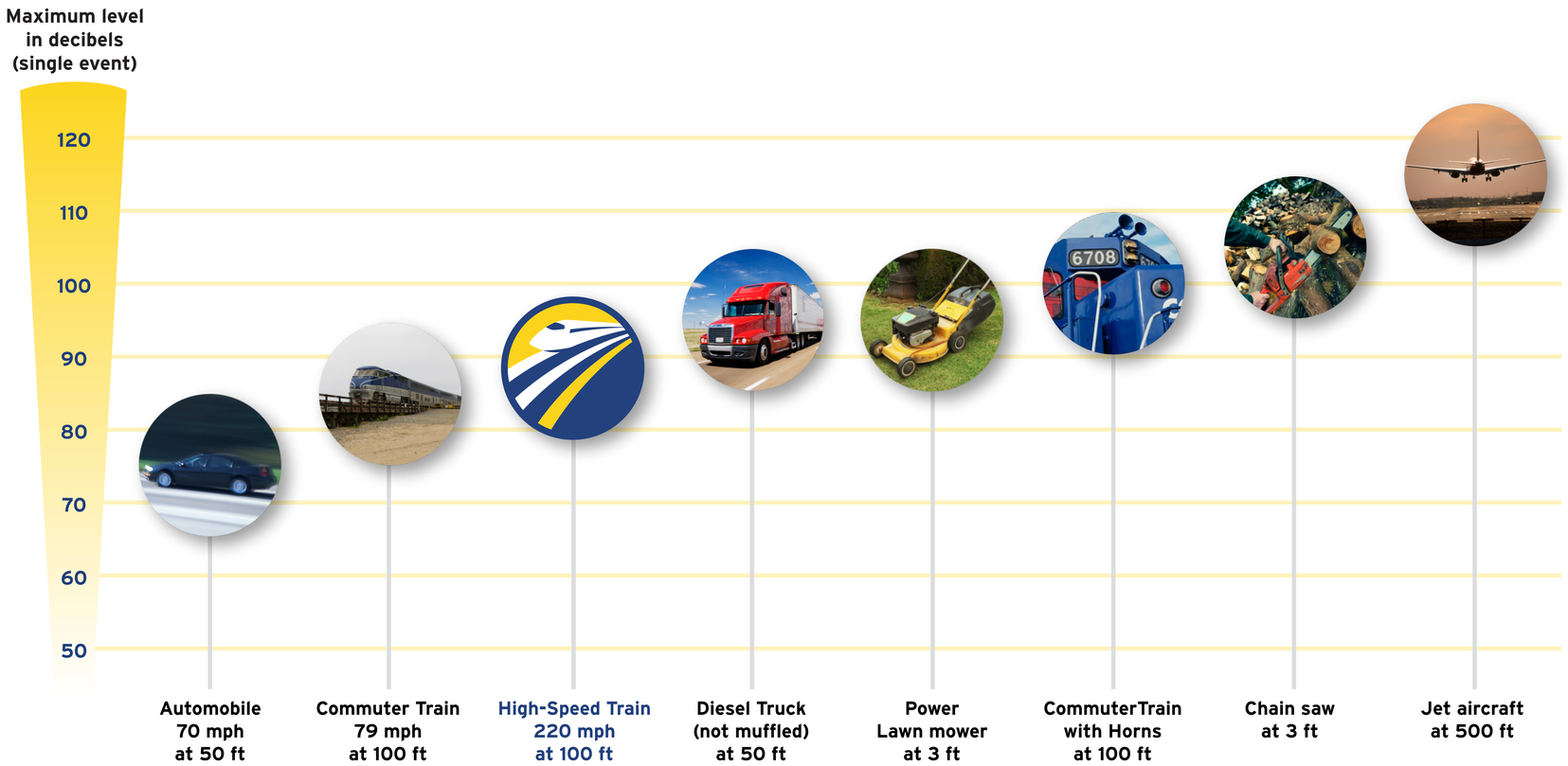
SOUND

How does high-speed rail compare to other everyday noises?



A train moving at 220 mph – the top speed of California's high-speed trains – will be heard for about four seconds

By comparison. . . A 50-car freight train traveling at 30 mph can be heard for one minute

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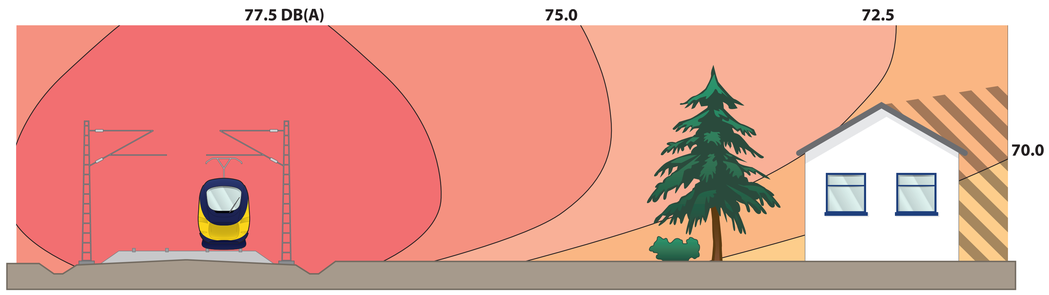
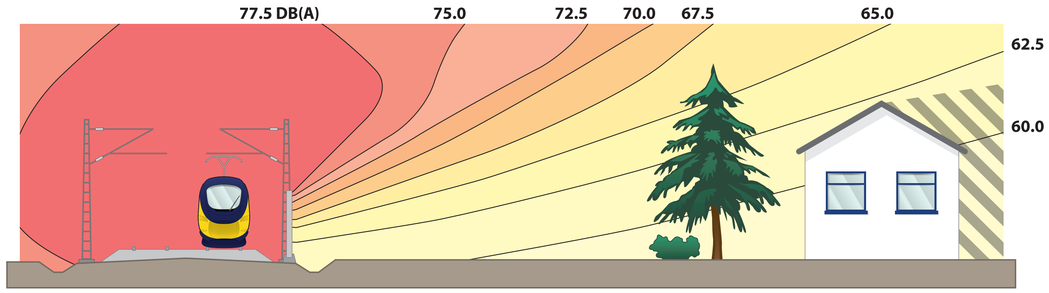
COMMITMENT TO SOUND MITIGATION

Engineering and design will make a big difference

- Sound engineers and train builders have over 40 years experience – and good mitigation measures are working around the world.
- For a train traveling less than 160 mph, a six to 12-foot sound barrier will **reduce noise by five to nine decibels** (the human ear perceives a 10-decibel reduction as cutting the sound in half).
- The sound from a high-speed train operating on an aerial structure could be **one or two decibels higher** than at ground level.
- The sound from a high-speed train operating in an open trench could be **five to seven decibels lower** than at ground level



Noise levels without sound barrier



Noise levels with sound barrier

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VISUAL AND AESTHETIC ANALYSIS METHODOLOGY

1) Define project setting and viewshed

2) Identify Viewers and Viewpoints

3) Identify Existing Visual Resources: Vividness, Intactness, Unity, Light Sources

Vividness is the degree of drama, memorability, or distinctiveness of the landscape components as seen in a particular view.

Intactness is a measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements.

Unity is the landscape's degree of visual coherence and compositional harmony considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape or an undisturbed natural landscape.

CALIFORNIA High-Speed Rail

VISUAL AND AESTHETIC ANALYSIS METHODOLOGY

Depict Visual Appearance with Project & **Compare** to Existing

Identify Impacts to Existing Visual Resources and Propose Mitigations

Mitigations can include such things as landscaping, screening, aesthetic treatment, and others

HOW TO PARTICIPATE

- Talk to high-speed train staff
- Fill in and drop off comment cards
- Add your e-mail to our mailing list

For more information after this meeting:

Call: (800) 881-5799

Visit: www.cahighspeedrail.ca.gov

E-mail: san.jose_merced@hsr.ca.gov

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