SEVERE WEATHER COMPROMISES INFRASTRUCTURE RESILIENCY

Climate change effects -- such as heat waves, sea level rise, and heavy downpours -- are being felt now, and will accelerate in future, threatening human health, agriculture, livelihoods, and transportation. Increasingly frequent extreme weather has devastated infrastructure across the U.S., adding a burdensome cost for transportation agencies.

LONG LIFESPAN MEANS TAKE ACTION NOW

Infrastructure planned today must be able to withstand the uncertain climate conditions of the future.

SEVERITY OF CHANGE DEPENDS ON HUMAN ACTION

Within the lifetime of infrastructure planned today, average temperatures could be as much as 10 degrees warmer if no action is taken; this rise can be cut by two thirds with substantial greenhouse gas (GHG) emission reductions.

Global sea-level is projected to rise 1 to 6.6 feet by 2100. Local sea-level rise varies. In the U.S. the Gulf Coast is the most vulnerable, followed by the East Coast.

Note: Temperature increase relative to 1900-1950. Source: IPCC 2014 (converted C to F)
TRANSITION TO LOW CARBON POSSIBLE BUT BIG CHALLENGE

To avoid the worst impacts of climate change and meet international targets, the U.S. has pledged to reduce greenhouse gas (GHG) emissions 26-28 percent by 2025 and 80 percent or more by 2050. Transportation accounts for nearly a third of US GHG emissions.

US transportation carbon emissions are projected to remain relatively flat in the future, as fuel economy standards counterbalance increases in freight and passenger travel. Reaching an 80% reduction target requires additional action.

TAKE ACTION: EMISSIONS MITIGATION STRATEGIES

The transportation sector has three ways to reduce emissions in an effort to mitigate the extent of climate change.

Alternative Fuels and Vehicle Efficiency: Transition to electric vehicles, low-carbon fuels, and high efficiency engines.

Travel Efficiency: Reduce travel through compact land use, pricing, public transit, and low-carbon freight movement.

System Efficiency: Optimize construction, maintenance, and operation.

TAKE ACTION: CLIMATE ADAPTATION STRATEGIES

States and regions can improve the resiliency of their transportation systems by integrating climate change considerations into agency actions.

Know your vulnerabilities

Use the transportation planning process

Incorporate climate risks into engineering design

Enhance operations, maintenance, and emergency preparedness

http://www.fhwa.dot.gov/environment/climate_change/