



# Big Bear Modal Alternatives Analysis

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# Study background

- Co-funded by SCAG, SANBAG, and Inland Valley Development Agency (IVDA)
- February 2010: Study Began
- September 2010: Milestone Update to SCAG Transportation Committee
- August 2011: Draft Report Completed

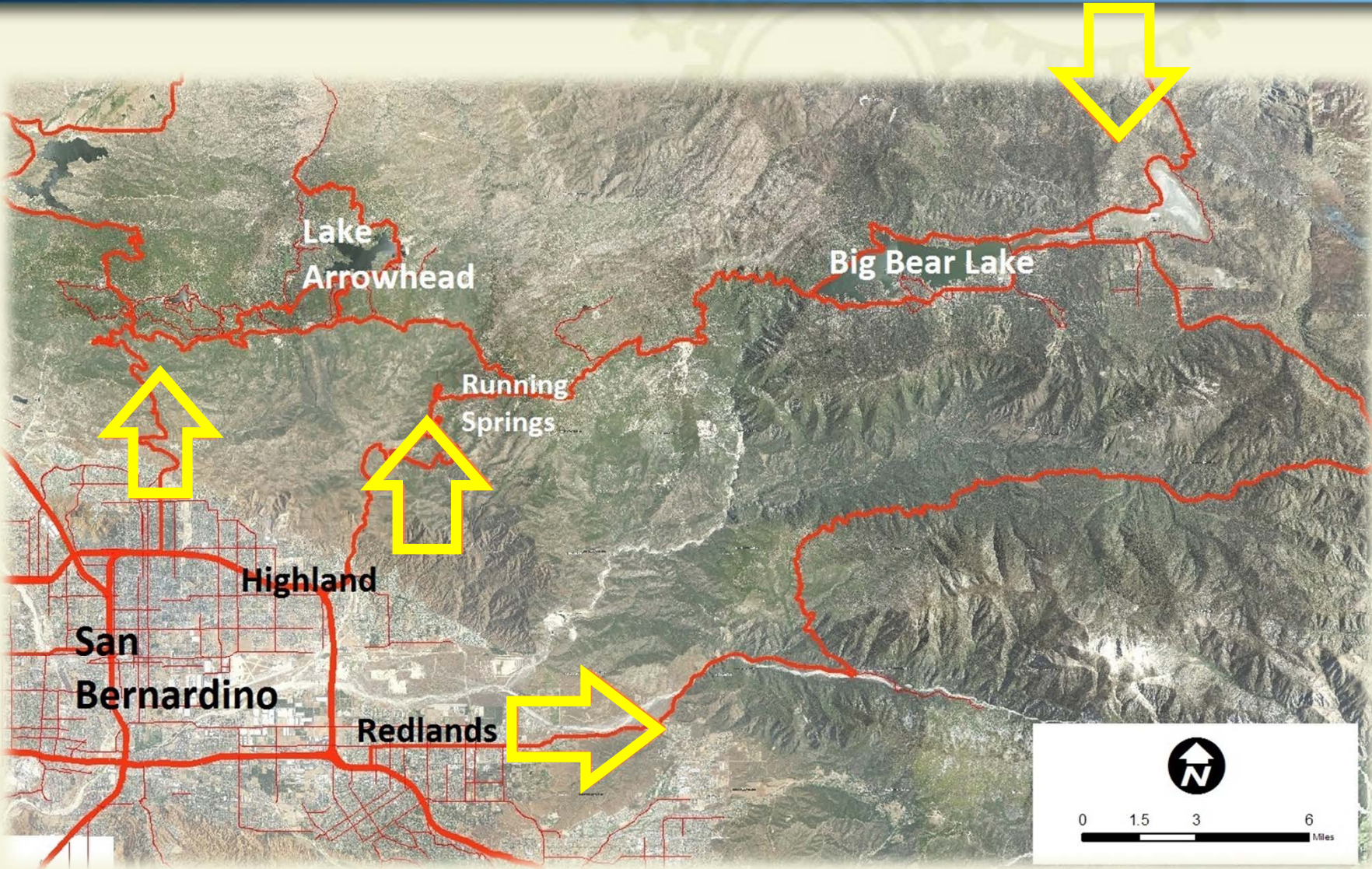


# About the Big Bear Valley

- 25,000 residents (full-time and part-time)
- 8,000,000 annual visitors
- 100,000 population on peak weekends



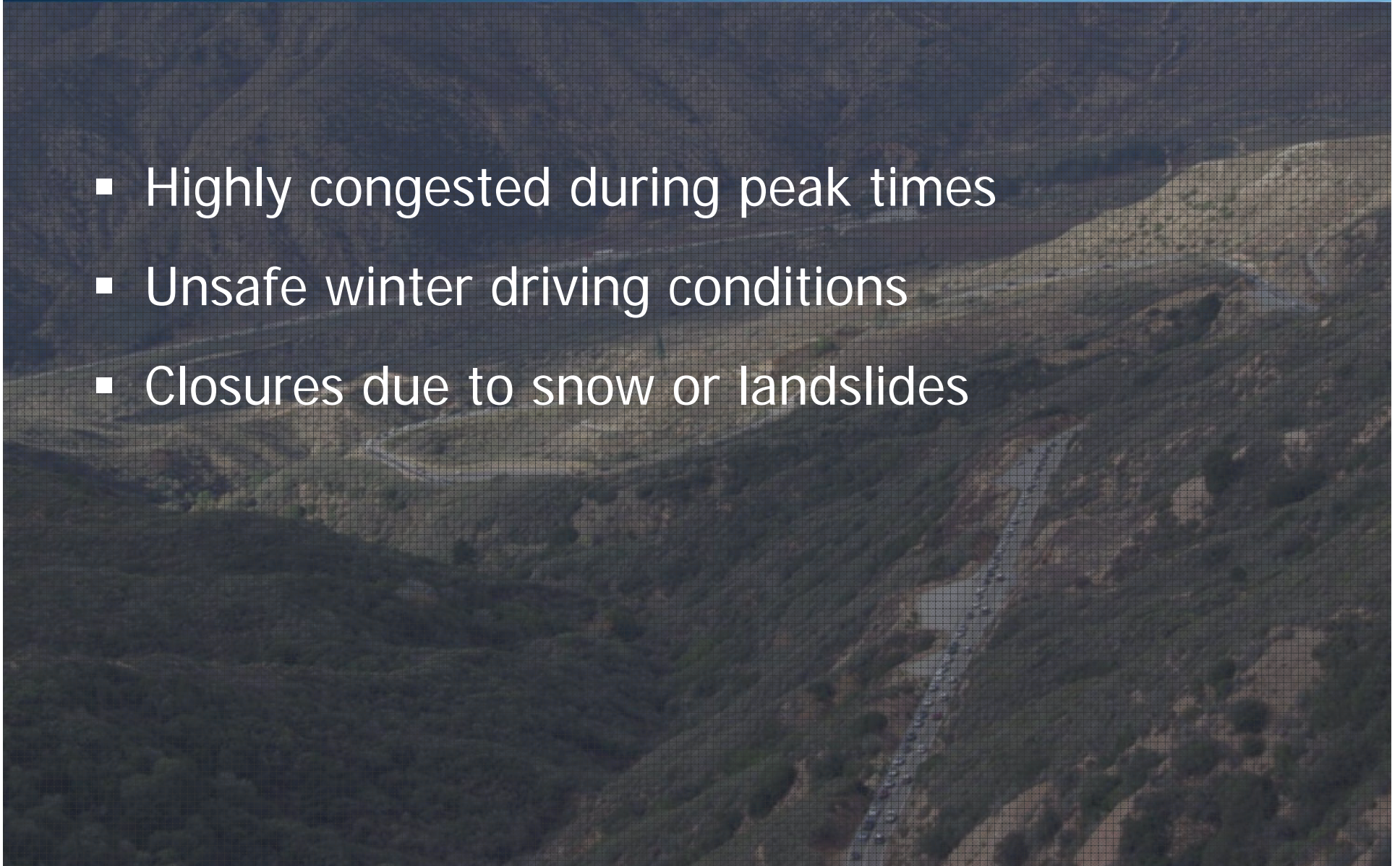
# Existing mountain access routes





# The problem with existing roads

- Highly congested during peak times
- Unsafe winter driving conditions
- Closures due to snow or landslides





## In 20 years...

- Fossil fuels dwindling
- Legislative mandates (AB32, SB 375, etc.) implemented
  - Difficult to widen or build new roads up mountain
  - Clean energy powers most vehicles
- Clean vehicles useful for flatter terrain
- Population growth throughout region
- More non-driving seniors in the population
- Mountain roads increasingly subject to closure



# Advantages of a non-roadway mode

- Smaller footprint, less land impact than new or widened roads
- Few if any shutdowns
- Good access to Big Bear for non-drivers
- Alternative mode and route for emergencies/evacuations
- Economic boost – new tourist attraction
- Powered by non-fossil fuels



# Study objectives

- Recommend technologies
- Recommend potential alignments
- Evaluate costs, benefits, and impacts of alternatives
- Develop funding strategies
- Recommend next steps



# Technologies evaluated

Aerial ropeway—cable-propelled



Suspended monorail



Aerial ropeway—self-propelled



Cog rail





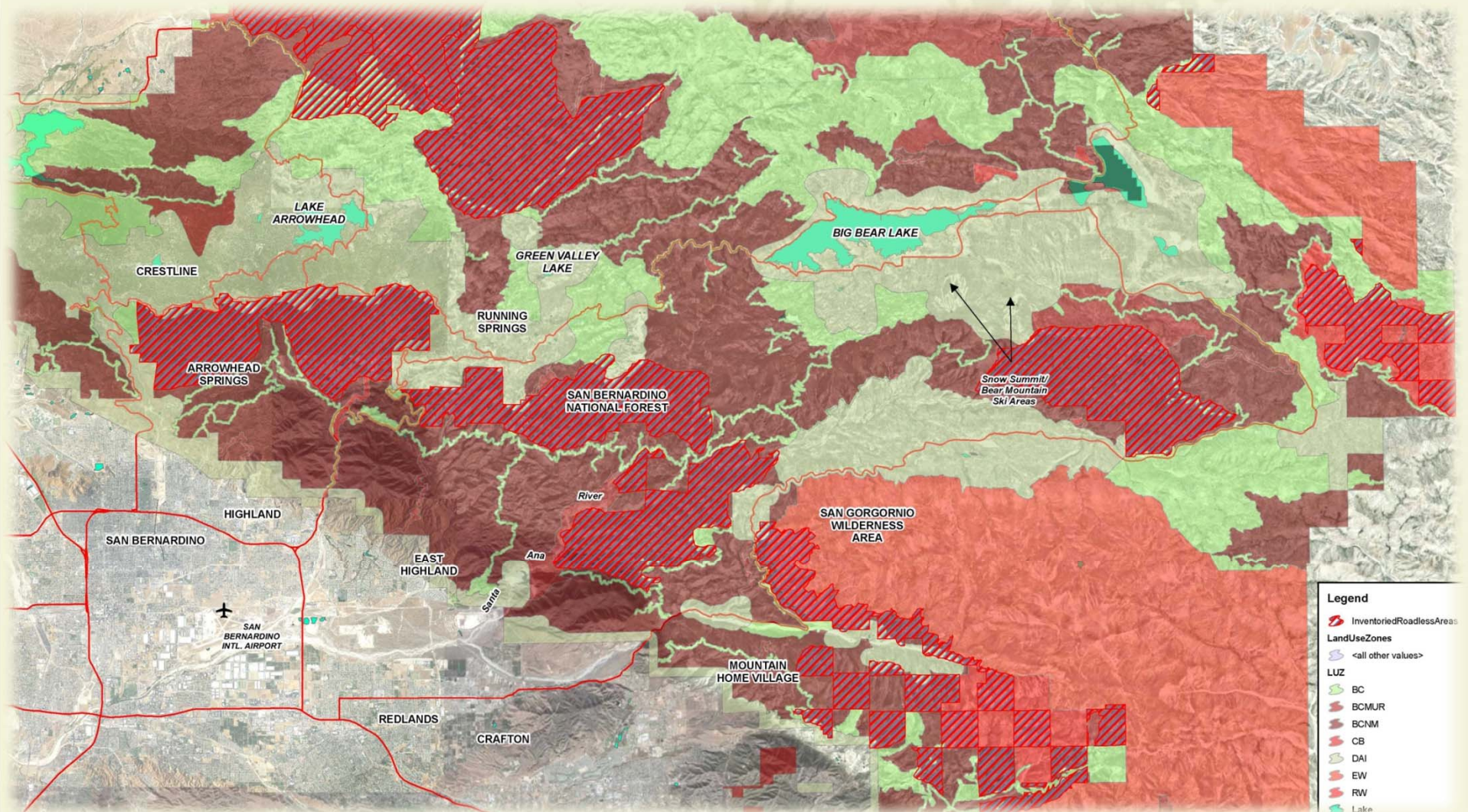
# Technology recommendations

	Proven Technology	Competitive Speed	Capital Cost	Freight Capability	USFS Firefighting
Aerial ropeway—Cable-propelled	Yes	No	Lower	Limited	Potentially Problematic
Aerial ropeway—Self-propelled	No	Yes	Lower	Possible	Potentially Problematic
Suspended monorail	Yes	Yes	Higher	Limited	OK
Cog rail	Yes	Yes	High	Yes	OK



# Alignment considerations

## USFS Roadless and Non-Motorized Areas



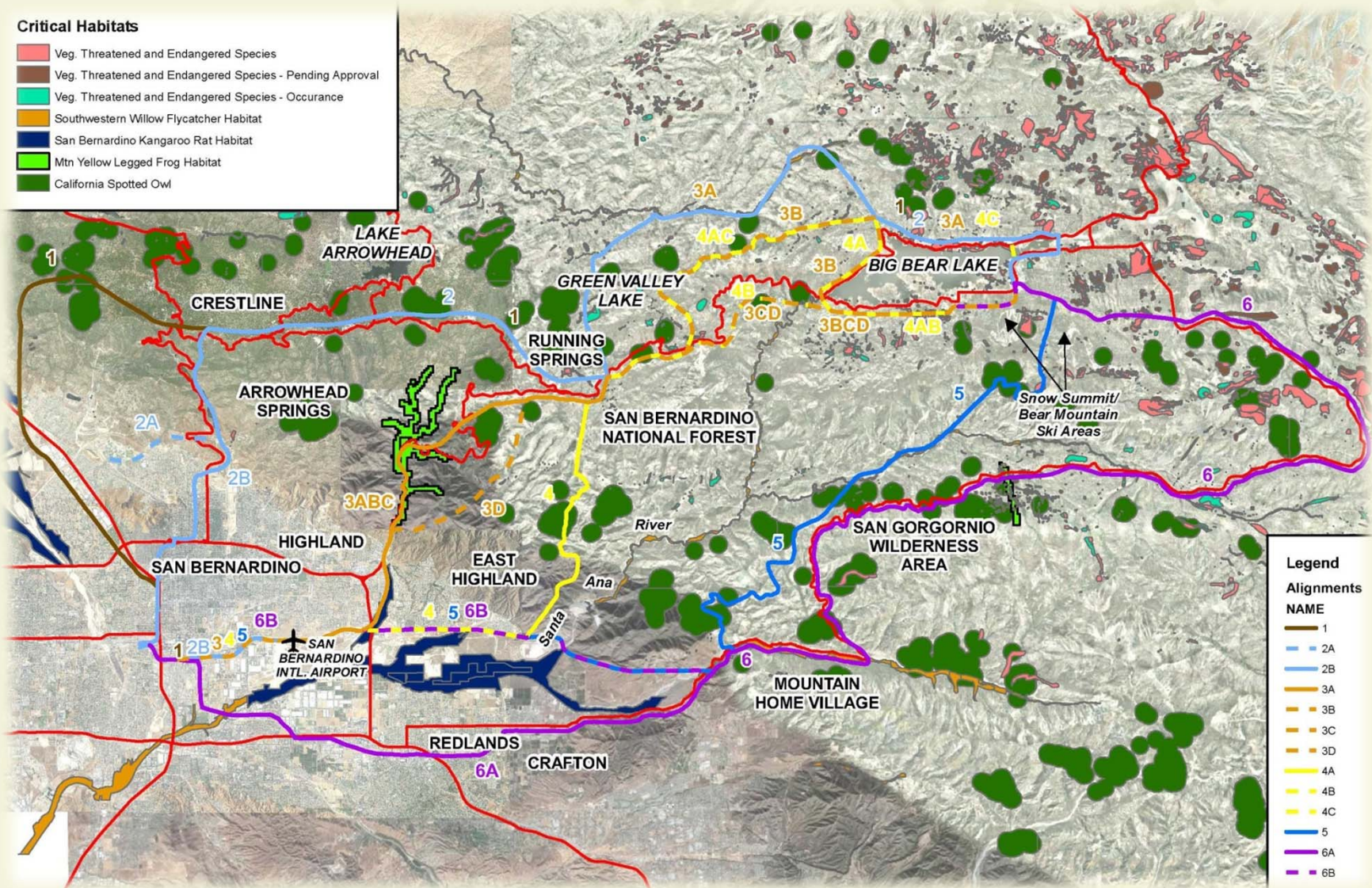


# Alignment considerations

## Critical Habitats

### Critical Habitats

- █ Veg. Threatened and Endangered Species
- █ Veg. Threatened and Endangered Species - Pending Approval
- █ Veg. Threatened and Endangered Species - Occurance
- █ Southwestern Willow Flycatcher Habitat
- █ San Bernardino Kangaroo Rat Habitat
- █ Mtn Yellow Legged Frog Habitat
- █ California Spotted Owl



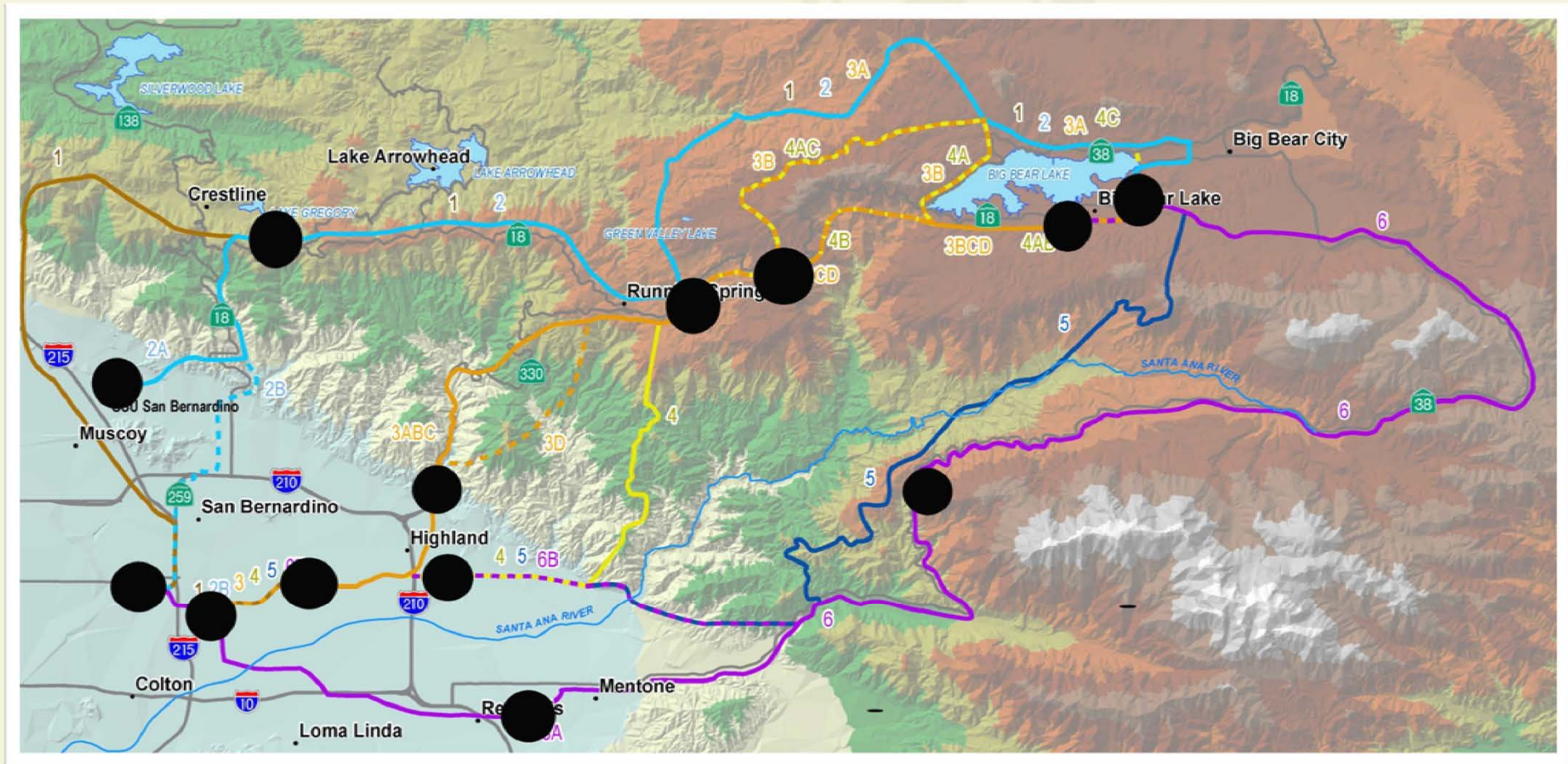
### Legend

#### Alignments NAME

- 1
- 2A
- 2B
- 3A
- 3B
- 3C
- 3D
- 4A
- 4B
- 4C
- 5
- 6A
- 6B



# Alignment alternatives with stations



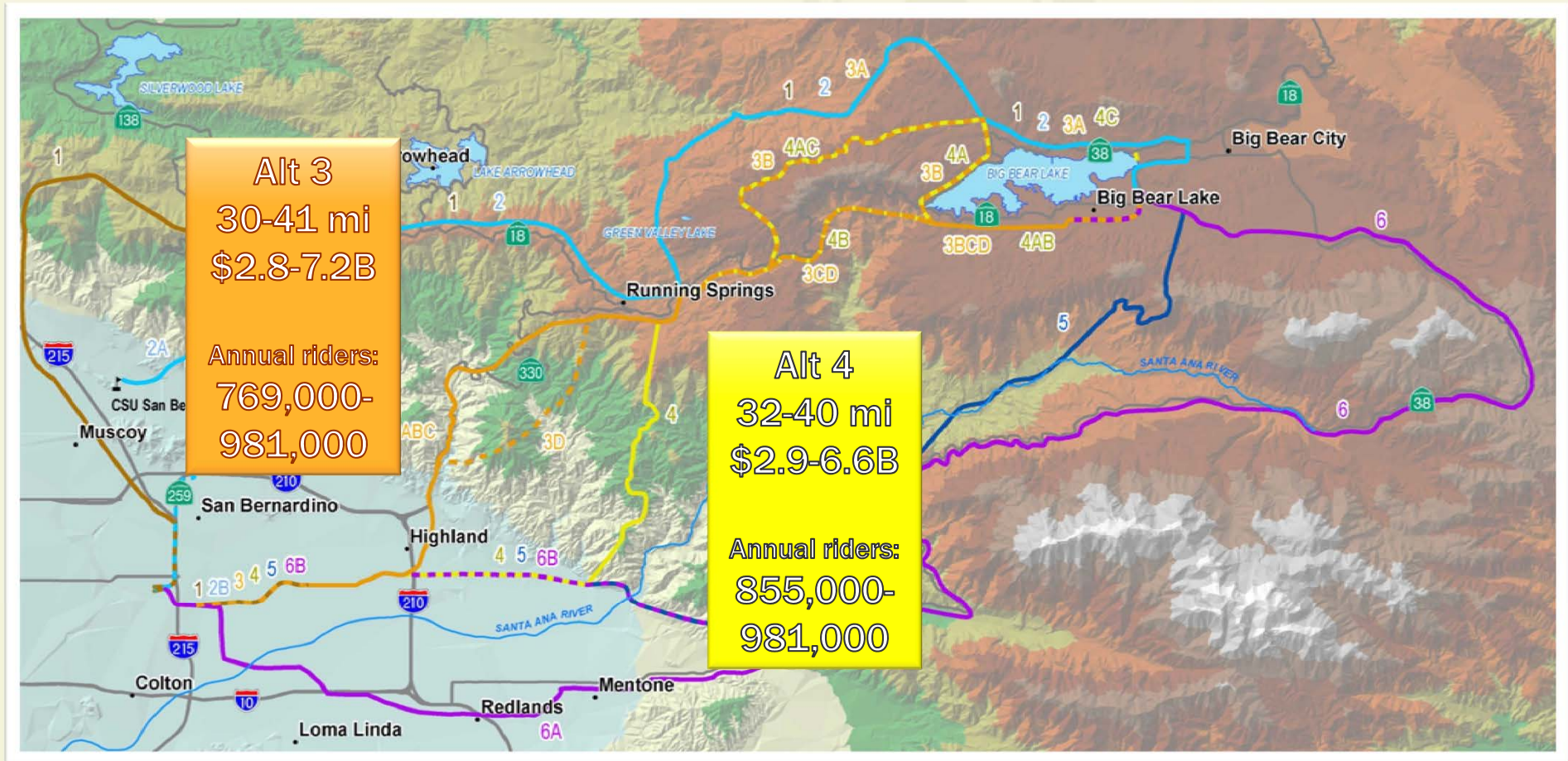


# Alignment lengths and capital costs



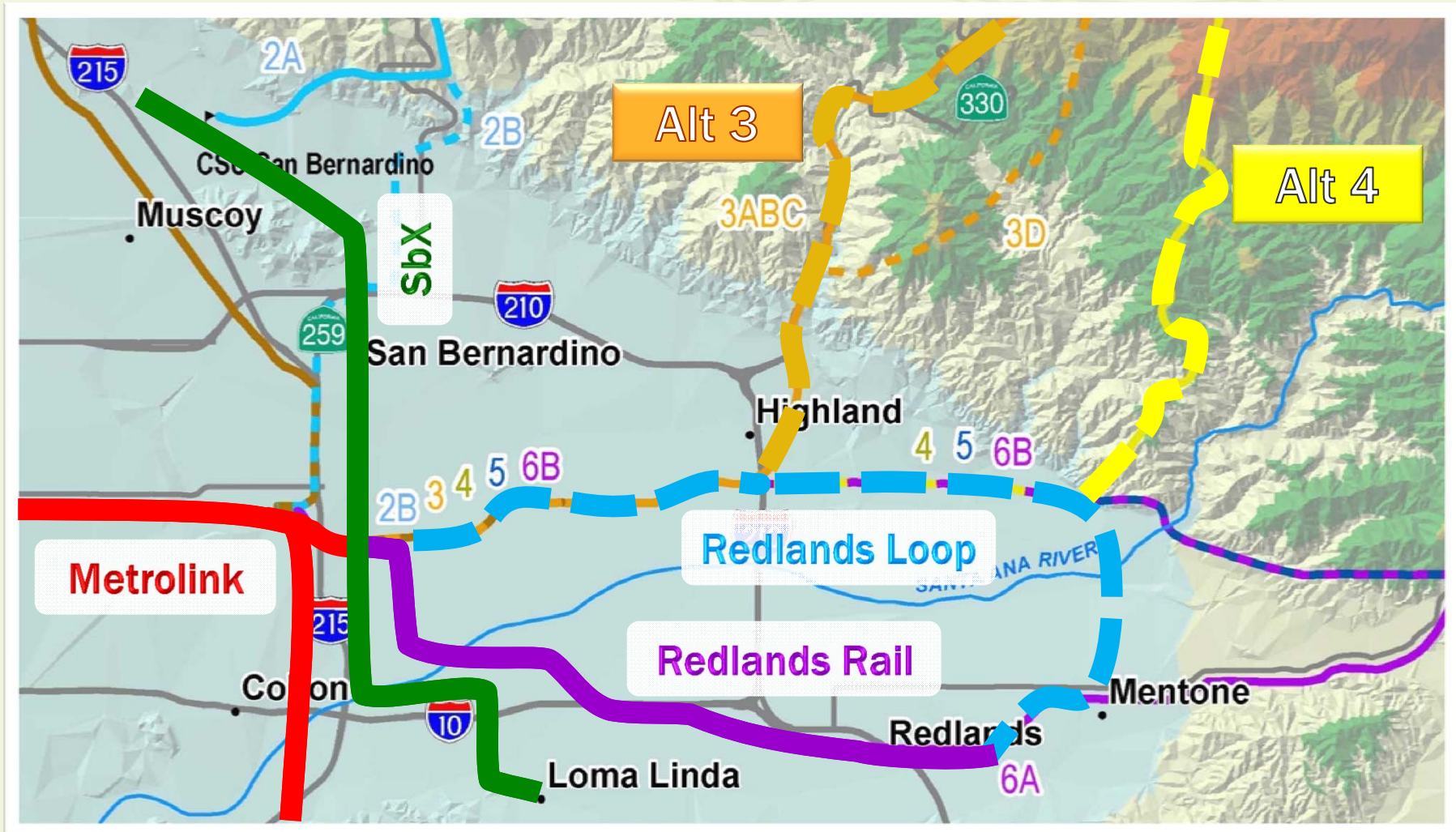


# Most cost-effective corridors





# San Bernardino Valley connections





# Key financial findings

- Operations & Maintenance costs can be covered by passenger fares and freight revenue
- Capital costs could be covered without sizable grants if:
  - Capital cost toward lower end of range
  - Future conditions attract more passengers and freight
  - New local or regional revenue sources provide reliable funding stream
  - Very low interest bond financing available



# Next steps

- SANBAG decision-makers in the process of considering next steps:
  - Cost/revenue refinements
  - Phasing
  - Engaging stakeholders
- SCAG staff likely to recommend inclusion in 2012 RTP's Strategic Plan