What Do You Need to Know About Pavements and Resiliency?

- Pavements are important
- The climate is changing
  - Temperatures
    - Hotter for longer
  - Wetter in some places, drier in others
- Climate change is leading to sea-level rise
  - Coastal flooding
- Other changes

Pavements are Designed for Climatic Conditions

- Material selection for range of temperatures
  - Freezing and thawing
  - Rutting of asphalt pavements
- Moisture condition of unbound subgrade, subbase, and base
- Our understanding is at best mechanistic-empirical and based on historic data
  - Afterall, it is an empirical world

Pavements of the Future Need to Be Designed for Future Conditions

- Resistant to increasing temperatures
- Resistant to increased levels of saturation

Future Needs

- Pavements will need to be more robust
  - This means more costly
- Must be close coordination between regional climate modelers, planners, and engineers
  - Identify critical links, evaluate risk, and make critical links that are vulnerable less so

Who Are The Stakeholders?

- Agencies
  - Local, State, and Federal agencies
  - Those in charge of resource allocation need to incorporate climate change into the decision-making process
    - Current pavement design and management tools are “looking backwards”
- Consultants
  - The ones conducting planning studies and design
  - Need to get up to speed with the changing environment
- The public
  - They are the ones most directly affected

FHWA Sustainable Pavements Program

- In Year 9 of 10-year effort
- Many products available and more under development
  - [https://www.fhwa.dot.gov/pavement/sustainability/](https://www.fhwa.dot.gov/pavement/sustainability/)
- The Sustainable Pavements Technical Working Group (SPTWG) meets twice a year
  - Next meeting (virtual) Nov. 9, 2020 (become a friend)
FHWA Resiliency Efforts

- Pavement resiliency peer-exchanges
  - Two to be held (virtually) on Oct. 6th & 7th and Dec 16th & 17th
  - Report will be available early next year
  - Conduct a one-day workshop (optional)
- Develop and publish final document
- Conduct webinar

Wish Us Luck

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Questions?