



**CALIFORNIA**  
High-Speed Rail Authority

# **PALMDALE TO BURBANK PROJECT SECTION UPDATE**

Community Working Groups

April, 2015



# TODAY'S AGENDA

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- Welcome & Introductions
- Statewide High-Speed Rail Program
- Project Approach and Process
- Design Elements
- Palmdale to Burbank Project Section
- Next Steps

# HIGH-SPEED RAIL: More Than A Transportation Program

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- California is 8th Largest Economy in the World
- Comparable to Northeast Corridor in Terms of Distance, Population and Complexity
- Transformative Investment
- Connecting all California Population Centers



# WHY HIGH-SPEED RAIL IN CALIFORNIA?

- **Curbs Congestion**

- » LAX to SFO is the **Busiest Short-Haul Market** in US
- » 1 in 6 Flights out of LA Heads to Bay Area
- » Six of Top 30 Congested Urban Areas in US Located in California

- **Population Growth**

- » Estimated to Reach **50 Million** by 2050

- **Air Quality/Sustainability**

- » Meets Goals of AB 32/SB 375
- » **Worst Air** Communities in the Country

- **Alternatives are Costly**

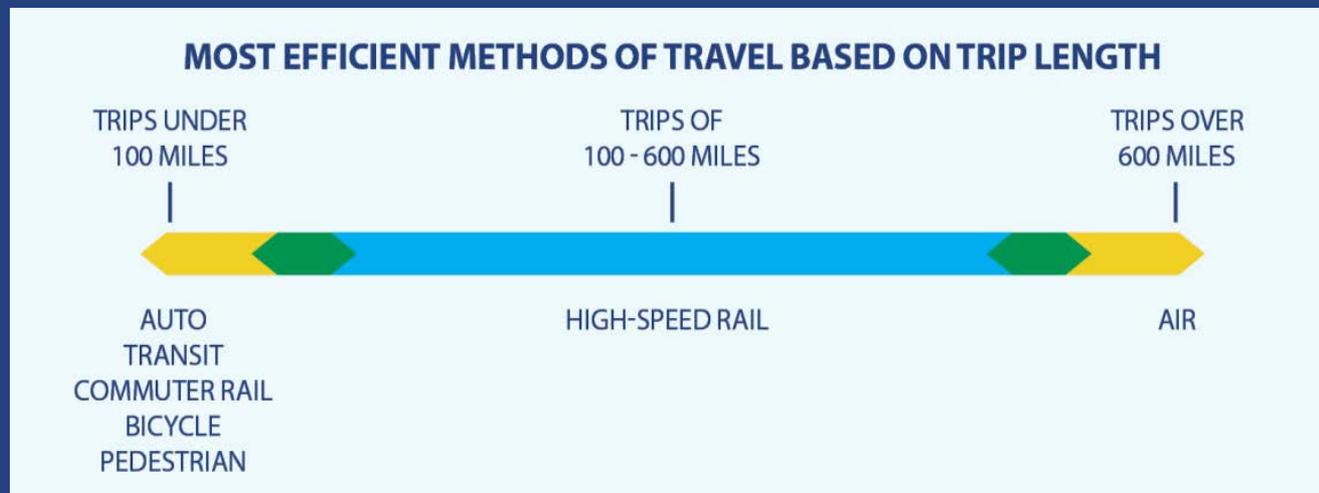
- » 2-3 Times **More Expensive**



# HIGH-SPEED RAIL:

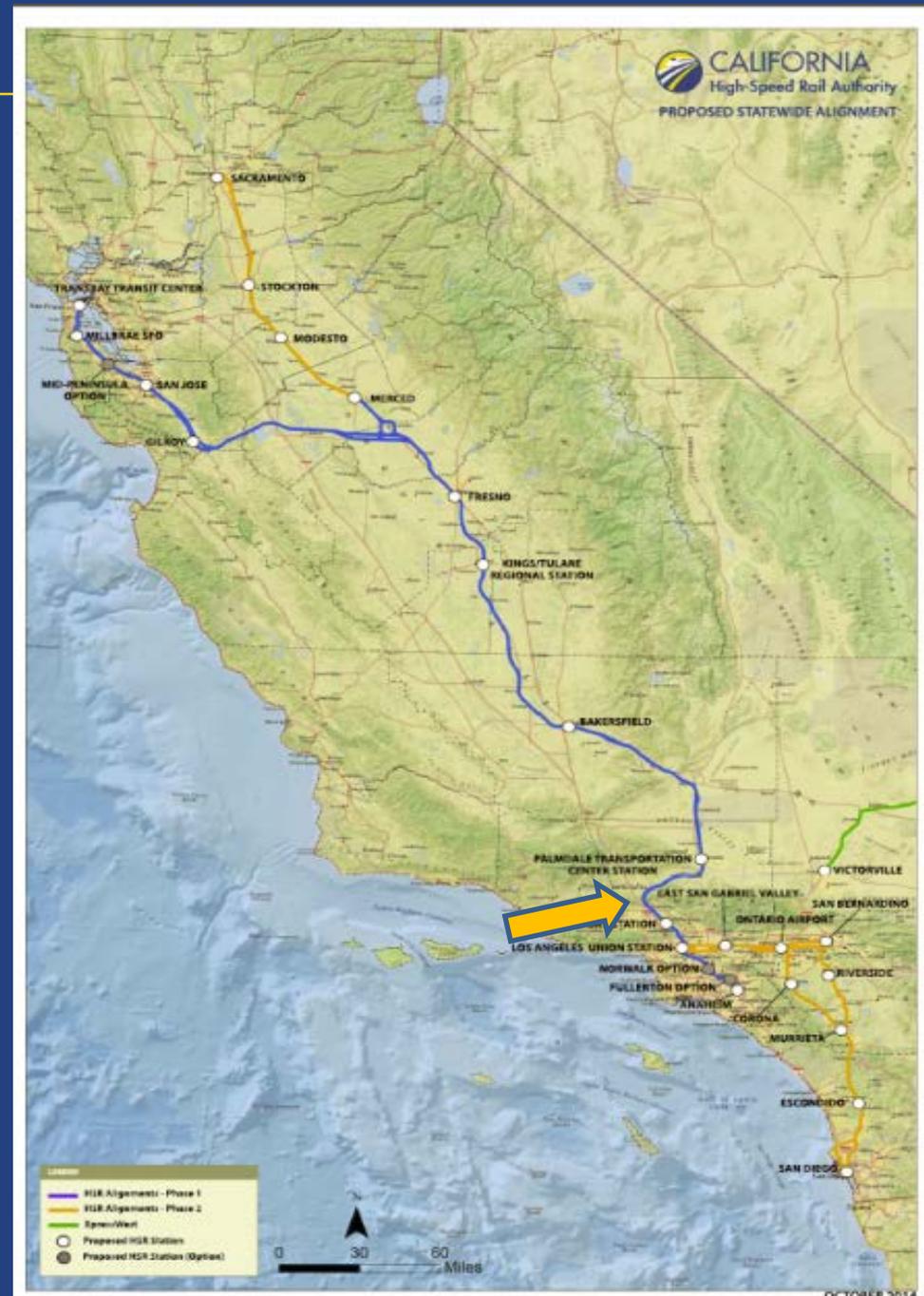
## MORE EFFICIENT CHOICE FOR COMMUTERS AND TRAVELERS

- High-Speed Rail Fills a Gap in California's Infrastructure
- Equivalent New Capacity Between SF-LA would cost **\$158 billion**, and would require:
  - » 4,300 New Highway Lane Miles
  - » 115 Additional Airport Gates
  - » 4 New Runway Terminals



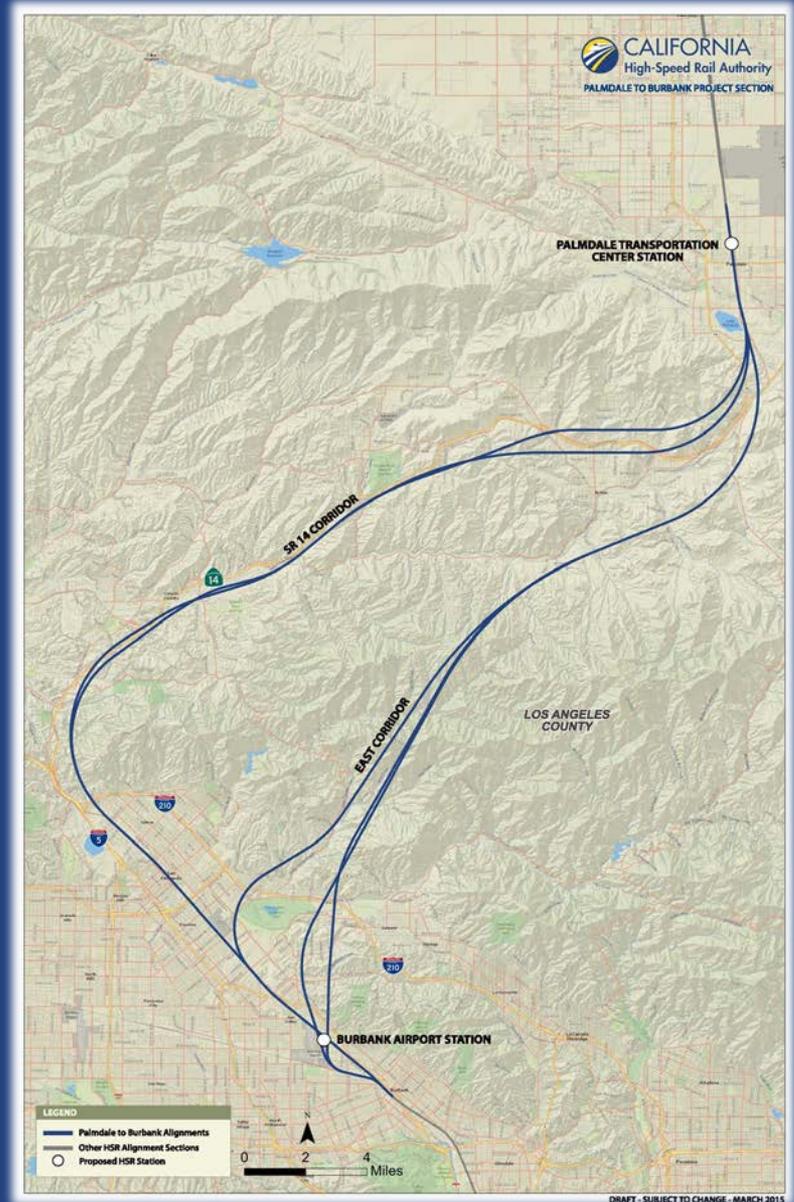
# STATEWIDE SYSTEM

- Programmatic Document
- Approved by Voters in 2008
- 800 miles
  - » Phase 1: San Francisco to Los Angeles/Anaheim
  - » Phase 2:
    - Los Angeles to San Diego
    - Merced to Sacramento
- Up to 24 stations
- 220 mph
- Palmdale to Burbank



# PALMDALE TO BURBANK PROJECT SECTION

- Two Corridors:
  - » SR 14 Corridor
  - » East Corridor
- Two Stations:
  - » Palmdale (Antelope Valley)
  - » Burbank (San Fernando Valley)
- Multiple Alignment Options
  - » Refinement Process Ongoing



# PROJECT APPROACH & PROCESS



# COLLABORATIVE PLANNING EFFORT

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# ENVIRONMENTAL PLANNING PROCESS



PUBLIC PARTICIPATION



# ALTERNATIVE ANALYSIS PROCESS

Summer  
2014



Scoping  
Comments



Develop  
Conceptual  
Range of  
Alternatives



Community/  
Agency  
Feedback



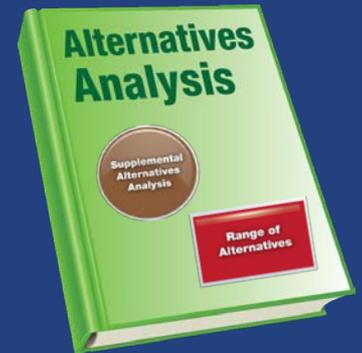
Refine  
Range of  
Alternatives



Community/  
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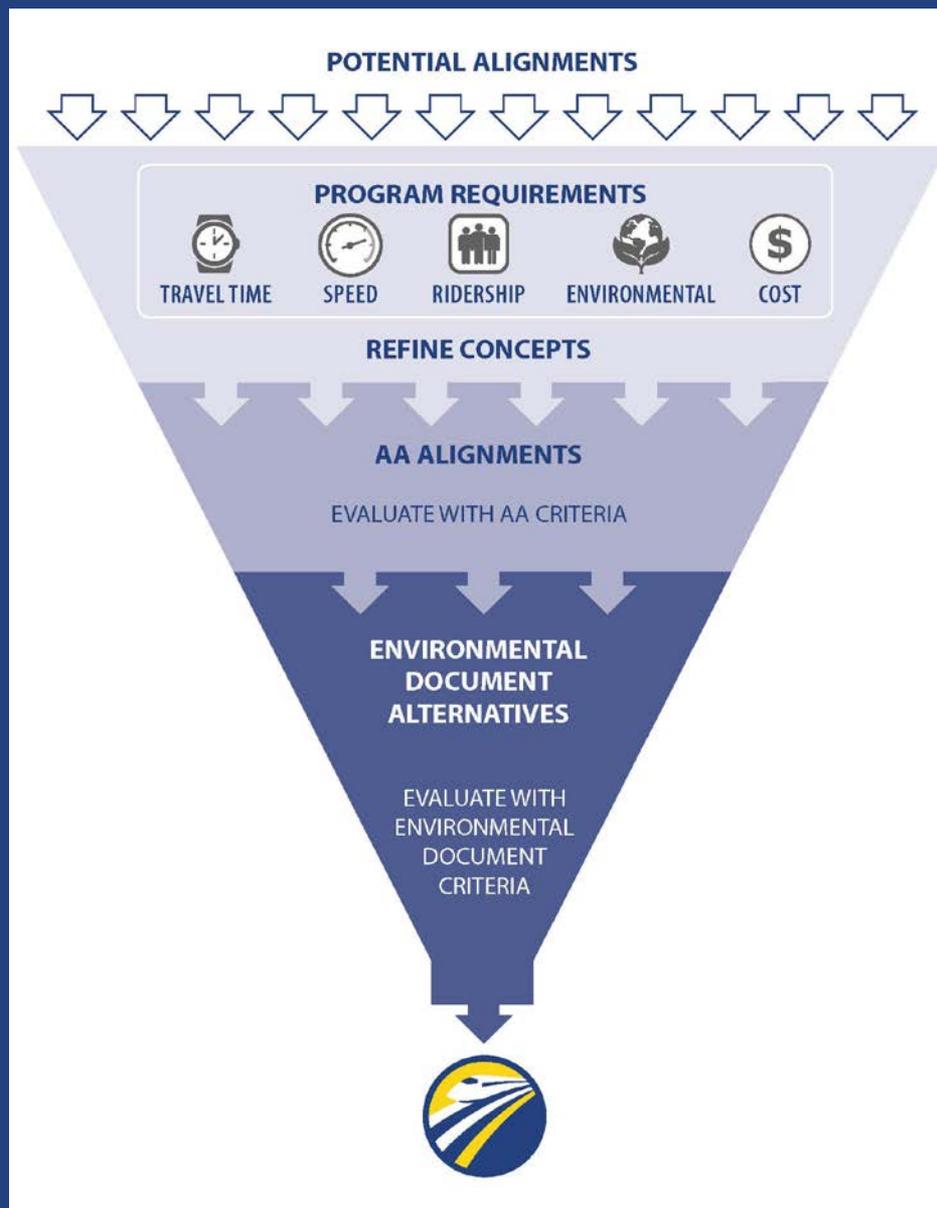


Summer  
2015



- Project Objectives
- Community
- Environmental Resources

# SCREENING PROCESS



# KEY CONSIDERATIONS

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## ALTERNATIVES ANALYSIS

- Design Objectives
- Land Use
- Disruption to Communities
- Environmental Resources
- Agency and Public Input

## ENVIRONMENTAL DOCUMENT

- Aesthetics & Visual Quality
- Agricultural, Farm & Forest Land
- Air Quality & Global Climate Change
- Biological Resources & Wetlands
- Cultural Resources
- Cumulative Impacts
- Electromagnetic Interference/Fields (EMI/EMF)
- Geology, Soils, Seismicity & Paleontology
- Hazardous Materials & Wastes
- Hydrology & Water Resources
- Station Planning, Land Use & Development
- Noise & Vibration
- Parks, Recreation & Open Space
- Public Utilities & Energy
- Regional Growth
- Safety & Security
- Socioeconomics & Communities
- Environmental Justice
- Transportation
- Section 4(f) & Section 6(f) Evaluations

# KEY CONSIDERATIONS

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- Section 4(f) & Section 6(f) Evaluations

# EXAMPLE: CRITERIA COMPARISON

<b>Issue</b>	<b>Alternatives Analysis</b> <i>Develop and refine alternatives to avoid potential impacts</i>	<b>Environmental Document</b> <i>Analyze impacts and determine mitigation strategies to support selection of preferred alternative</i>
<b>Noise</b>	Identify number of potential sensitive receptors.	Conduct field studies to collect existing noise levels.  Evaluate potential noise and vibration impacts to sensitive receptors due to construction and operation of the project.
<b>Groundwater</b>	Identify locations, seeps, wells, and springs.	Conduct field studies to confirm location of existing resources.  Evaluate potential groundwater impacts due to construction and operation of the project.
<b>Environmental Justice</b>	Identify potential communities of Environmental Justice concern using Census data.	Conduct outreach to confirm which communities are of EJ concern.  Evaluate the communities of EJ concern to determine if construction and operation of the HSR project would have any adverse effects disproportionately borne by these populations.

# COMMUNITY WORKING GROUPS – ROUND 1 MEETINGS

Burbank



San Fernando



Sylmar



Santa Clarita Valley



Acton / Agua Dulce



Sun Valley / Pacoima



Foothill Communities



Palmdale





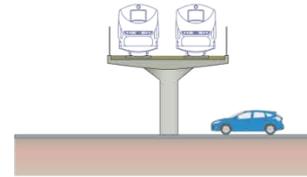


# DESIGN ELEMENTS

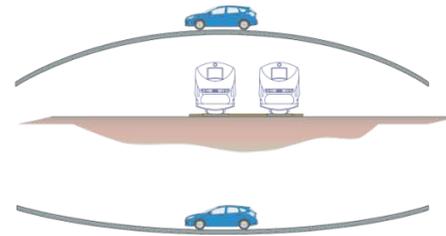


# EXAMPLES: VERTICAL PROFILES

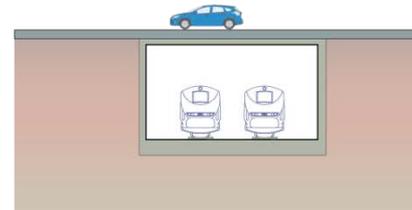
AERIAL



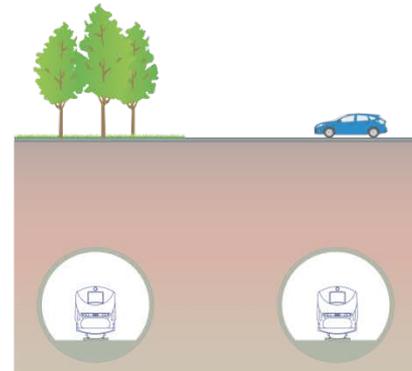
AT GRADE



TRENCH/CUT & COVER



HSR DEEP TUNNEL



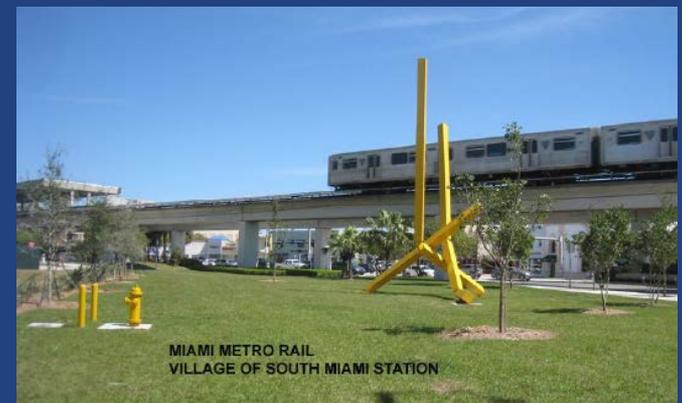
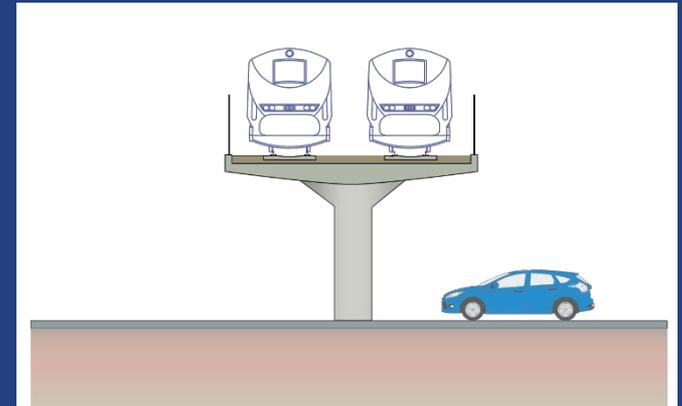
# EXAMPLE: AERIAL

- PROS:

- » Narrower Width
- » Usable Space Below Structure
- » Rider Views
- » Constructability

- CONS:

- » Visual Impact
- » Noise Impact



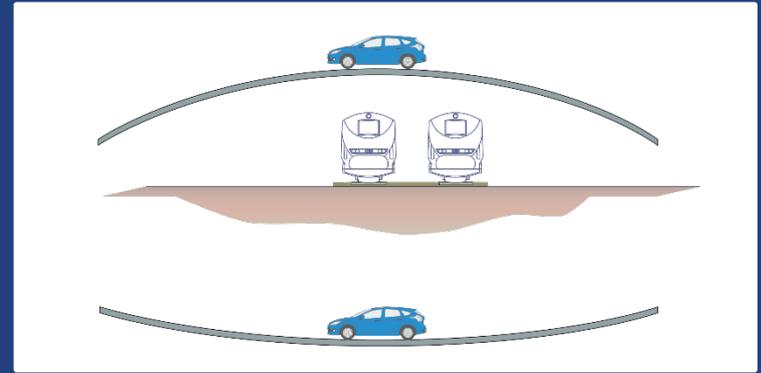
# EXAMPLE: AT GRADE

- PROS:

- » Less Visual Impacts (Vs. Aerial)
- » Rider Views
- » Constructability
- » Construction Costs
- » Aesthetics (Noise Barriers)

- CONS:

- » Property Impacts
- » Aesthetics (Noise Barriers)



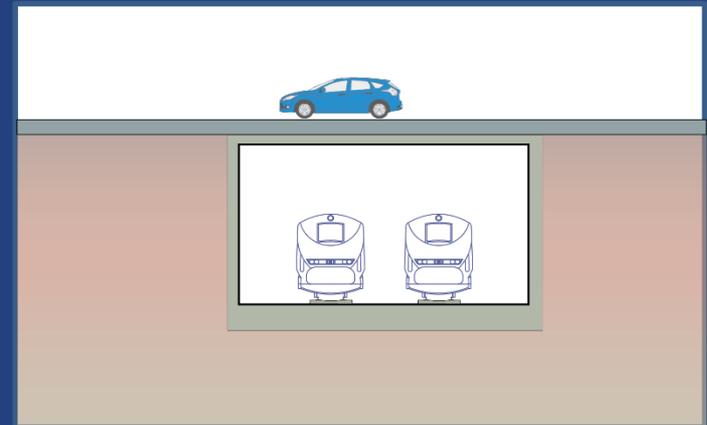
# EXAMPLE: TRENCH/CUT & COVER

- PROS:

- » Limited Visual Impact
- » Options for Connectivity across Trench

- CONS:

- » Potential Impacts to Waterways and Utilities
- » Right of Way for Construction
- » Limited Rider Views
- » Cost



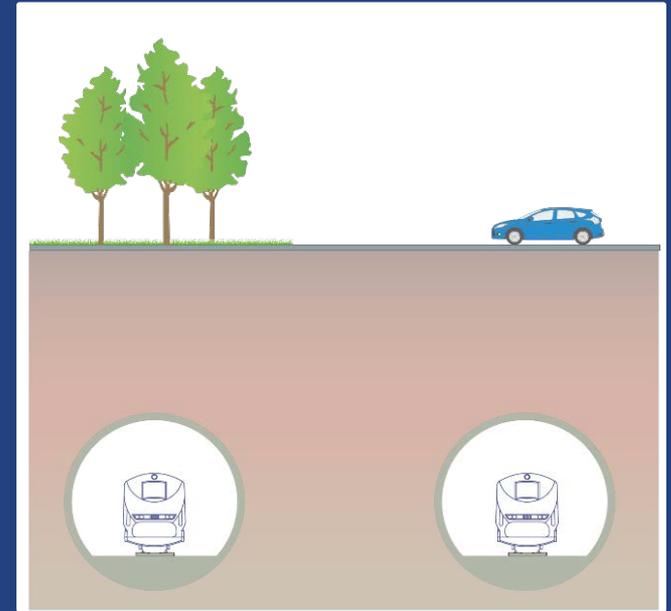
# EXAMPLE: DEEP BORING

- PROS:

- » Least Visual and Noise Impacts
- » Reduced Surface Disruption

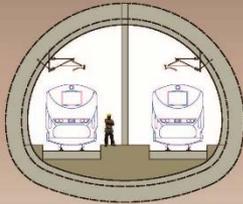
- CONS:

- » Cost
- » Fire & Life Safety
- » Limited Rider Views



# EXAMPLE: TUNNEL SCALES

SINGLE-LINED TUNNEL



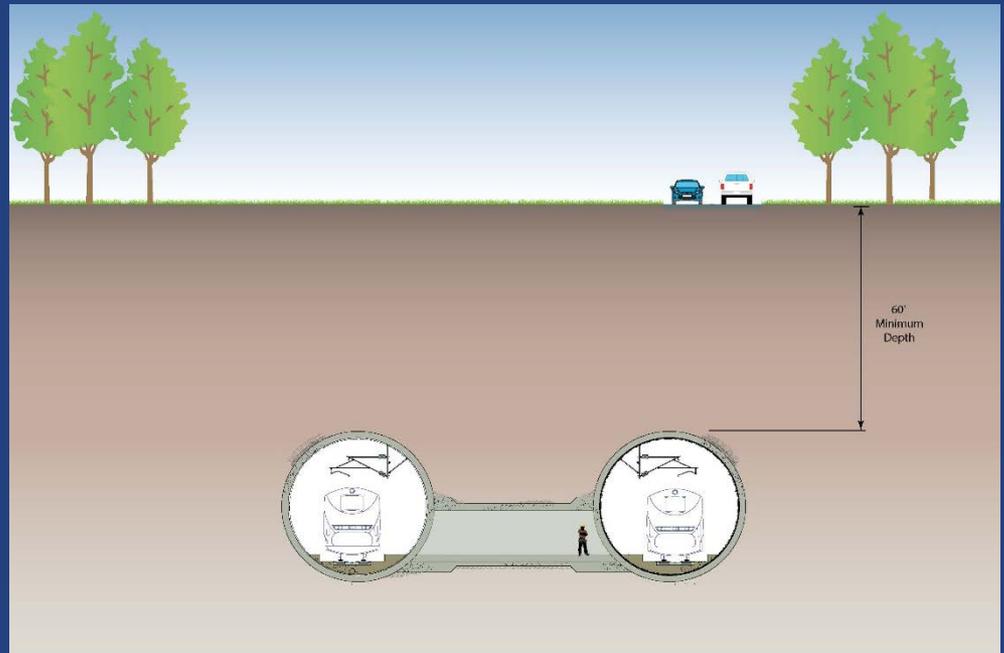
TWIN-BORE TUNNEL



TWIN BORE WITH SERVICE TUNNEL



- Depth: Approx. 60 ft. min.
- Width: Approx. 120 ft.
- Diameter: Approx. 30-40 ft.

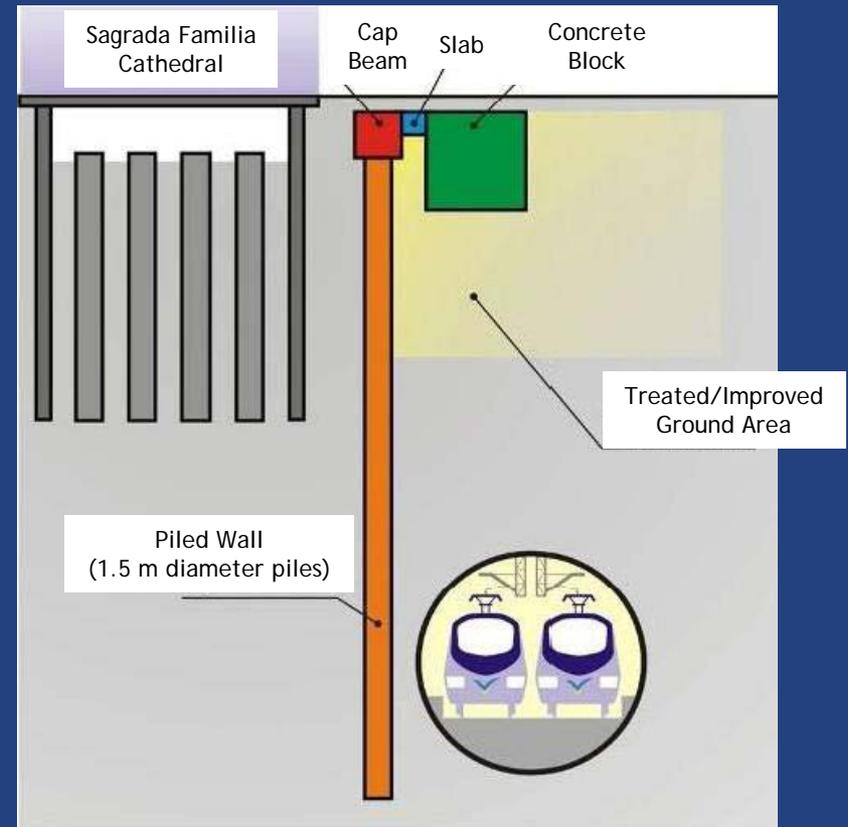
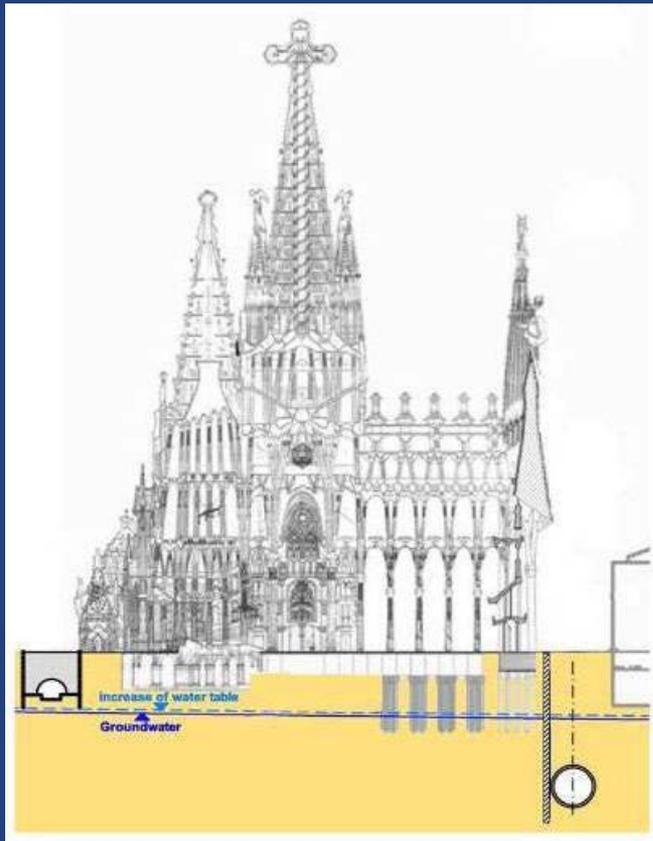


# TUNNEL BORING MACHINE

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# TUNNEL EXAMPLE - SPAIN



TBM bored tunnel underneath the Sagrada Familia Cathedral in Barcelona, Spain.  
(Architect: Gaudi)

# SOUND DURATION COMPARISON

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- High-Speed Rail



- A high-speed train moving at **220 mph** will be heard for about **four seconds**

- Freight

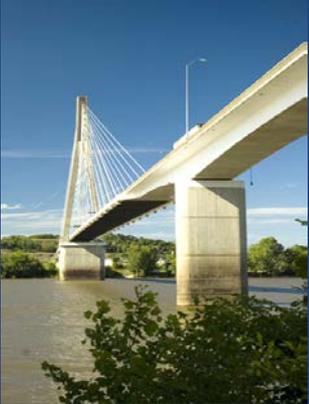


- A 50-car freight train traveling at **30 mph** can be heard for **one minute**

# EXAMPLES: SOUND BARRIERS



# EXAMPLES: BRIDGE DESIGN



# EXAMPLE: TUNNEL PORTALS

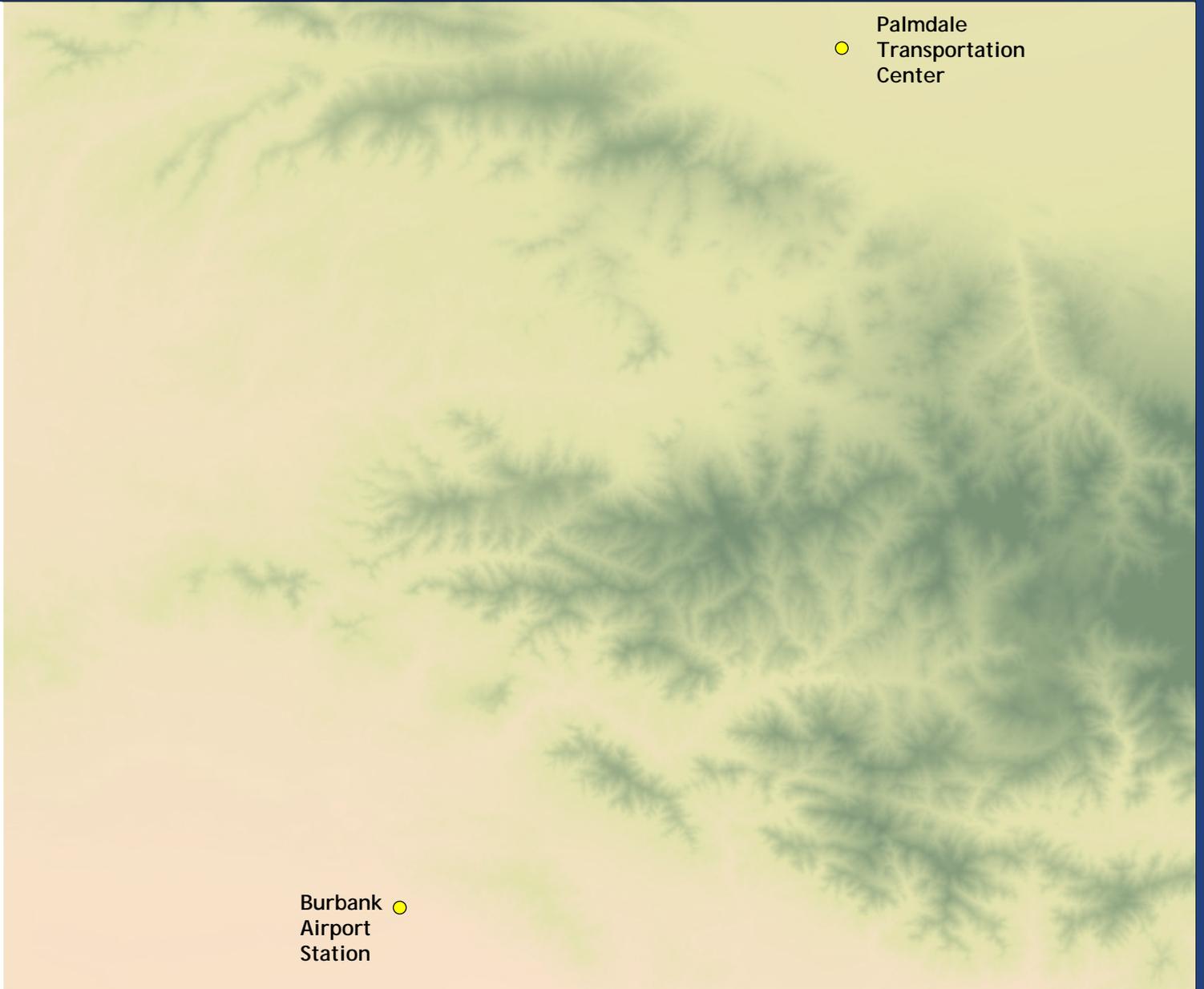


# PALMDALE TO BURBANK PROJECT SECTION



# PROJECT SECTION CONSTRAINTS

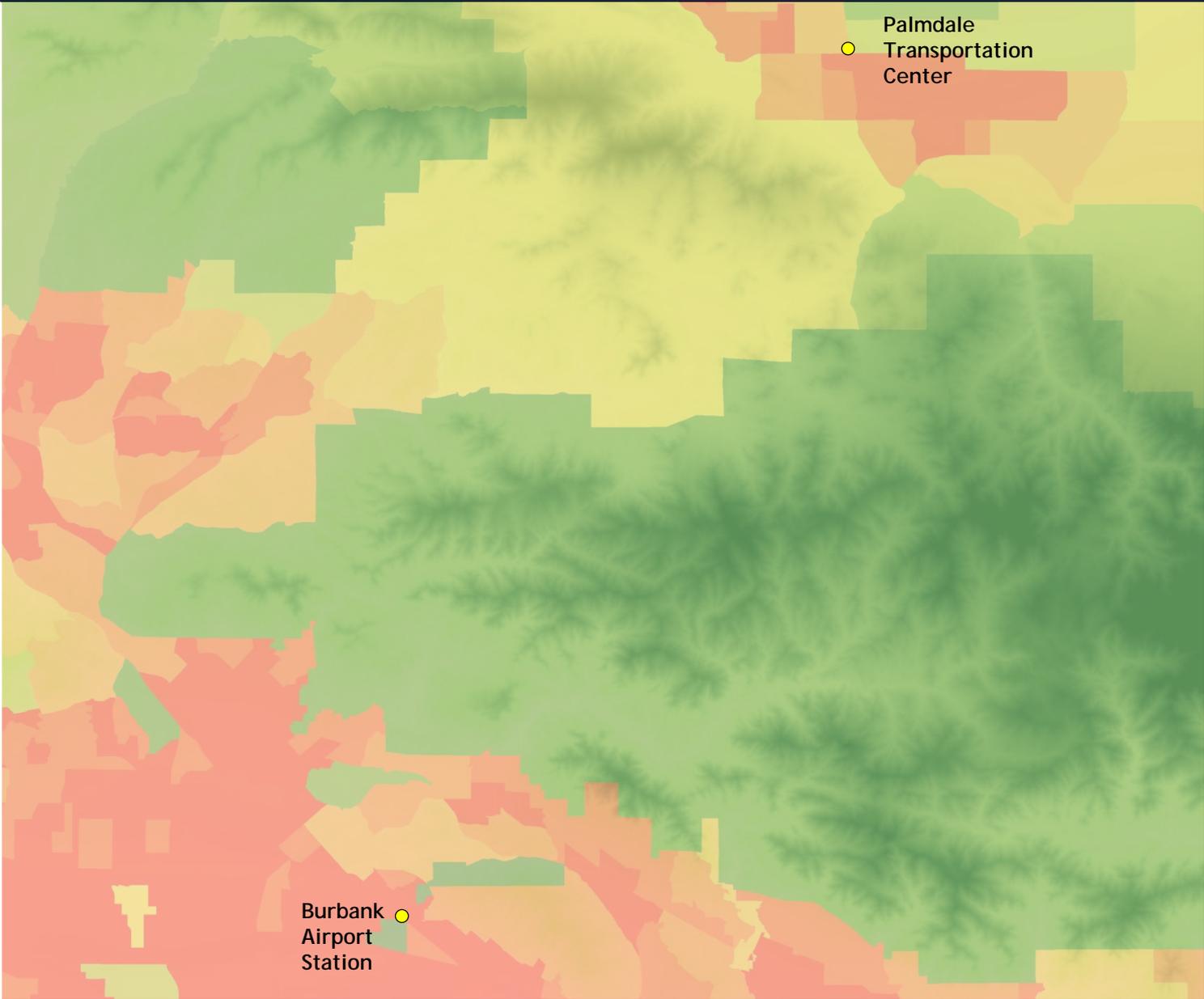
Terrain



# PROJECT SECTION CONSTRAINTS

Terrain

Population

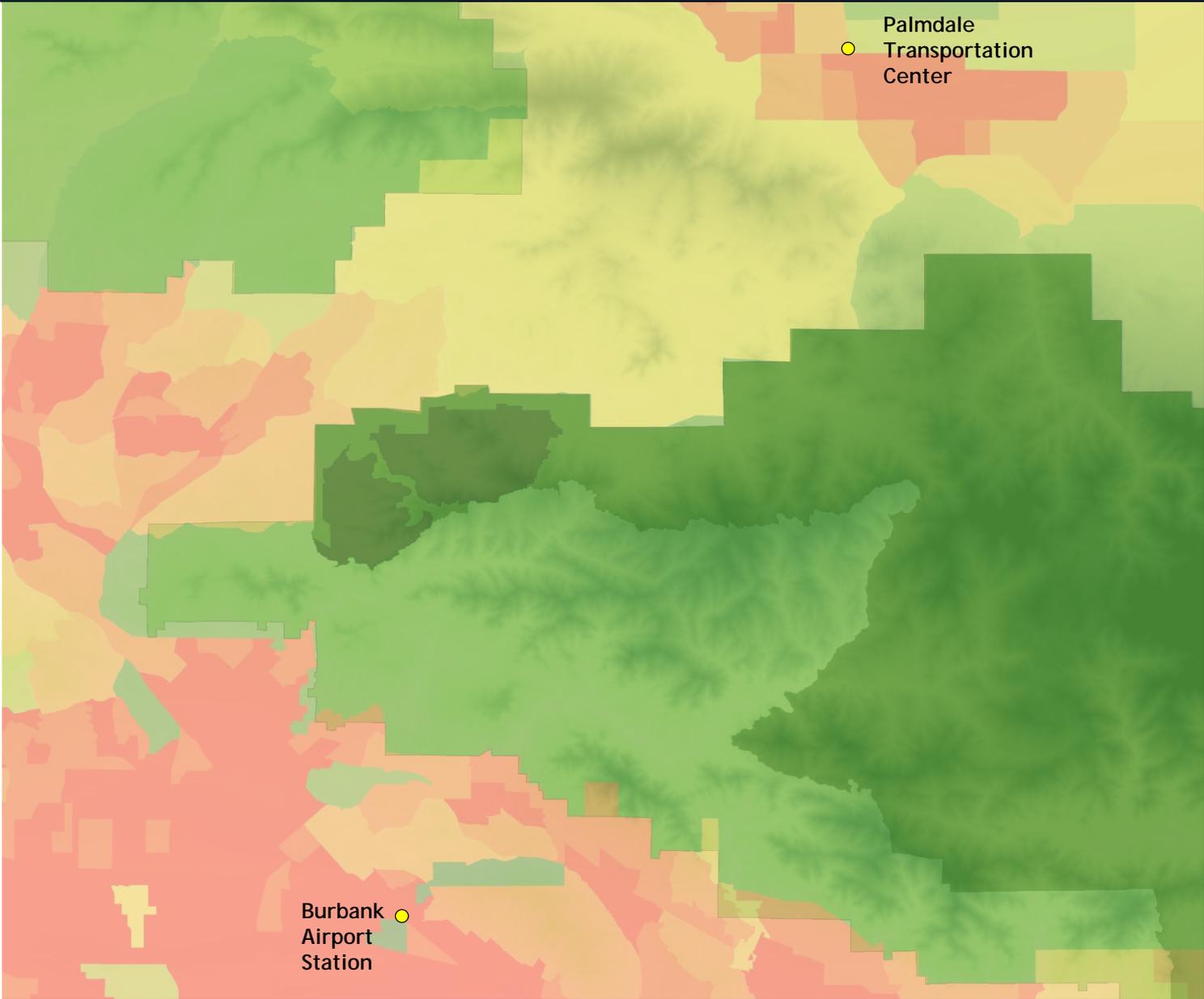


# PROJECT SECTION CONSTRAINTS

Terrain

Population

Forest



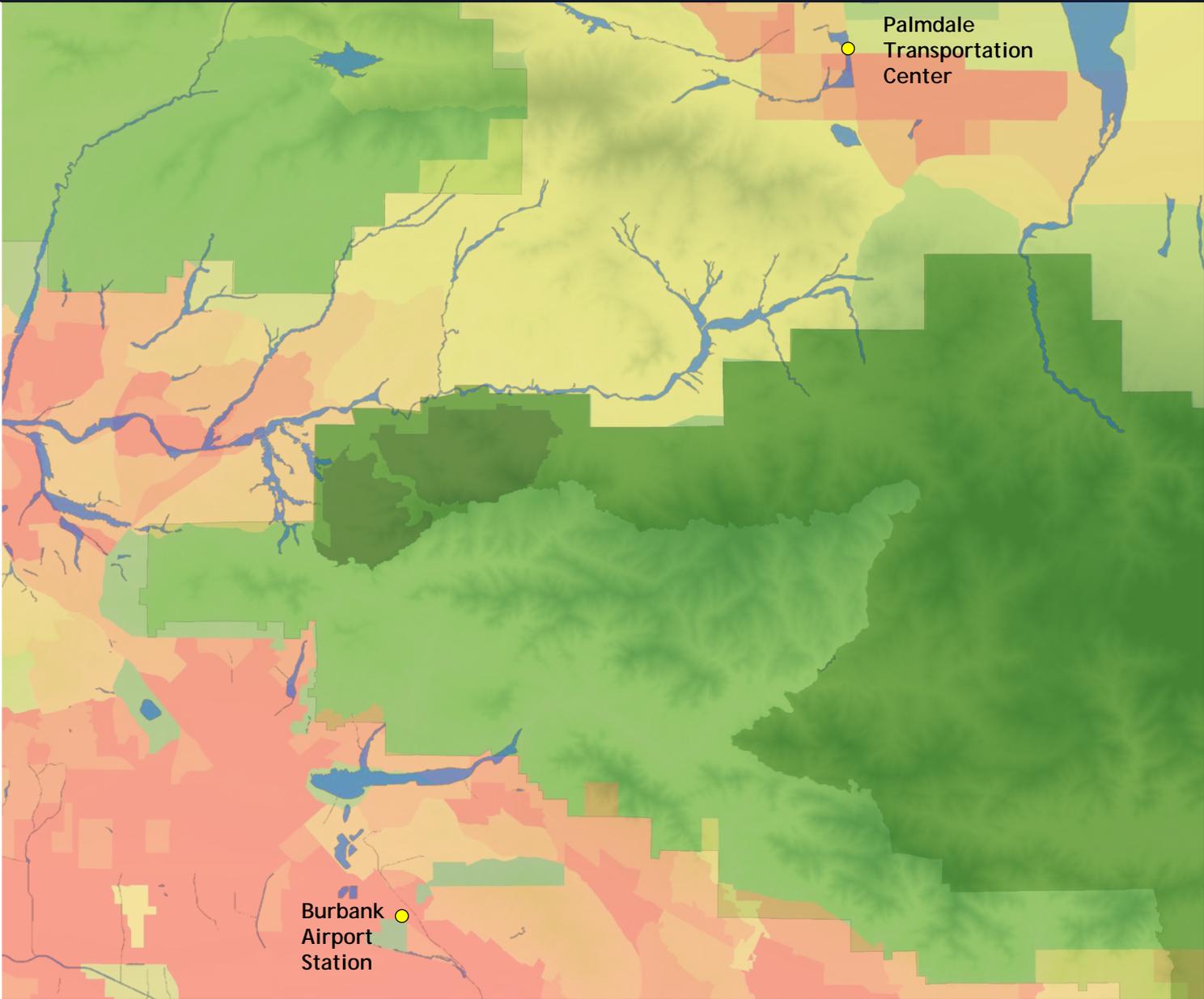
# PROJECT SECTION CONSTRAINTS

Terrain

Population

Forest

Floodplain



# PROJECT SECTION CONSTRAINTS

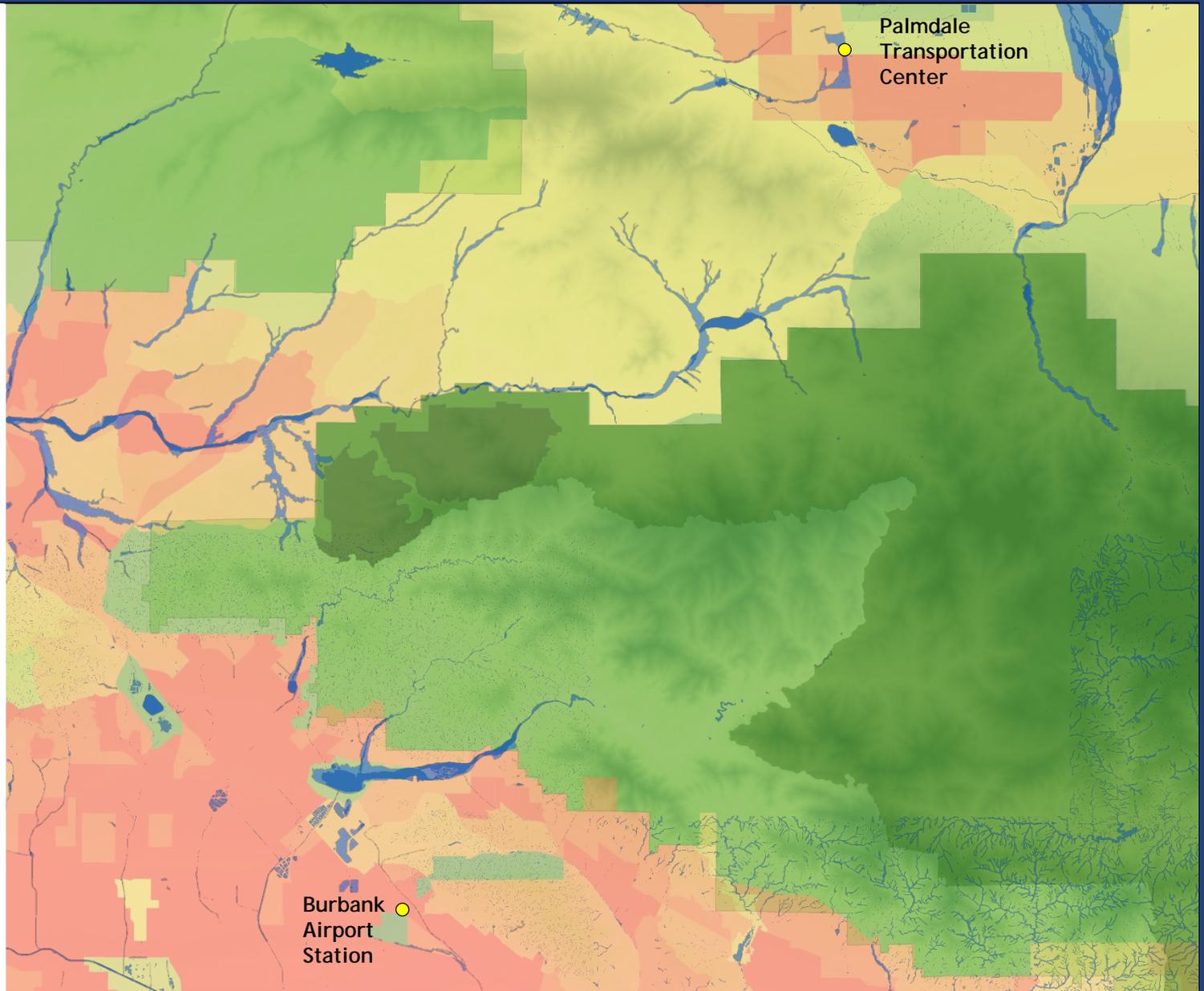
Terrain

Population

Forest

Floodplain

Wetlands



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Terrain

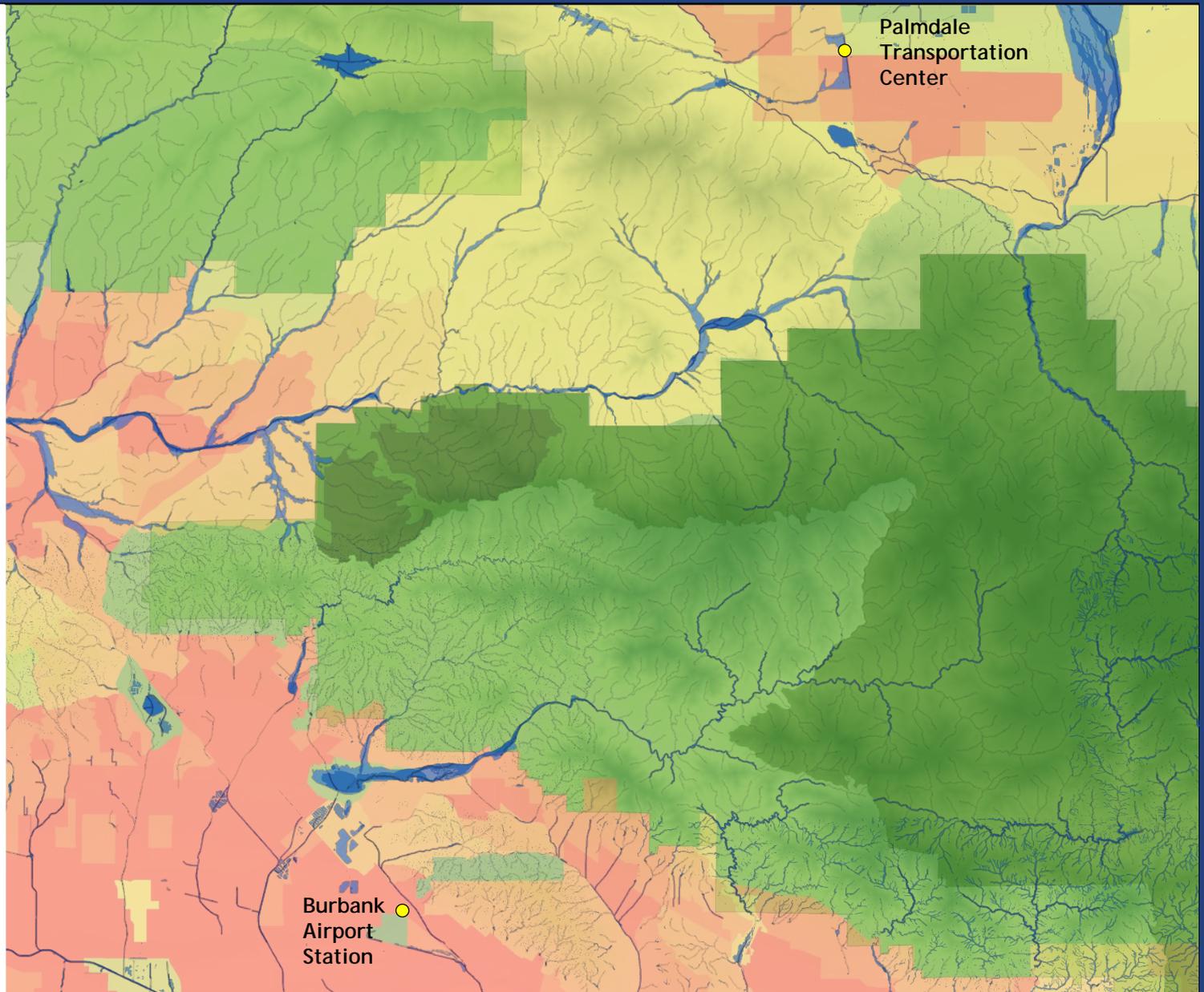
Population

Forest

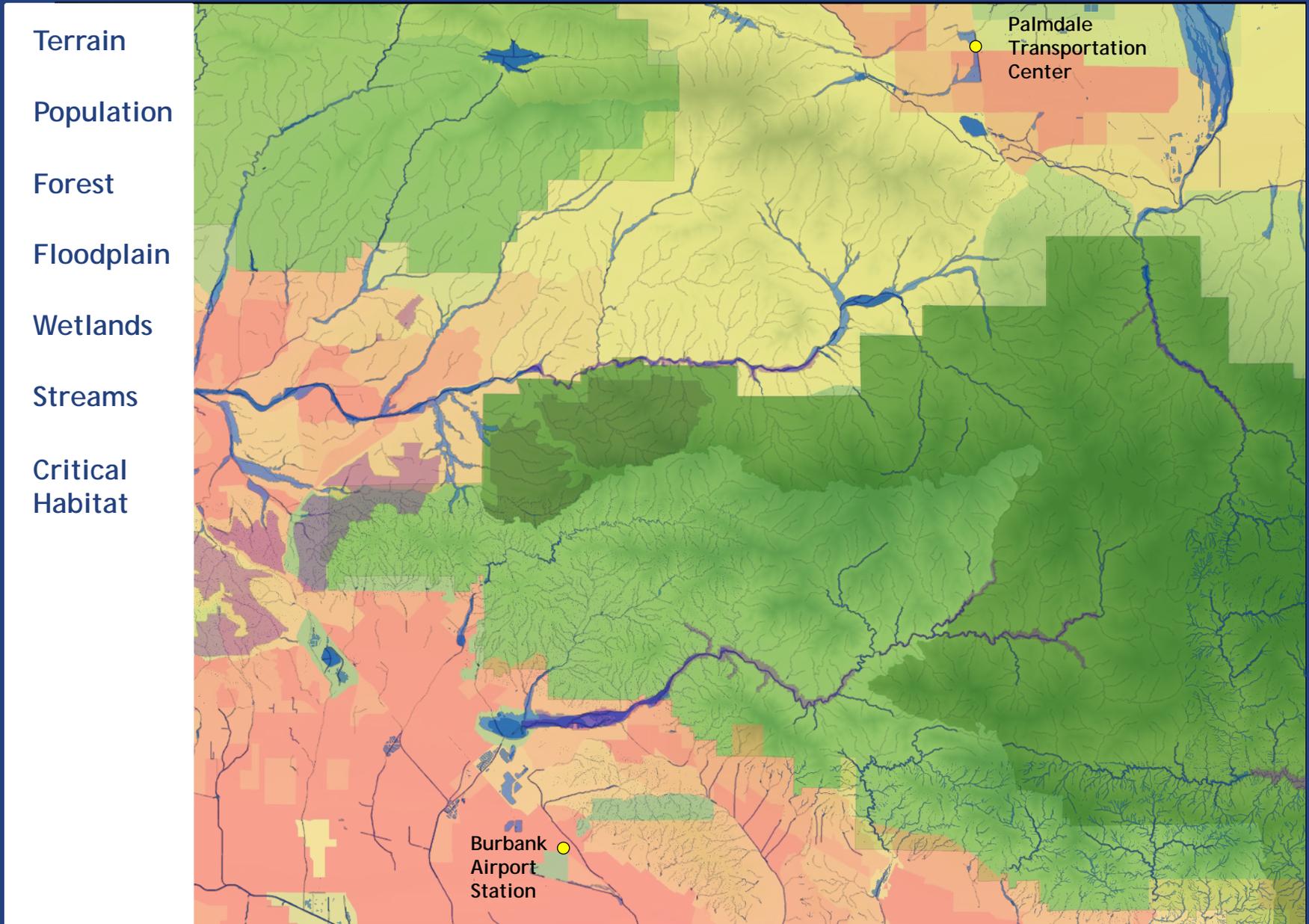
Floodplain

Wetlands

Streams



# PROJECT SECTION CONSTRAINTS



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Terrain

Population

Forest

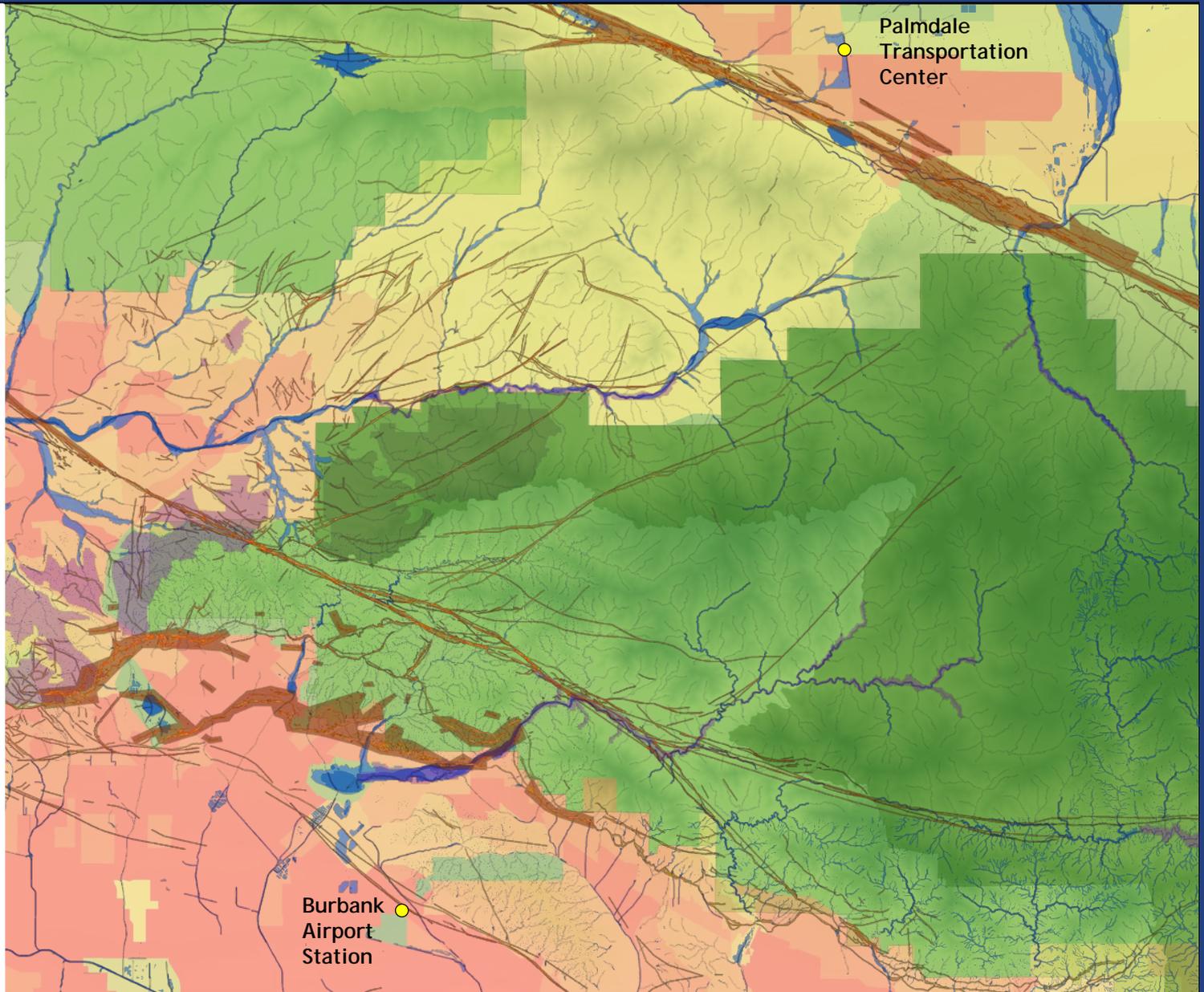
Floodplain

Wetlands

Streams

Critical  
Habitat

Faults



# PROJECT SECTION CONSTRAINTS

Terrain

Population

Forest

Floodplain

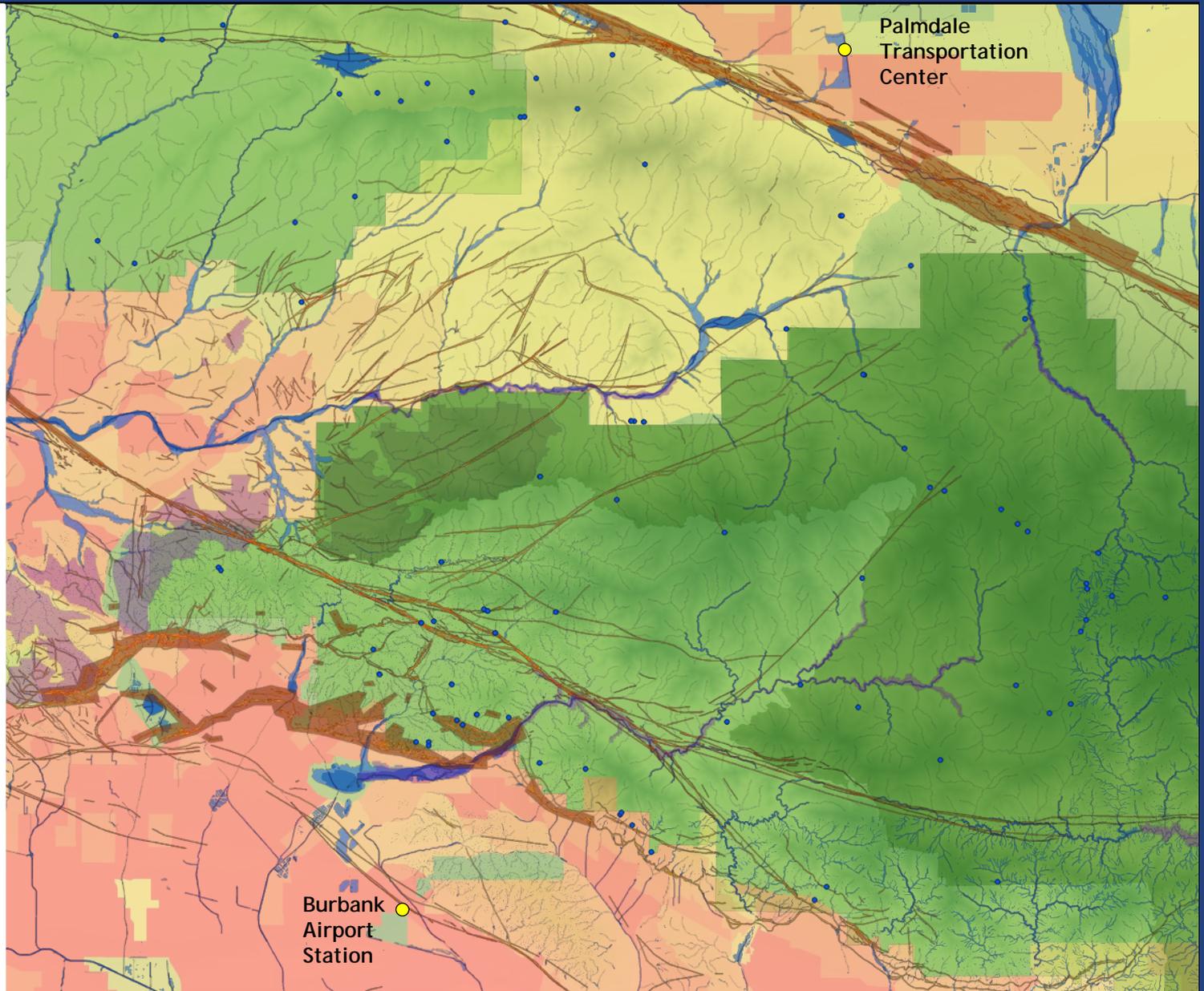
Wetlands

Streams

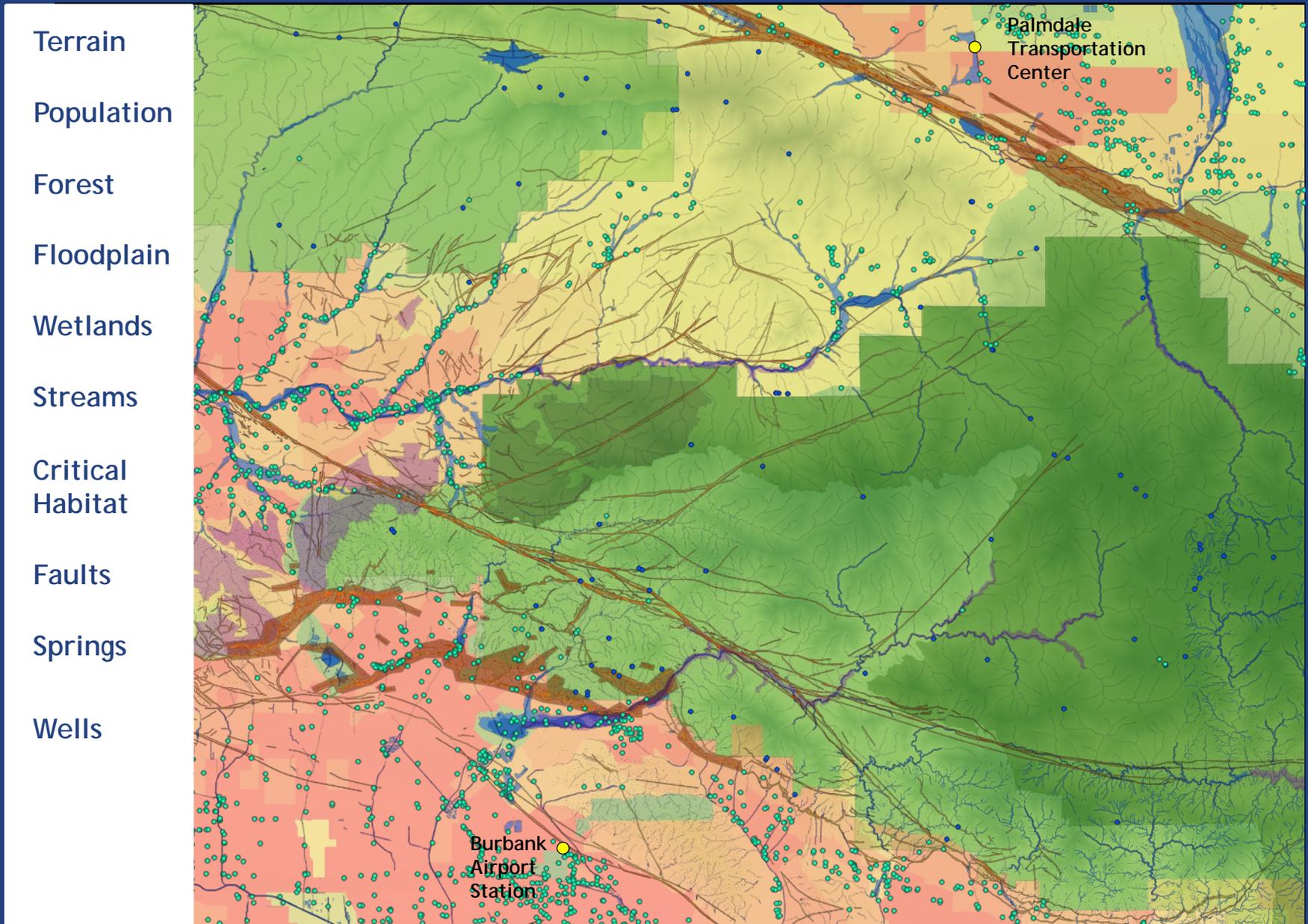
Critical  
Habitat

Faults

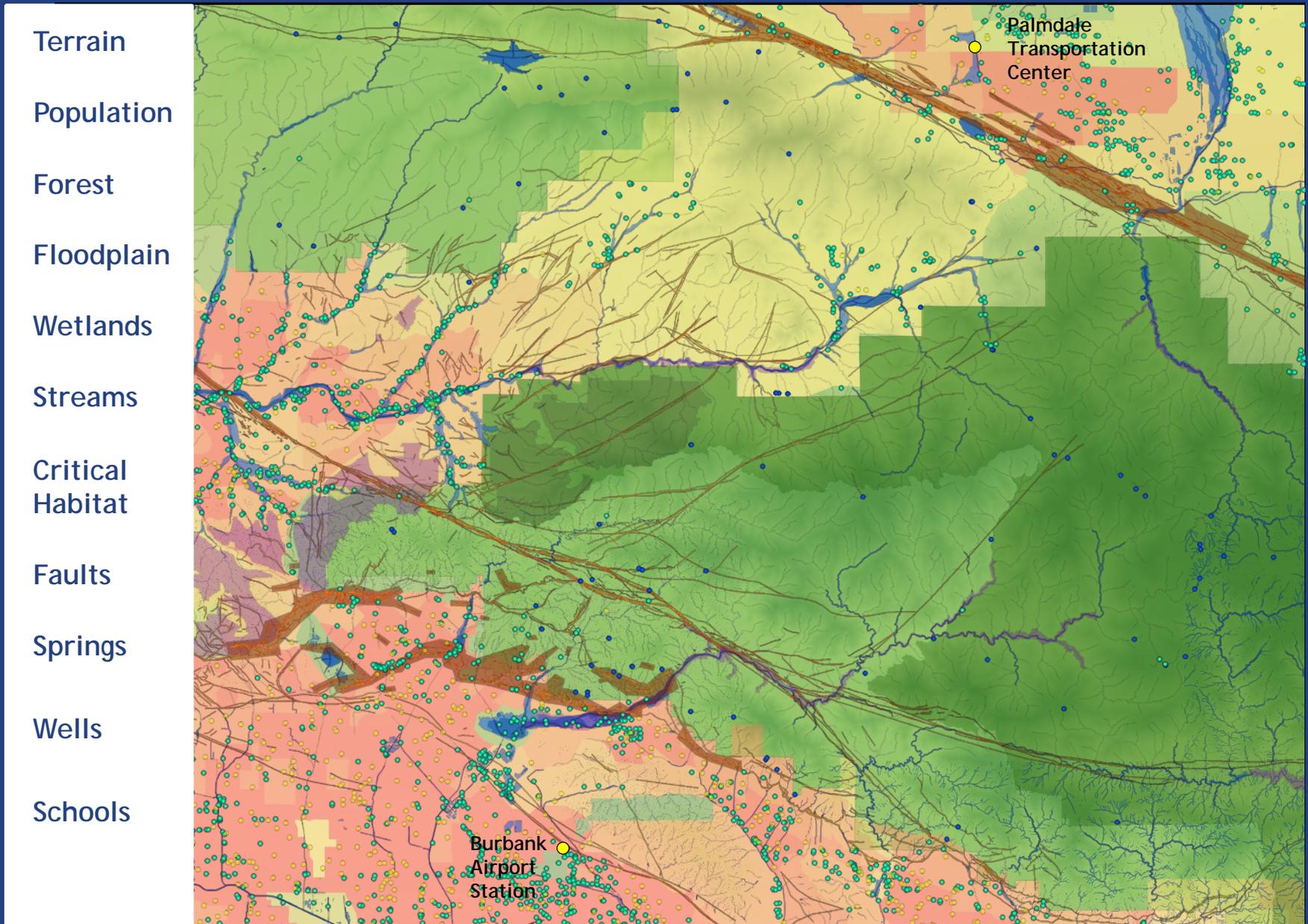
Springs



# PROJECT SECTION CONSTRAINTS

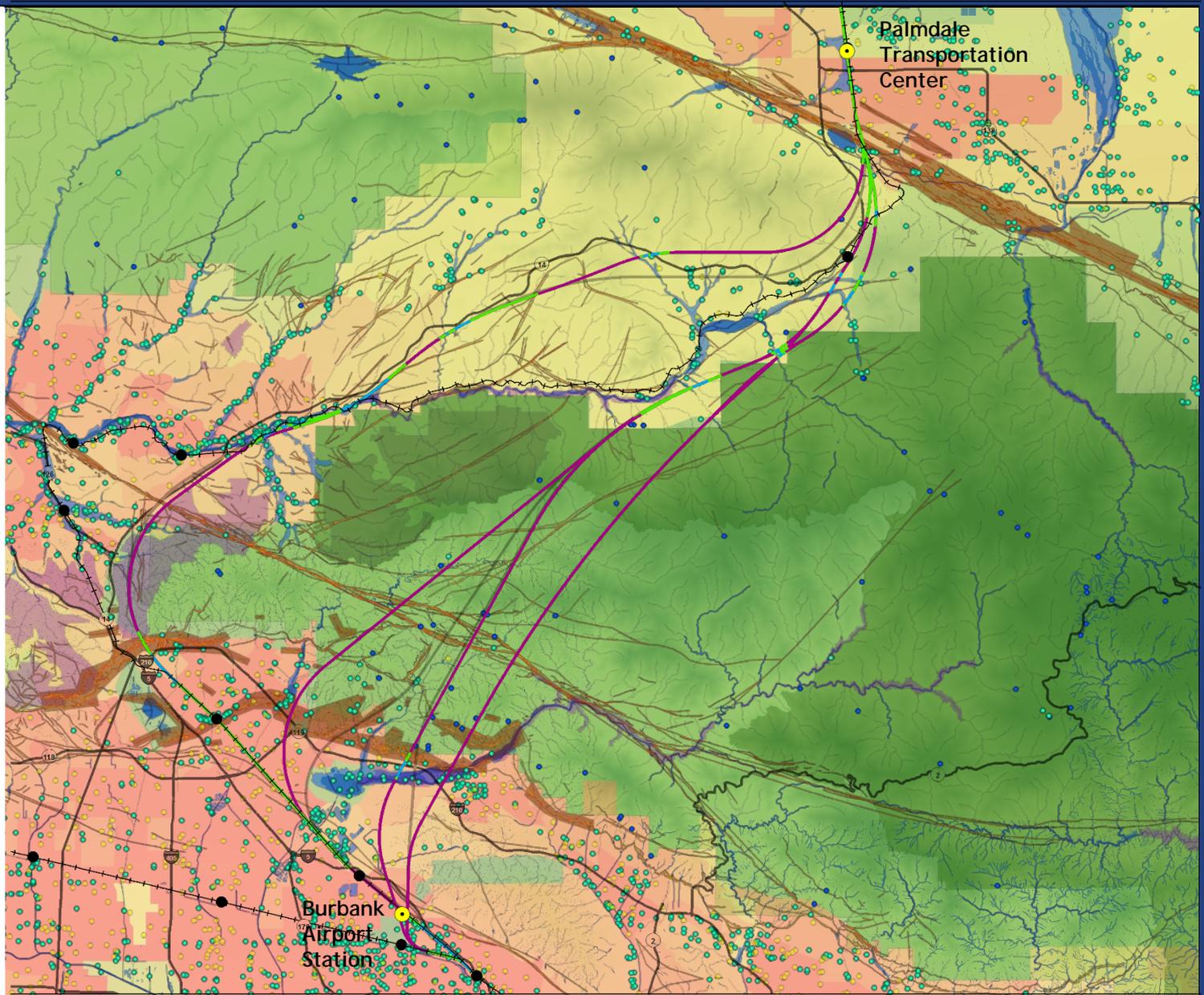


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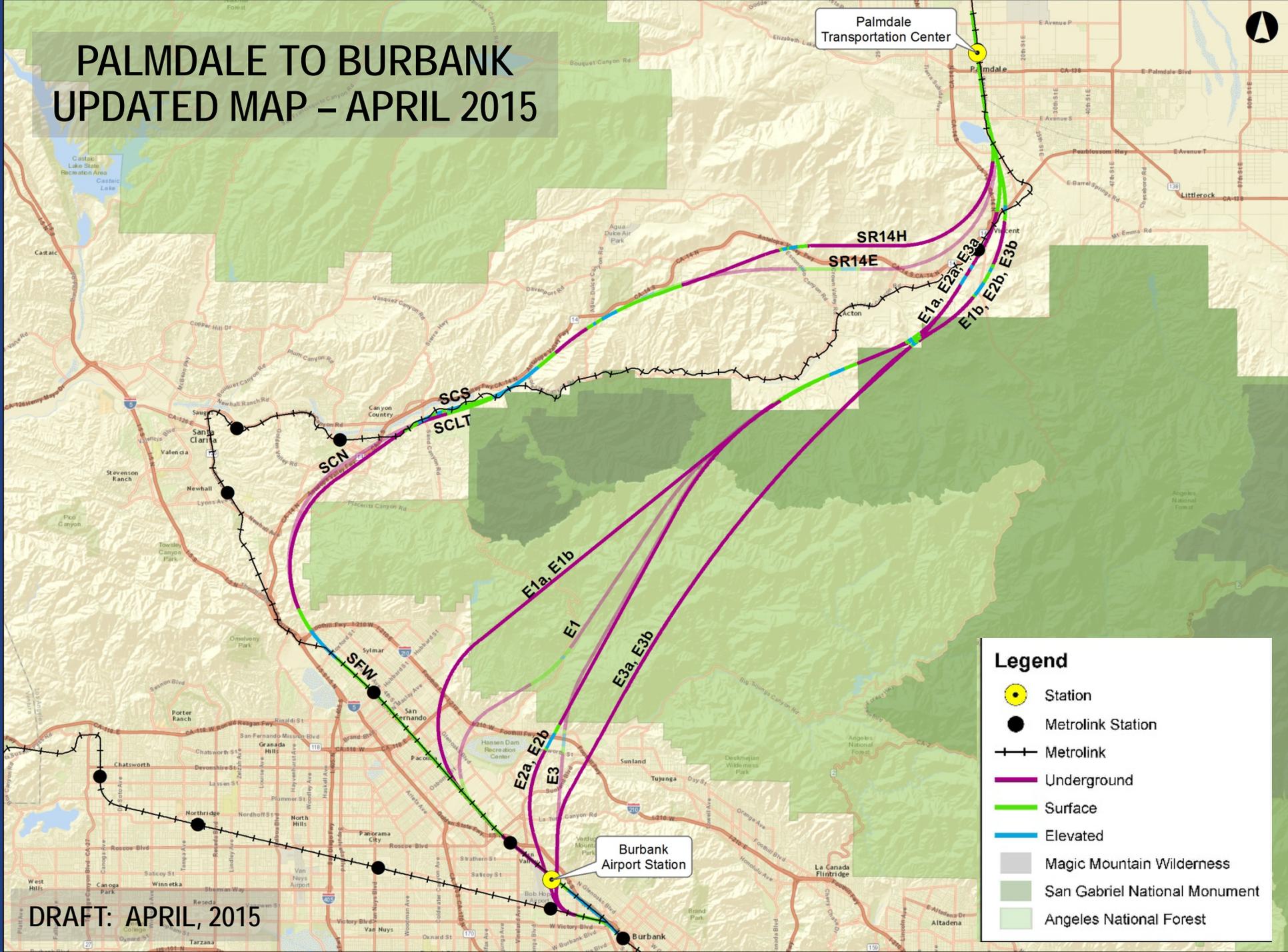


# PROJECT SECTION CONSTRAINTS

- Terrain
- Population
- Forest
- Floodplain
- Wetlands
- Streams
- Critical Habitat
- Faults
- Springs
- Wells
- Schools
- Alignments



# PALMDALE TO BURBANK UPDATED MAP - APRIL 2015



Palmdale  
Transportation Center

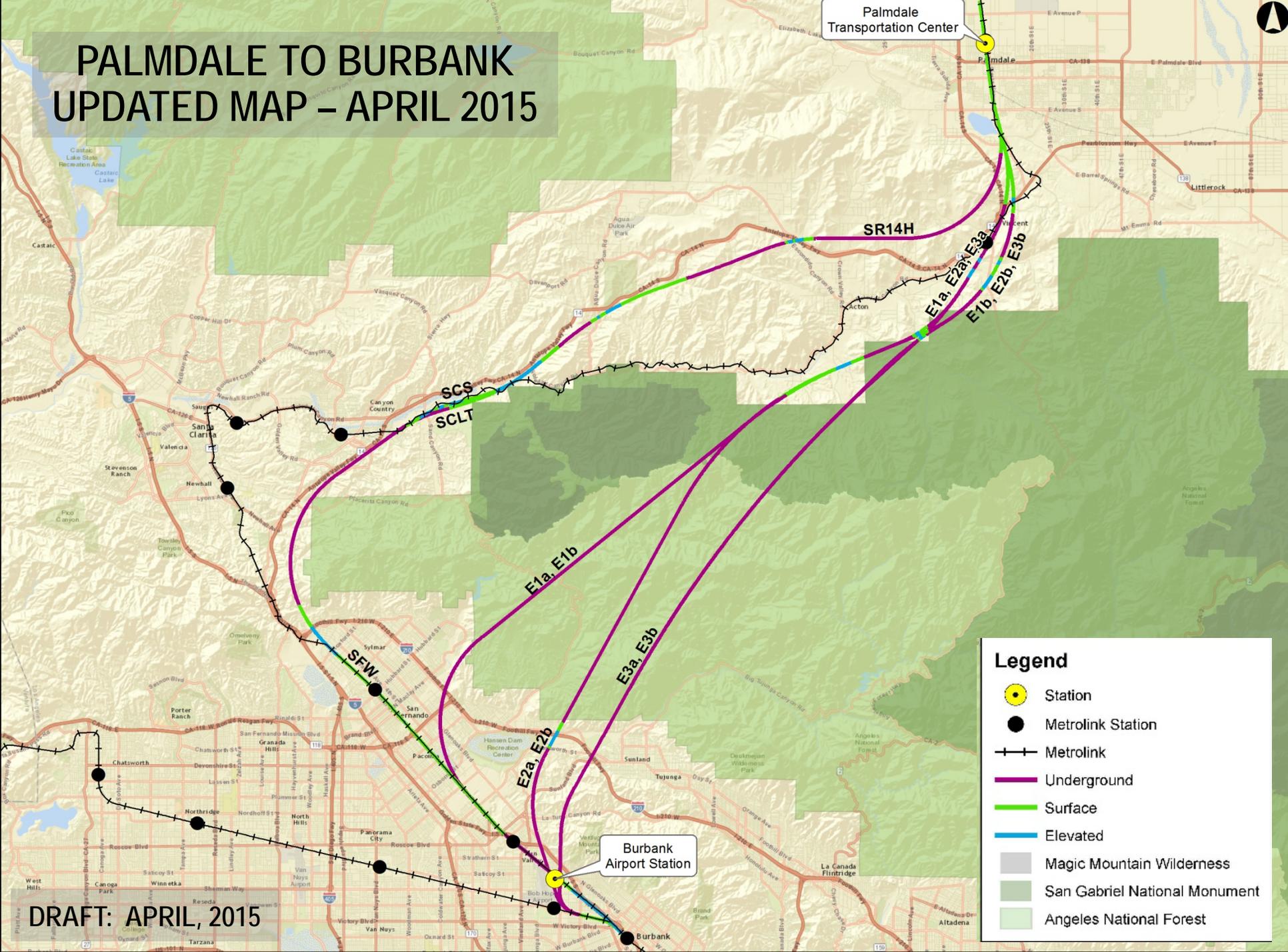
Burbank  
Airport Station

**Legend**

- Station
- Metrolink Station
- Metrolink
- Underground
- Surface
- Elevated
- Magic Mountain Wilderness
- San Gabriel National Monument
- Angeles National Forest

DRAFT: APRIL, 2015

# PALMDALE TO BURBANK UPDATED MAP - APRIL 2015



Palmdale  
Transportation Center

Burbank  
Airport Station

### Legend

- Station (Yellow circle with black dot)
- Metrolink Station (Black circle)
- Metrolink (Black line with cross-ticks)
- Underground (Purple line)
- Surface (Green line)
- Elevated (Blue line)
- Magic Mountain Wilderness (Light grey area)
- San Gabriel National Monument (Dark green area)
- Angeles National Forest (Light green area)

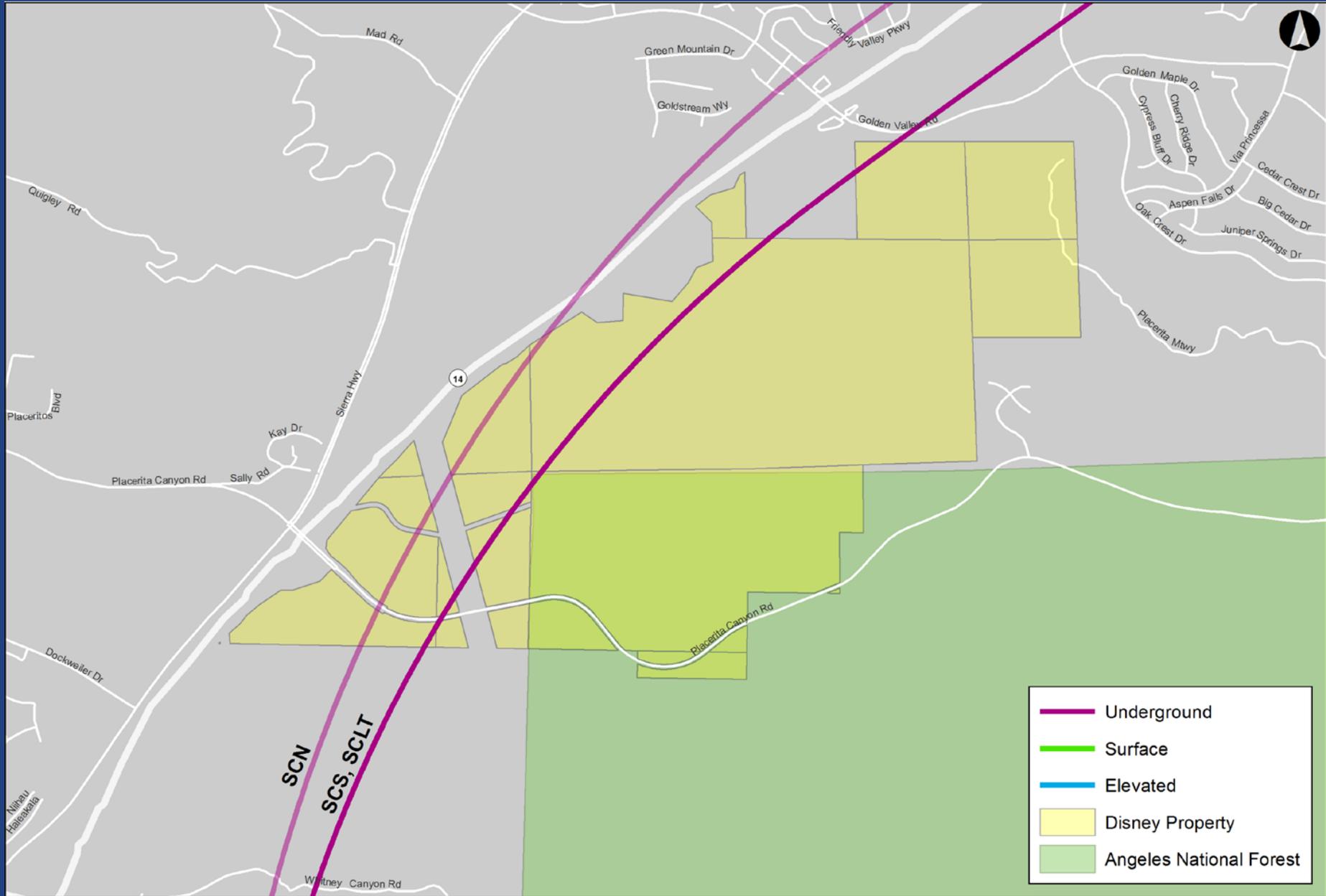
DRAFT: APRIL, 2015

# PALMDALE STATION

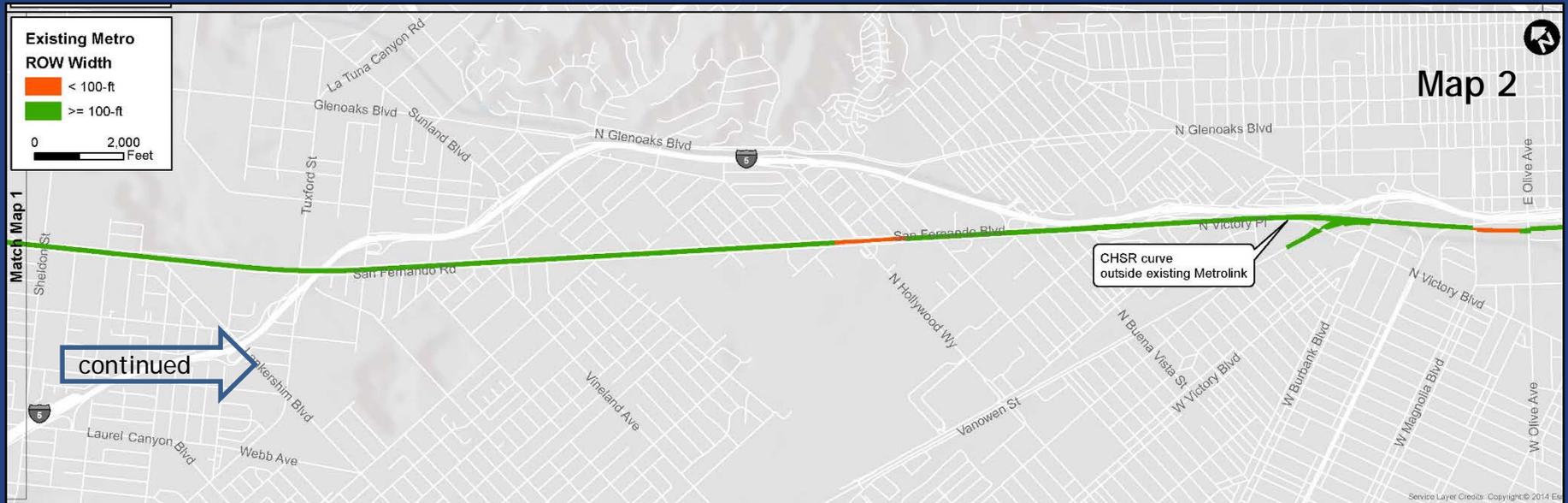
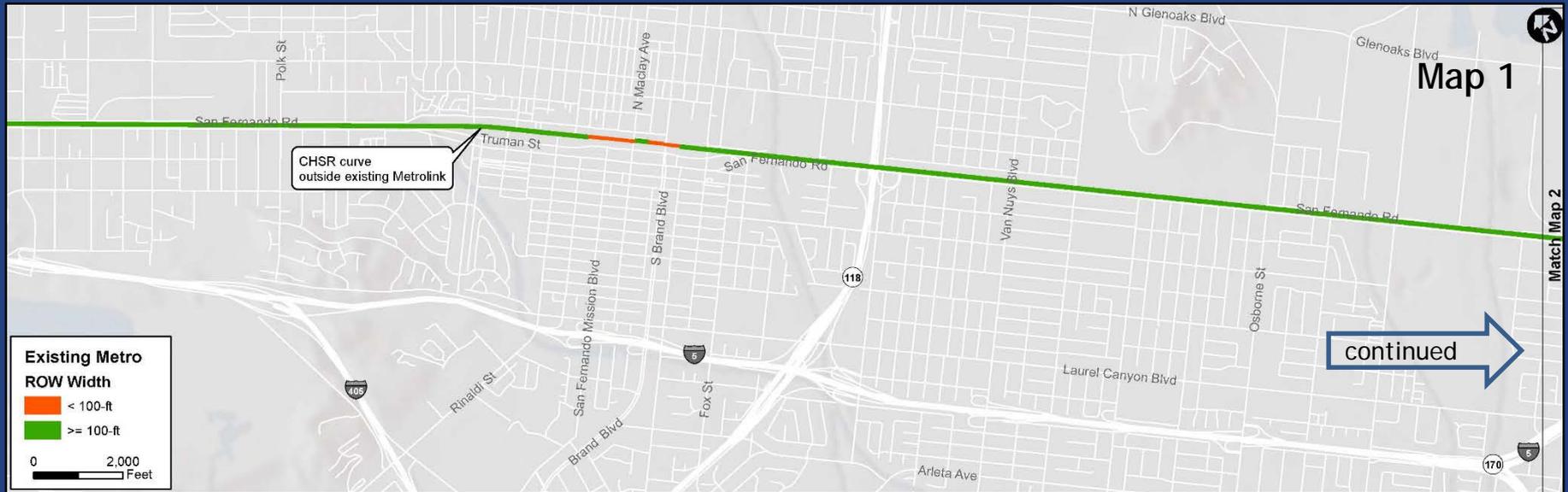




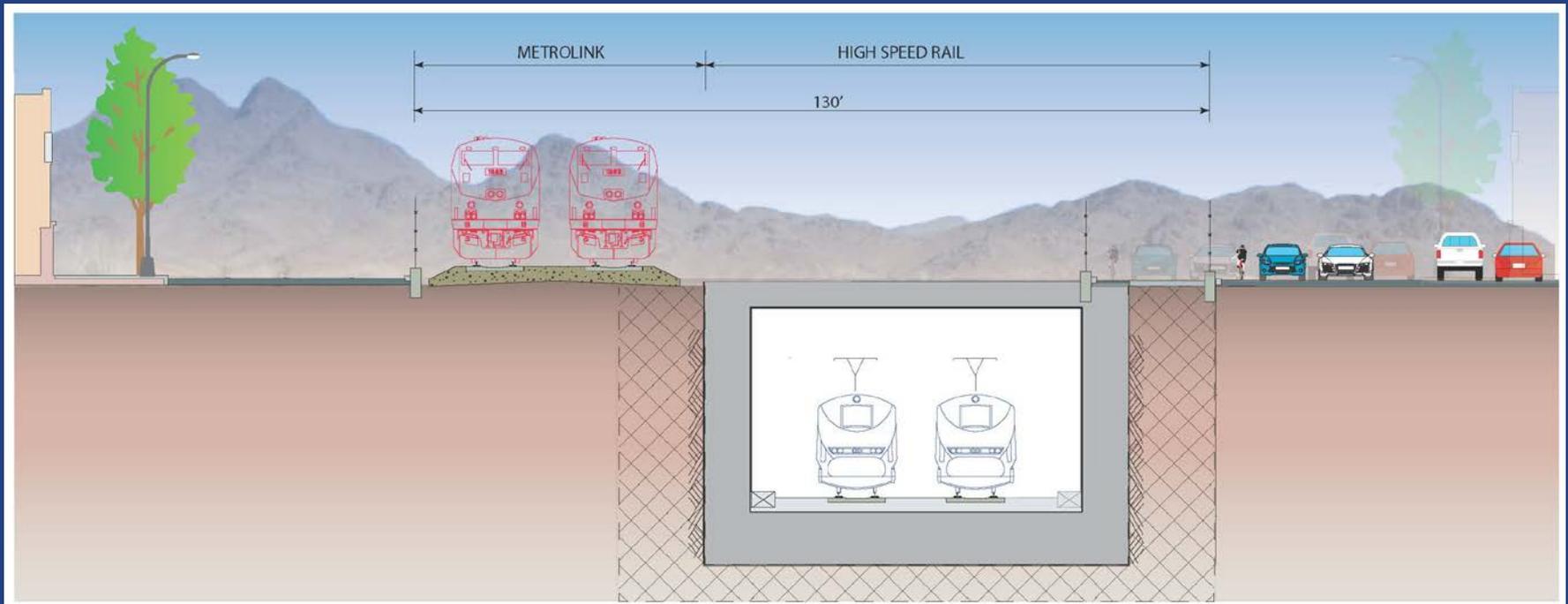
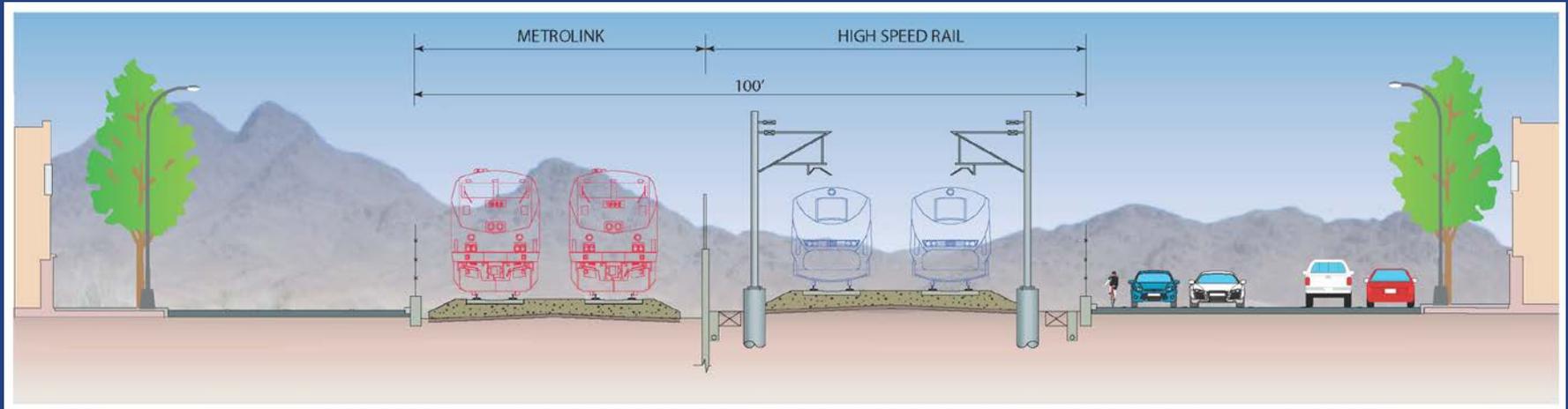
# SANTA CLARITA VALLEY: DISNEY PROPERTY LAND PARCELS



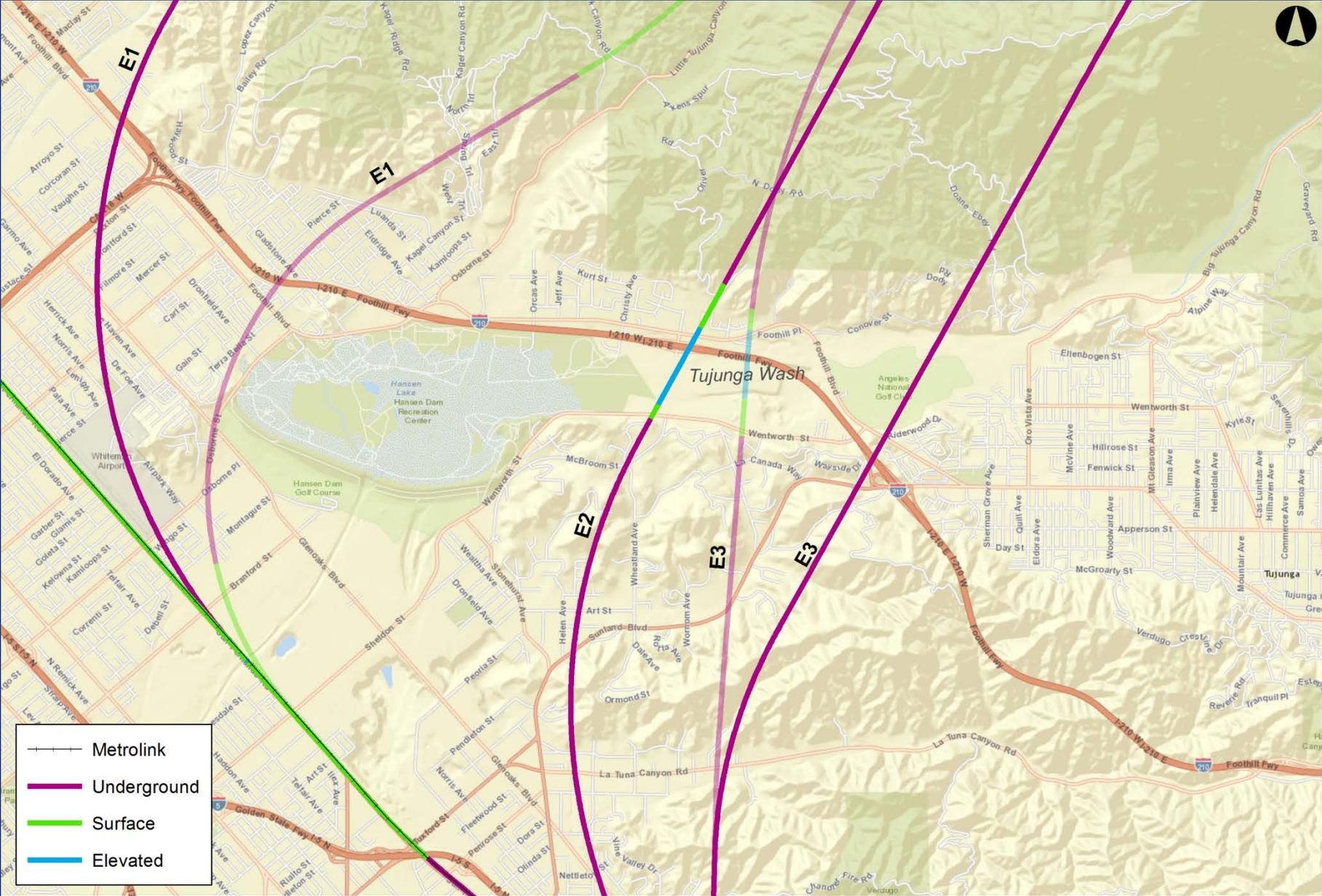
# SAN FERNANDO VALLEY: EXISTING METRO RIGHT-OF-WAY WIDTH



# SAN FERNANDO VALLEY: CROSS SECTION AT-GRADE & TRENCH



# FOOTHILL COMMUNITIES

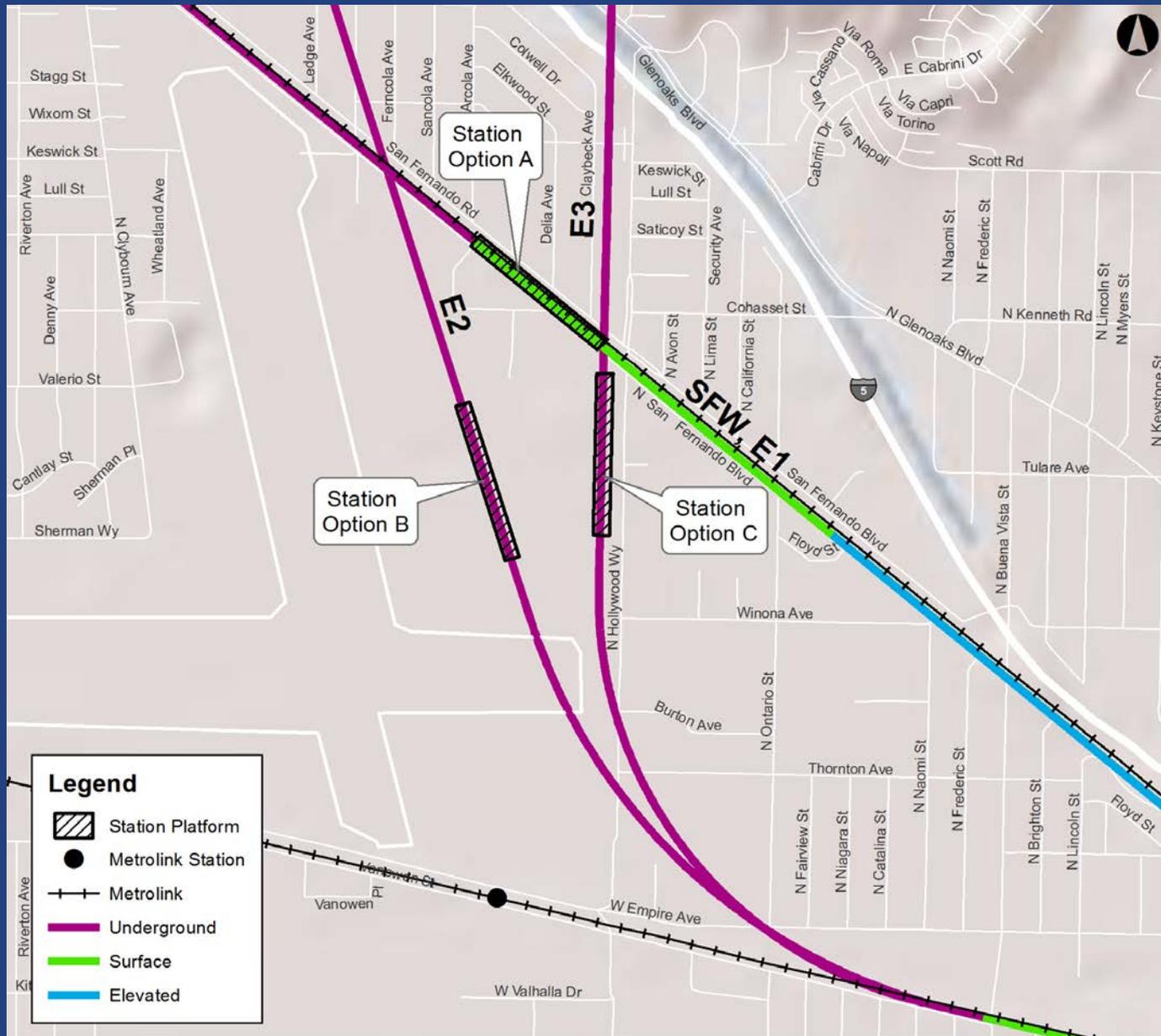


# SAN FERNANDO VALLEY STATION PLANNING

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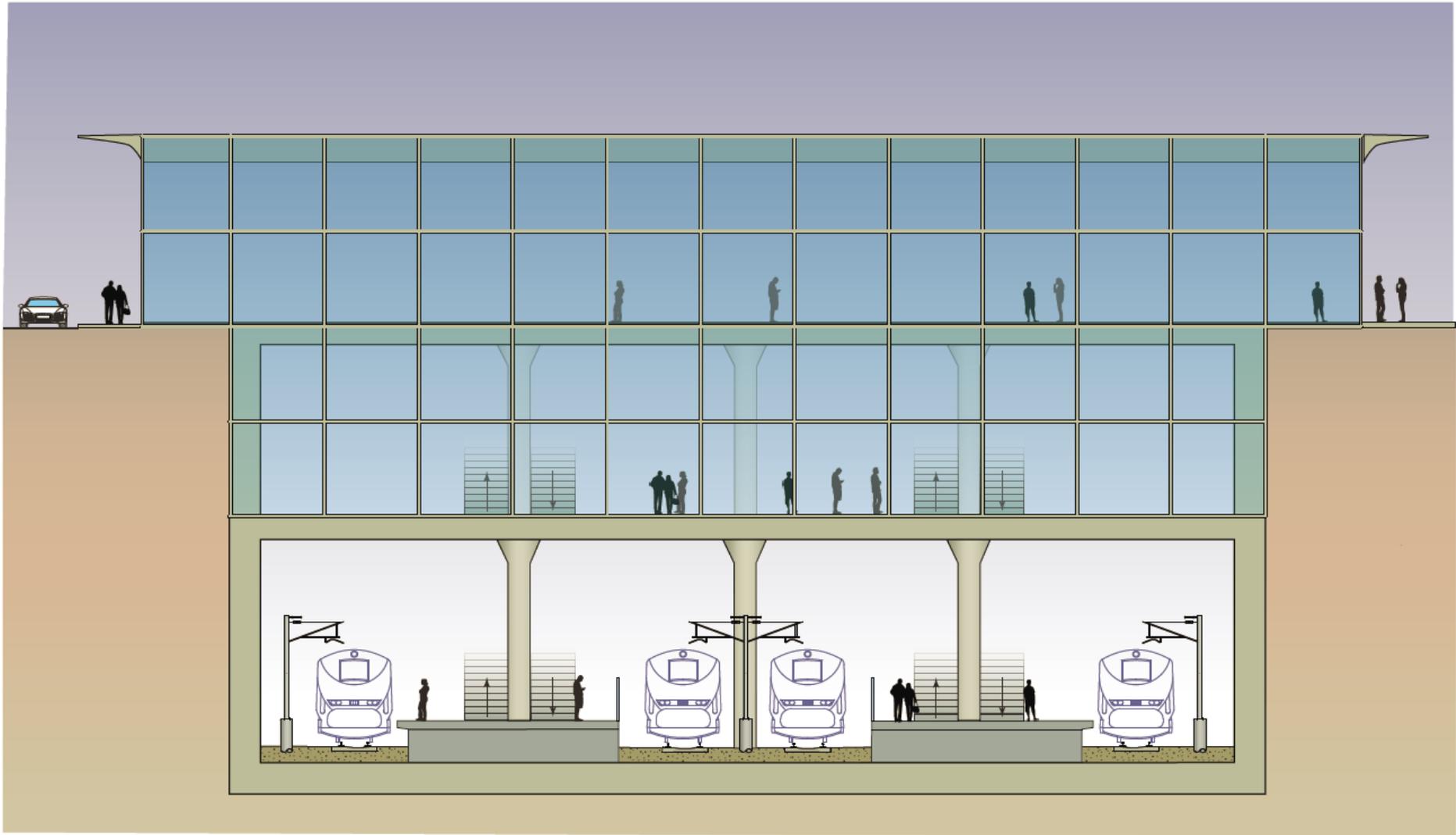
- **2005: Program Environmental Document**
  - » Identified three SFV Station Locations
  - » Sylmar Metrolink, Burbank Airport, and Burbank Metrolink
- **2008: Proposition 1A**
  - » Identified Palmdale and LAUS as Section Endpoints
  - » Stipulated consistency with 2005 Program Env. Doc. which included SFV Station
- **2010: Preliminary Alternatives Analysis**
  - » Evaluated SFV station options, advanced four including Burbank Airport
- **2011: Supplemental Alternatives Analysis**
  - » Evaluated SFV station options, advanced three including Burbank Airport
- **2014: Supplemental Alternatives Analysis**
  - » Evaluated three SFV station options, advanced **Burbank Airport**
  - » Provides the **most transportation benefits** to 1.8 million SFV residents: connectivity to the **airport** and **two Metrolink lines**, closest proximity to North Hollywood and **LA Metro system**, strong **development potential**, supportive land uses

# BURBANK STATION AREA



# SAMPLE BELOW GROUND STATION

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# NEXT STEPS



# COMPLETE THE PLANNING PROCESS



## NEXT STEPS \*

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- February – May  
Community Working Group Meetings  
Municipal & Agency Technical Meetings
- May – June  
Open House Public Meetings
- Summer 2015  
CHSRA Board Meeting: SAA Report
- Summer 2015-16  
Develop Project-Level Environmental Documents
  - » Detailed technical studies
  - » Refine route designs
- Summer 2016  
Draft Environmental Document
- Summer 2017  
Final Environmental Document

\* Subject to Change

# SPREAD THE WORD

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- Open Houses: May / June 2015
- HSR presentations to your group(s)
- Encourage others to be informed and express their opinion



# COLLABORATIVE PLANNING EFFORT

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# THANK YOU

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**Website:** *[www.hsr.ca.gov](http://www.hsr.ca.gov)*

**Helpline:** *(800) 630-1039*

**Email:** *[palmdale\\_burbank@hsr.ca.gov](mailto:palmdale_burbank@hsr.ca.gov)*

## Headquarters

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