



U.S. Department of Transportation  
**Federal Highway Administration**

*Presented by*

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*Prepared for*

FHWA Webinar on Transportation  
and Climate Change

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# Adaptation of the Transportation System to the Impacts of Climate Change

## Results of a Peer Exchange, December 2008



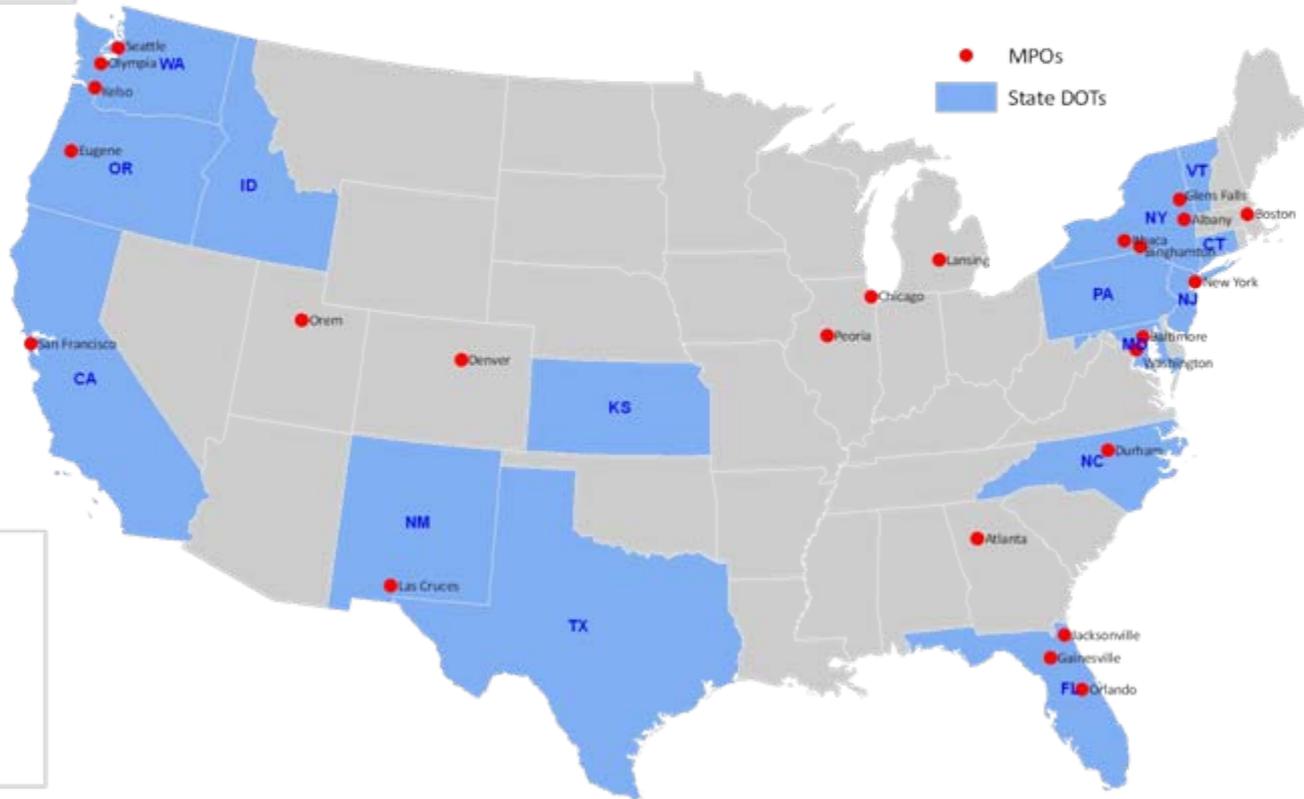
# Background

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- Four FHWA peer workshops on climate change & transportation during 2008
- Participants from MPOs and DOTs across the country
- Focused on sharing information, experiences and needs
- Provide input and feedback to FHWA on climate change issues
- Documented in reports on FHWA website

# GCC & Transportation – State of the Practice

## DOTs & MPOs Participating in Peer Exchanges in 2008



- Significant inconsistencies across states and regions in goals and action plans
- Action plans generally stop at state or MPO boundaries
- DOTs sometimes not part of state-level action plans/strategy development
- Most focus has been on GHG mitigation, with little comprehensive assessment or action on adaptation

- Facilitate thinking and discussion on adaptation of transportation system to climate change impacts
- Included senior officials of 11 state DOTs plus FHWA headquarters and division offices and AASHTO
- Mix of “expert” and “learner” states
- Day-long facilitated session in Washington, DC

# Peer Exchange

Results

Themes

## Peer Exchange Results - Themes

- Minimal Current Activity Levels related to Adaptation
- Address Significant Research & Technical Assistance Needs
- Expand Inter/Intra-agency Relationships
- Provide More Geographically-relevant Data
- Ramp Up Public Outreach & Education

## Theme – Minimal Current Activity

- Several DOTs are actively enhancing system resiliency through ongoing modernization and repair programs
- Few DOTs are addressing transportation system adaptation to climate change as a distinct policy or program area
- Some DOTs and partner agencies are evolving toward “risk management” approaches to asset management and investment and moving away from a “worst first” approach

- Key technical assistance and research needs include:
  - identifying, inventorying and managing critical transportation infrastructure
  - risk management approaches and methodologies
  - flexible design standards that account for changing conditions and unique local situations
- DOTs and MPOs want access to best practices information and information-sharing

## Theme – Expand Inter/Intra-agency Relationships

- Inter-agency & inter-jurisdictional partnerships and cooperation are key to addressing climate change
- Adaptation strategies need to integrate different disciplines within DOTs (e.g., design, engineering, planning, finance, etc.)
- Partners must agree on near-term actions & investments that have long-term (e.g., decades in the future) benefits
- “Lead agency” designation should not supersede cooperative and collaborative decision-making process

## Theme – Provide More Geographically-relevant Data

- Access to robust, reliable and geographically-relevant data on climate change forecasts and impacts is important
- These data drive adequate and cost-effective planning of adaptation investments and management of long-range risk
- Also important for assessments of EJ-related issues associated with adaptation strategies and for educating land use decision-makers

- Extensive education & outreach needed on climate change and its impacts directed at the public and policy-makers nationwide
- DOTs can pursue a specific adaptation initiative only if decision-makers & constituents have a common understanding of climate change impacts and implications
- Particularly important with so many immediate priorities competing for limited funds

# Examples of State DOT Activities

Alaska

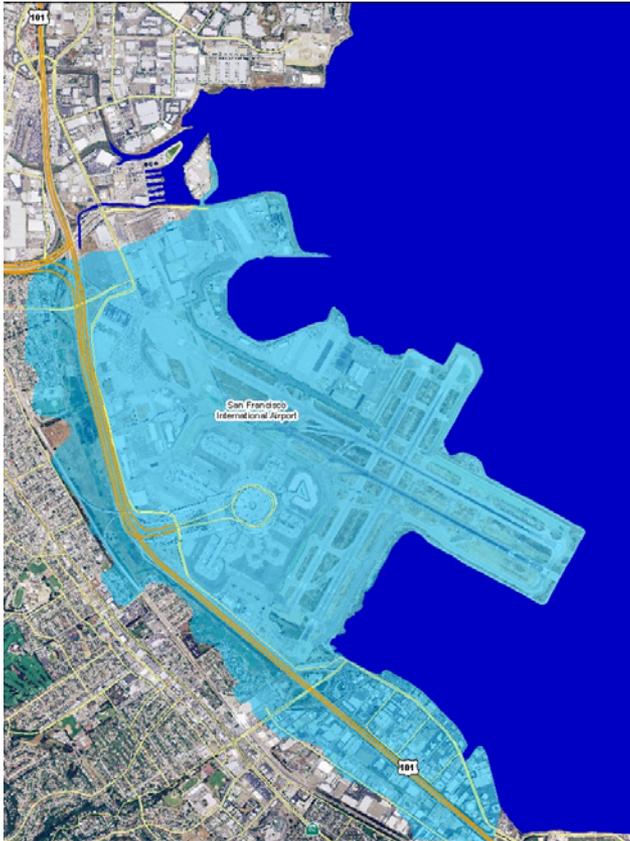
California

# Adaptation Activities - Alaska



- Loss of shore-fast sea ice & melting permafrost pose major threats to infrastructure
- Governor established state-level Adaptation Advisory Group, including Public Infrastructure Technical Working Group
- Examples of state & DOT adaptation activities:
  - Shoreline protection programs
  - Evacuation route planning
  - Relocation of at-risk infrastructure & communities
  - Permafrost protection
  - Seeking enhanced/expanded data collection & collaboration across agencies

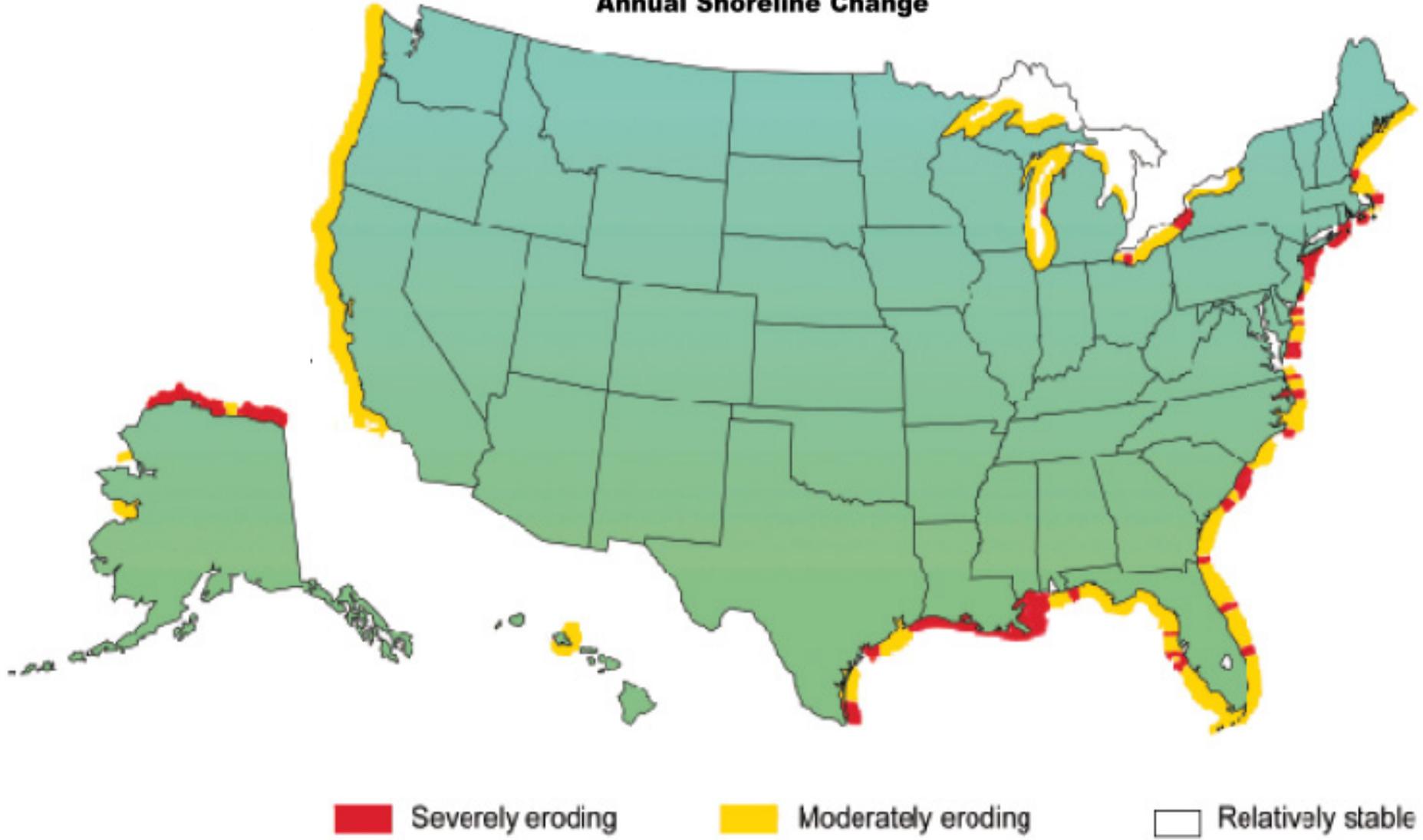
# Adaptation Activities - California



- CA is national leader in addressing climate change mitigation
- Since 2008, Governor seeking to establish statewide climate change adaptation strategy
  - Agencies, including Caltrans, required to plan for sea level rise, shifting precipitation & extreme weather events
- CA's Climate Change Action Plan - possible adaptation options:
  - Use of ITS to manage impacts of weather changes
  - Revised infrastructure design
  - Researching rate of change(s)
- Statewide Information Strategy by mid-2009 to support infrastructure vulnerability assessment

# Conclusion

## Annual Shoreline Change



Climate change is not like other [issues] that we've dealt with before; it's a larger and more global issue that must take agencies beyond "business as usual" so they can offer real solutions to the problem

*Participant in Transportation & Climate*

*Change Peer Exchange, Sept. 2008*

# For More Information

Report available at:

<http://www.fhwa.dot.gov/hep/climate/activities.htm>

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