Trends and Challenges in Transportation Financing

New Mexico State Legislature's
Transportation Infrastructure Revenue Subcommittee
August 19, 2024

David Draine, Principal Officer
Fatima Yousofi, Senior Officer

State Fiscal Policy Project, The Pew Charitable Trusts

Pew

The Pew Charitable Trusts

- Nonpartisan, not-for-profit philanthropic organization with more than 40 active, evidence-based research projects on public policy issues.

- Projects include a variety of state and local economic policy and government performance initiatives ranging from public safety, state tax incentives, rainy day funds, state-sponsored private retirement security initiatives, and state pension plans for the public sector workforce.

- All follow a common approach: data-driven, inclusive, and transparent.

State Fiscal Policy Project: Long-term Liabilities

- Since 2007, Pew has examined state policies for public employee pension and retiree health benefits. While our work began with a fiscal lens, our research has covered plan design and retirement security, governance and investment practices, and an examination of tools to measure and manage risk.

- We've expanded our work to include a broader set of long-term liabilities that can have major impacts on state fiscal sustainability.

- Our recent research examines the bill coming due for deferred maintenance in investments needed to preserve and rehabilitate state infrastructure.

Overview

- Deferred Maintenance and New Mexico's Transportation Needs
- Transportation Financing: New Mexico and Peer States
- Anticipating Revenue Trends: Managing Declining Fuel Taxes Collections
- Planning for Future Risks and Building Resilience

Deferred Maintenance and New Mexico's Transportation Needs

Why Do We Care About Deferred Maintenance?

- **Fiscal Challenge—**Represents a claim on future budgets to pay down long-term liabilities. When states fail to adequately preserve infrastructure assets, long-term costs increase.

- **Government Performance—**States need tools to measure and manage deferred maintenance liabilities, which are essential for making informed decisions about prioritizing investments and how to stabilize costs.

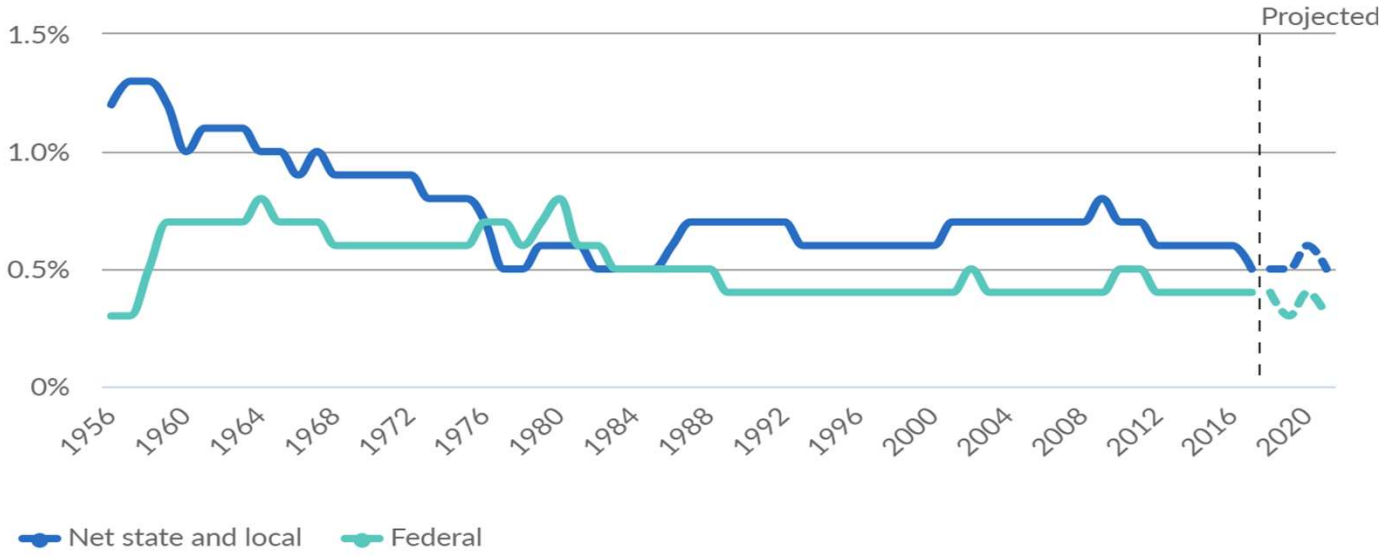
- **Resilience—**Building a framework to assess needed investments based on current conditions will enable states to ensure future infrastructure investments are adapted to a changing climate or other risks.

Challenges in Maintaining and Preserving State Infrastructure

- The Bureau of Economic Analysis (BEA) estimated the value of state and local governments' highway, transit, and water infrastructure stock at nearly **$6 trillion** in 2020. However, many states struggle with the costs of maintaining and preserving these assets.
  - The ASCE reports a **$786 billion** backlog of road and bridge capital needs in 2021.
- States with insufficient spending on capital maintenance and preservation are adding long-term liabilities to their balance sheets, leaving residents with crumbling roads and bridges.

Rates of Government Infrastructure Spending Since the 1950s

Capital investments as a percentage of gross domestic product, 1956-2021



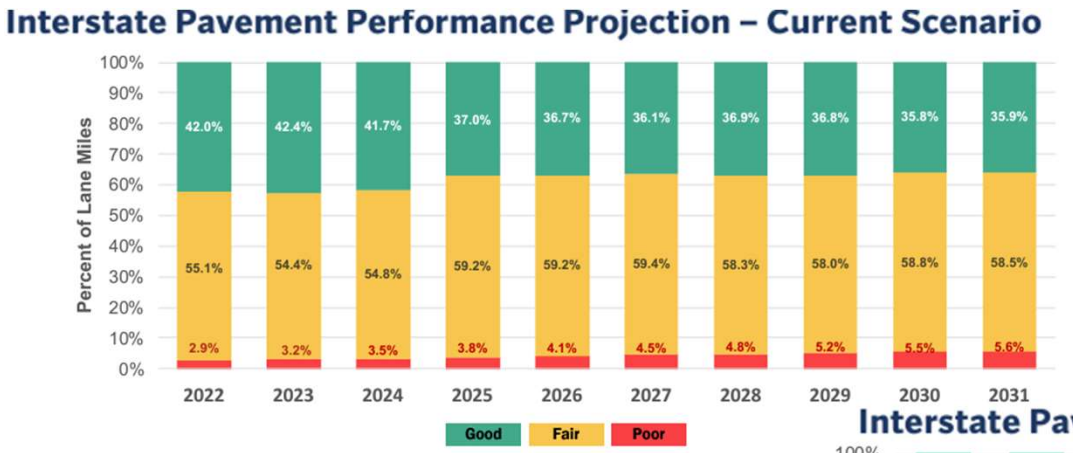
Note: Dotted lines for each category of spending from 2018 to 2021 indicate Pew estimates using federal data.

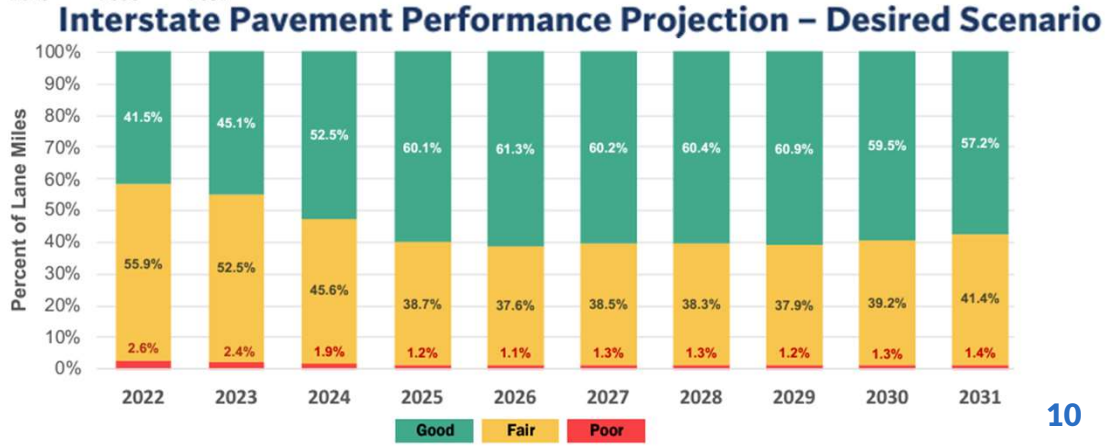
Sources: Pew analysis of economic data from The Federal Reserve; Federal Highway Administration data; and data and analysis from the Congressional Budget Office report "Public Spending on Transportation and Water Infrastructure, 1956 to 2017"

Introduction to Transportation Asset Management Plans

- States are required to release Transportation Asset Management Plans (TAMPs) as part of reporting requirements in the MAP-21 legislation. Initial TAMPs were released in 2019, and most states have issued a 2022 update.
- While here is no comprehensive, 50-state data on state deferred maintenance liabilities, state TAMPs offer a view into how states are managing their transportation infrastructure.
- The TAMP offers a place for state Departments of Transportation (DOTs) to provide forward-looking projections over a 10-year horizon to assess future road and bridge conditions against a target *State of Good Repair* and compare future needs with projected spending on preservation and repair.

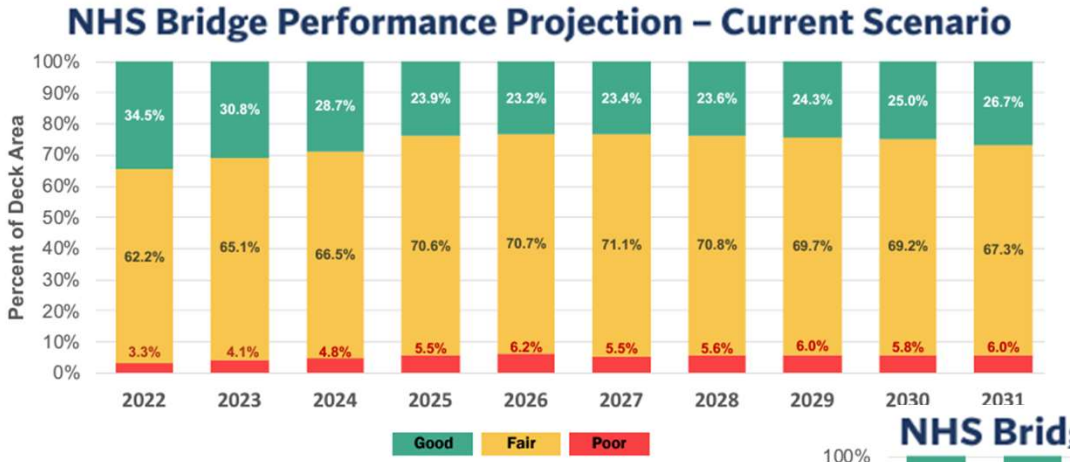
New Mexico NHS Pavement Projections Show Shortfall

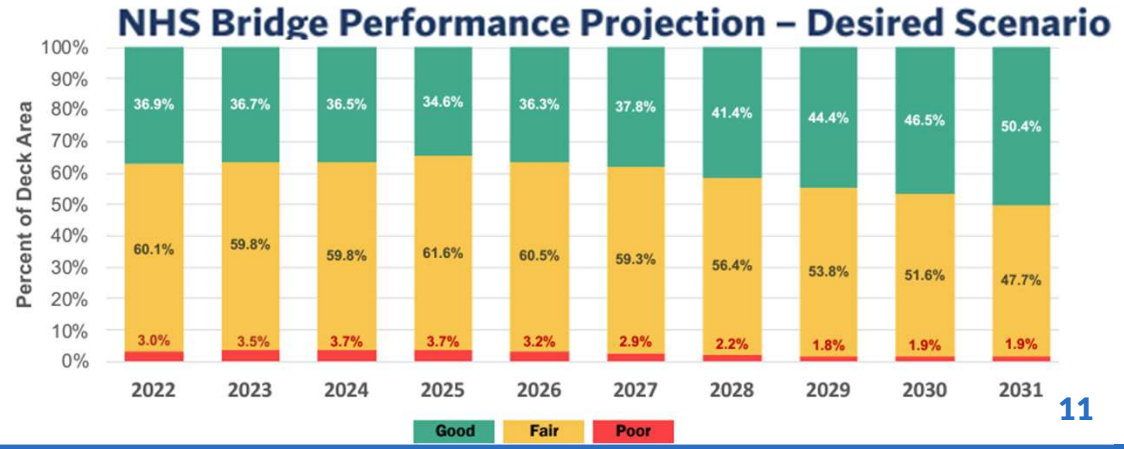




Source: New Mexico DOT 2022 Transportation Asset Management Plan.

New Mexico NHS Bridge Conditions Expected to Decline





Source: New Mexico DOT 2022 Transportation Asset Management Plan.

How Can New Mexico Address Its Anticipated Gap for Roads and Bridges?

	Good	Fair	Poor
Interstate Pavements (Lane Miles)			
10-Year Desired State Projection	**57.20%**	**41.40%**	**1.40%**
Current Performance	**54.86%**	**44.20%**	**0.94%**
Current Gap	2.34%		(-0.46%)
10-Year Current Funding Projection	**35.91%**	**58.53%**	**5.56%**
10-Year Projected Gap	21.29%		4.16%

	Good	Fair	Poor
Non-Interstate NHS Pavements (Lane Miles)			
10-Year Desired State Projection	**49.43%**	**48.40%**	**2.18%**
Current Performance	**38.78%**	**59.45%**	**1.78%**
Current Gap	10.65%		(-0.40%)
10-Year Current Funding Projection	**40.86%**	**53.68%**	**5.46%**
10-Year Projected Gap	8.57%		3.28%
	Good	Fair	Poor
NHS Bridges (Deck Area)			
10-Year Desired State Projection	**50.36%**	**47.75%**	**1.89%**
Current Performance	**36.01%**	**61.41%**	**2.59%**
Current Gap	14.4%		0.7%
10-Year Current Funding Projection	**26.75%**	**67.26%**	**6.00%**
10-Year Projected Gap	23.61%		4.10%

Source: New Mexico DOT 2022 Transportation Asset Management Plan

Deferred Maintenance Considerations for New Mexico

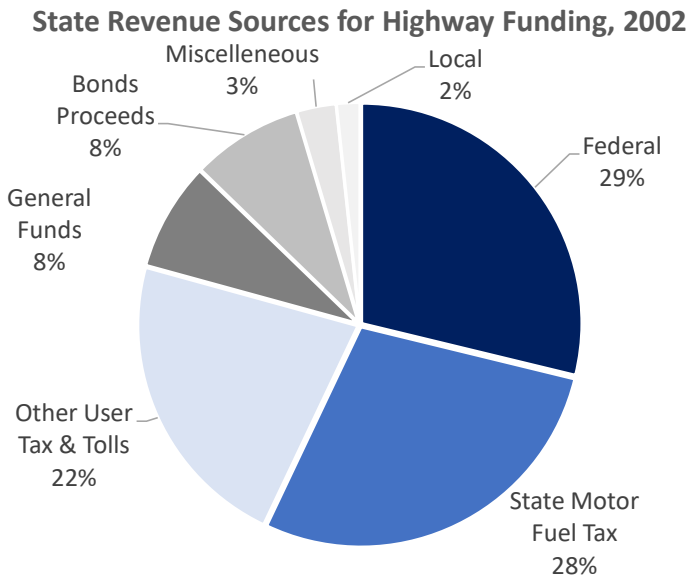
- The state TAMP shows a gap for NHS roads and bridges, both in terms of current conditions and future needs.
- Effective tools for prioritizing needs and managing projects are obviously helpful but ensuring sufficient resources is necessary in order to close this gap.
- The TAMP focuses on NHS roads and bridges but thinking holistically about the needs for non-NHS roads and bridges under state and local management in New Mexico is necessary to ensure that residents have smooth roads and safe bridges to drive on.
- What information is needed by the legislature to ensure policy is fiscally sustainable and meets transportation goals?

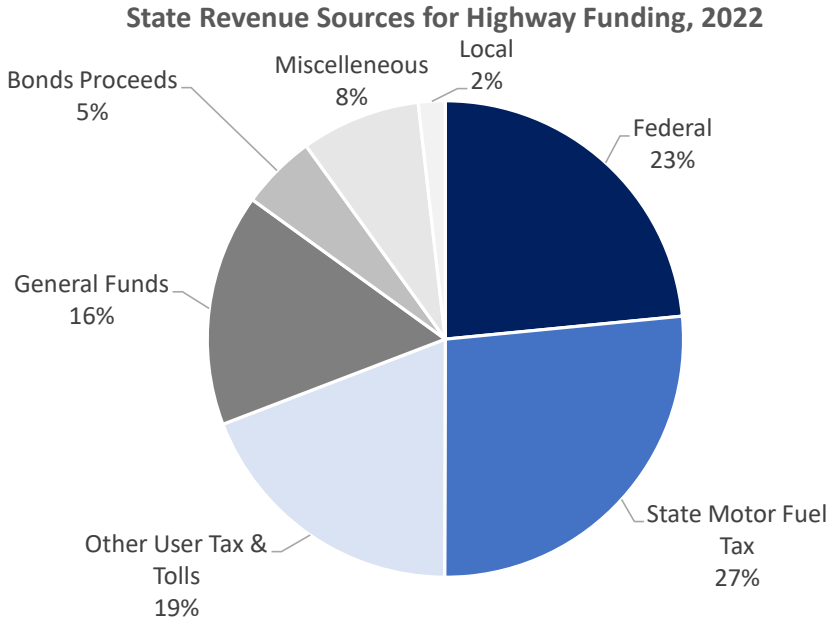
Transportation Financing: New Mexico and Peer States

Pew

Where Does Money for Highways Comes From?

About half of highway revenues comes from gas taxes and the federal government

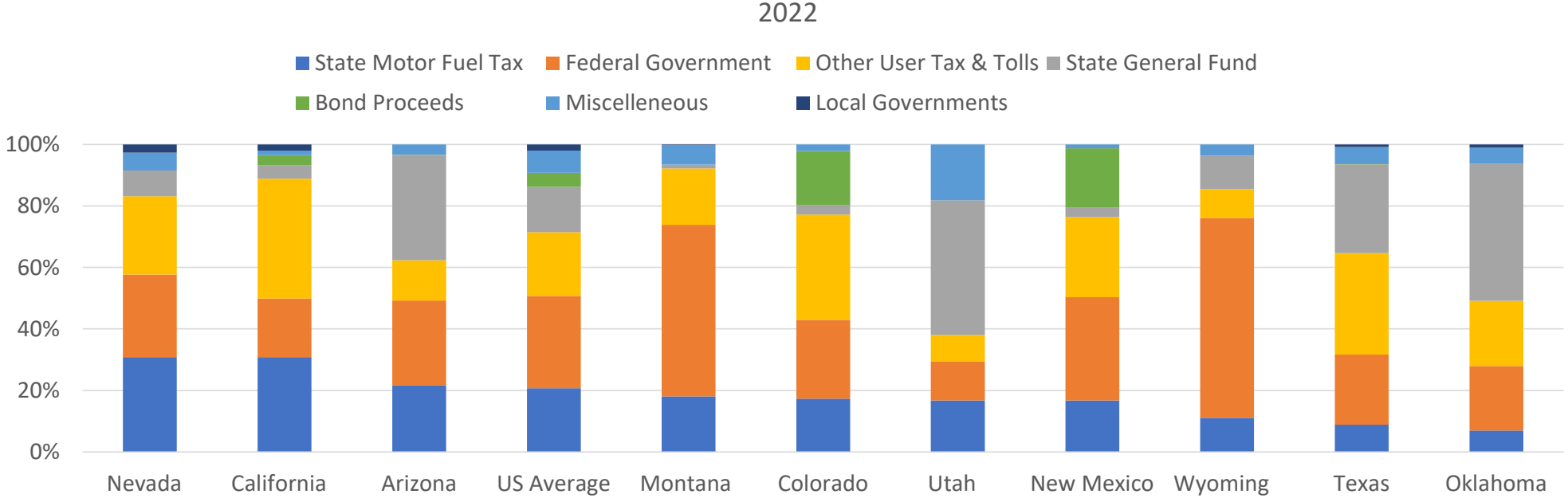




Source: Federal Highway Administration (FHWA)

State Reliance of Fuel Taxes Varies

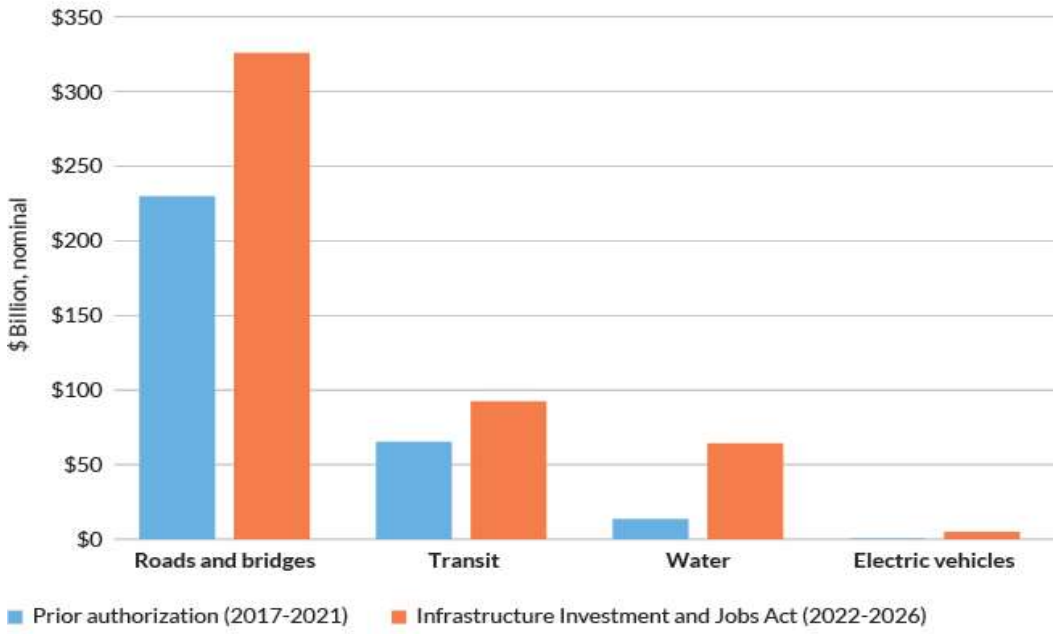
New Mexico received 17% of its state highway funding from fuel taxes; US average was 21%



Source: Federal Highway Administration (FHWA)

Federal Funding through the IIJA Boosted State Investments in Transportation and Water by 62%

Prior five years of Federal support for major infrastructure categories compared with IIJA allocation.



Source: Whitehouse IIJA Guidebook Database and data on Federal authorizations for highways, public transportation,, and clean water and drinking water revolving funds.

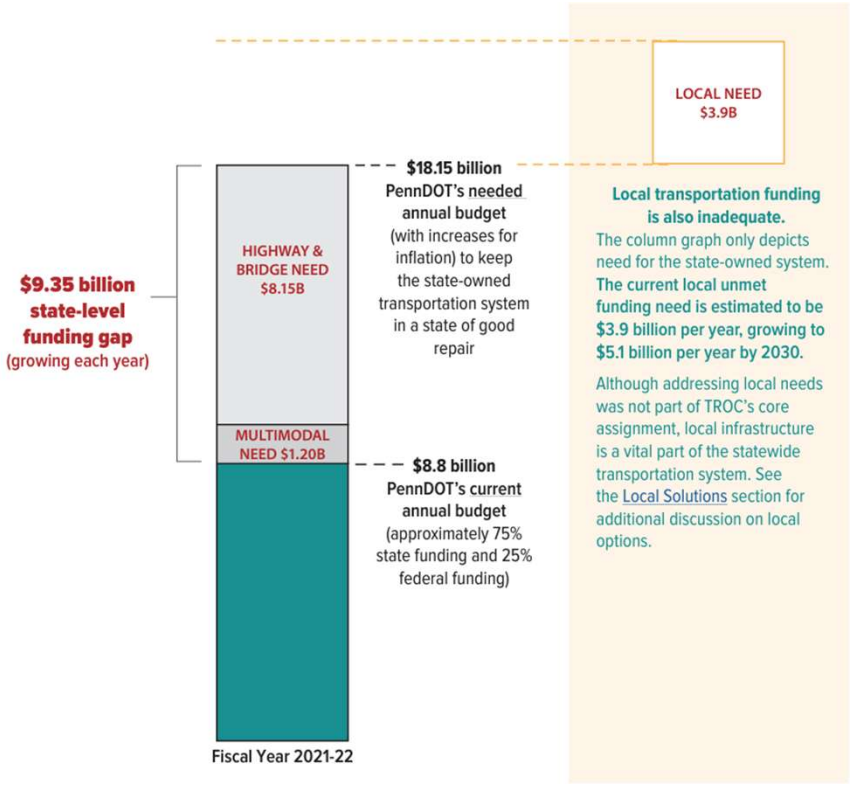
Anticipated Transportation Funding in New Mexico

Description Sources	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Federal Funds										
NHPP	$219	$223	$227	$231	$235	$240	$244	$249	$254	$259
STBG	$92	$96	$100	$104	$108	$110	$112	$115	$117	$119
Freight	$13	$15	$17	$19	$21	$21	$22	$22	$23	$23
Bridge	$45	$45	$45	$45	$45	$46	$47	$48	$49	$50
Other*	$61	$65	$69	$73	$77	$79	$80	$82	$83	$85
Subtotal	$430	$444	$458	$472	$486	$496	$506	$516	$526	$537
State Funds										
SRF	$530	$532	$536	$544	$555	$566	$577	$589	$600	$612
HIF	$6	$6	$7	$7	$7	$7	$7	$7	$8	$8
State Debt Repayment	$(45)	$(50)	$(56)	$(54)	$(54)	$(50)	$(58)	$(58)	$(46)	$(9)
Subtotal	$491	$488	$487	$497	$508	$523	$526	$538	$562	$611
Total	**$921**	**$932**	**$945**	**$969**	**$994**	**$1,018**	**$1,032**	**$1,054**	**$1,088**	**$1,147**

Source: New Mexico DOT 2022 TAMP

Assessing Funding Shortfalls—Pennsylvania Transportation Revenue Option Committee

- Pennsylvania created a Transportation Revenue Option Committee (TROC) to assess revenue shortfalls for transportation and offer solutions.
- TROC reported an annual $9.35 billion shortfall for highways, bridges, and multimodal transportation at the state level with an additional $4 billion shortfall for locals.



Source: Pennsylvania Transportation Revenue Option Committee Report, *Final Report and Strategic Funding Proposal*

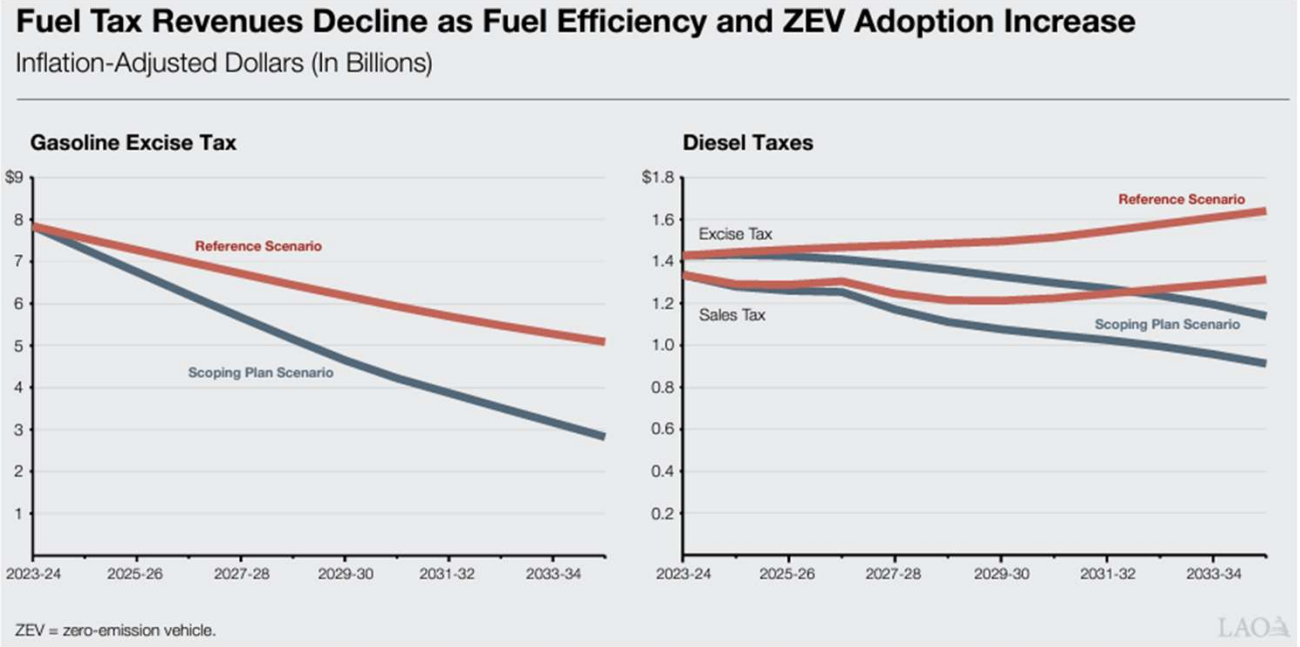
Managing the Transition to Electric Vehicles

Transitioning to Electric Vehicles

- Fuel taxes remain the predominant user fee for funding transportation and a crucial component of how states pay for transportation infrastructure.
- Improved fuel efficiency in newer vehicles and rising market share of electric vehicles (EVs) are leading to a decline in fuel taxes revenues relative to vehicle miles traveled.
- Additionally, the increase in the share of electric vehicles, which tend to be heavier, contributes to more wear and tear on roads and bridge, while also raising costs to update the infrastructure surrounding the national highway system.
- Some states are already considering the implications of these changes and how to adapt.

Looking at Future Transportation Funding Challenges: California Projects a 31% Decline in Revenue

Study by the Legislative Analyst Office shows the impacts GHG reduction policies, fuel efficiency gains, and EV adoption on gas and diesel taxes

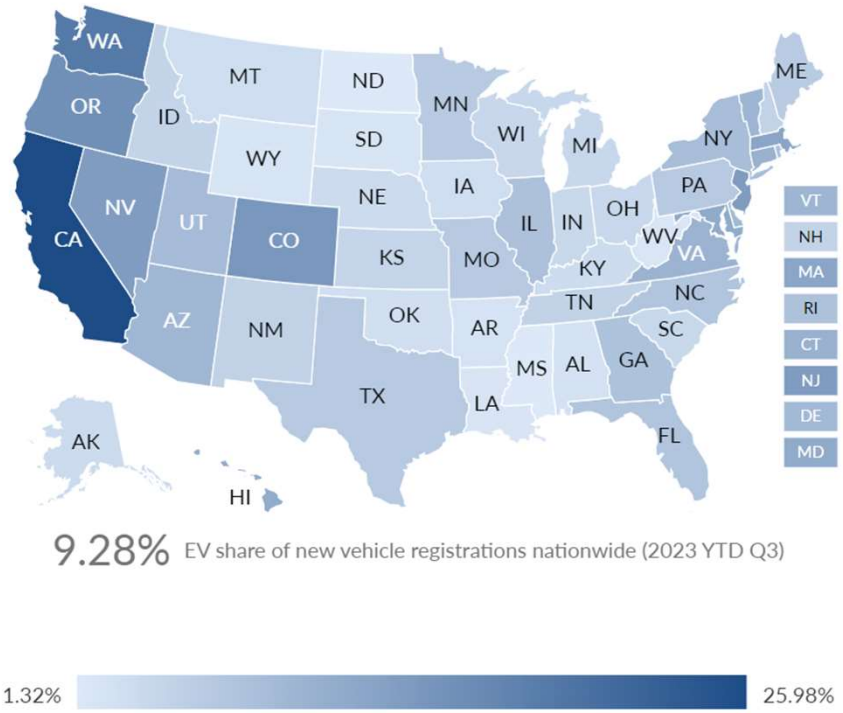


Source: Assessing California's Climate Policies, Implications for State Transportation Funding and Programs. California Legislative Analyst Office (2023).

Electric Vehicle Adoption Rates Vary Greatly by State

Coastal states show greater share among new EV registrations than the nation's middle

- Electric vehicles went from 2% of new cars purchased in 2020 to nearly one in 10 by 2023.
- EV share of new vehicle registrations ranges from 1.32% in North Dakota to nearly 26% in California.



Source: Dynamic Sustainability Lab, "The Emerging Highway and Roads Revenue Gap" (2024) © 2024 The Pew Charitable Trusts

Pew

How are States Responding to Potential Gas Tax Shortfalls?

Strategy	Description	Trade-offs	States Piloting Implemented Programs
Road user charges (RUCs)	• Car owners are charged for their use of a road system based on how many miles they travel. • Miles are tracked via GPS units in vehicles or annual reporting of miles.	• Easy to implement and allows direct taxation based on road usage. • Availability of federal grants for state pilot projects. • Requires developing a new administrative program, which establishes new state expenditures. • Requires working with citizens who may be hesitant to have states, or third parties track the movement of their vehicles. • Will not capture nonresident usage of state highways, roads, and bridges.	Eight states have implemented or are piloting RUCs including: WA, CA, CO, DE, HI, OR, PA, and MN.
EV annual registration fee	• An annual charge to electric vehicle and other zero-emission vehicle owners. • Often, an additional fee on top of annual registration fees.	• Unlikely to fully fund the revenue gaps from the EV transition and/or overall surface transportation budget gaps. • Some constituents and policymakers view this as a deterrent to EVs. registrations/ownership in their state. • A flat registration fee does not account for varying weights of different EV vehicles and models.	Thirty-two states have some form of annual EV additional fees.
Increase existing fuel tax	• States would increase the state-specific gasoline/gasohol/diesel fuel taxes on top of the federal fuel taxes.	• Generally strong pushback from constituents. • Over time, places a greater financial burden on drivers of legacy internal combustion engine (ICE) cars and trucks. • Revenues would diminish as ICE vehicles continue to increase mile per gallon performance.	• Illinois
Electricity sales tax	• Users of EV charging units would pay a tax on the electricity they use. • Measures road usage based on units of electricity used.	• Does not cause privacy concerns found in road user charges programs. • Requires further research on efficient and cost-effective implementation.	• Georgia • Iowa • Montana • Utah
Expand tolling	• Expand the number of miles of state highways and roads/bridges that charge tolls.	• Technology is readily available. • Would require capital investments for sensors. • Would need to overcome user pushback.	• Ohio • Pennsylvania

Source: Dynamic Sustainability Lab, "The Emerging Highway and Roads Revenue Gap" (2024)

What Gets Measured Gets Managed

States that are assessing the fiscal landscape and potential budgetary impacts of the EV Transition.

Strategy	Description	Adopters
Modeling surface transportation budget shortfalls	Some states have modeled how EVs will impact revenues (primarily through decreases in fuel tax revenue) or expenditures, an important first step in identifying potential future budget shortfalls.	• California • Michigan • Rhode Island • New York • Vermont
Quantify fuel tax revenues derived from out-of-state automobiles and truckers	Some policies and strategies fail to account for non-resident usage of state highways, roads, and bridges. To address this, all states should quantify the percentage of fuel tax revenues generated from non-resident vehicles. For example, in Tennessee, 30% to 40% of fuel tax revenue comes from nonresident truckers and drivers, highlighting the importance of this variable.	

Source: Dynamic Sustainability Lab, "The Emerging Highway and Roads Revenue Gap" (2024)

Finding a Replacement for Fuel Taxes

Pennsylvania's Transportation Revenue Option Committee (TROC) identified key revenue sources to address immediate funding needs and facilitate the phase-out of fuel taxes

	PHASE 1 (Years 1 and 2)	PHASE 2 (Years 3 and 4)	PHASE 3 (Year 5+)
PROPOSED REVENUE TYPE	ESTIMATED ADDITIONAL REVENUE		
Road User Charges (MBUF)	$2,000,000	$2,122,000	$8,932,316,000
Tolling	$0	$2,705,040,000	$2,543,716,000
Funding Redirection	$673,000,000	$609,000,000	$545,000,000
Fees	$1,712,420,000	$1,991,864,000	$2,072,438,000
Taxes	$635,167,000	$786,798,000	$992,343,000
Other	$450,000,000	$468,180,000	$487,095,000
Eliminate Gas Tax	$0	$0	-$4,088,301,000
TOTAL	**$3,472,587,000**	**$6,563,004,000**	**$11,484,607,000**

Source: Pennsylvania Transportation Revenue Option Committee Report, *Final Report and Strategic Funding Proposal (2021).*

Planning for Future Risk and Building Resilience

Climate Risks to Transportation Infrastructure

Aging infrastructure systems across the country are more vulnerable to changing climate conditions.

Roads and Bridges

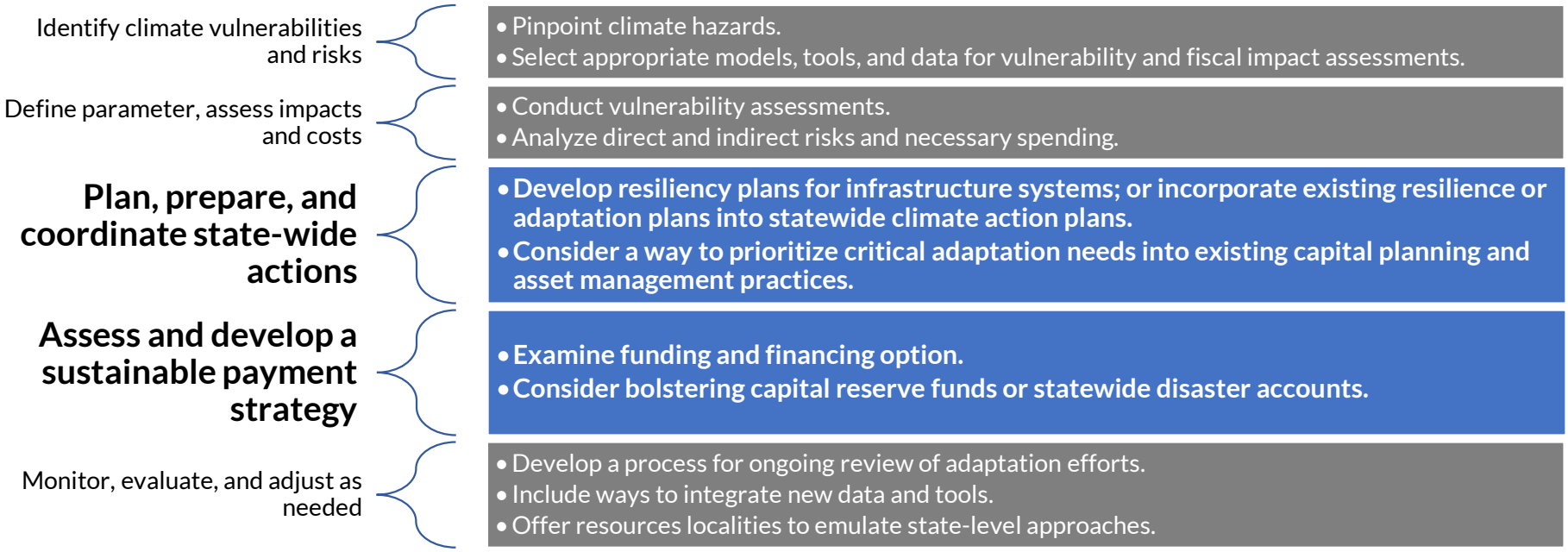
- Climate-related damages to roads could reach up to **$20 billion** by the end of the century, with an additional **$5.8** to **$10 billion** needed for adaptation.
- Upgrading 190,000 climate-vulnerable bridges across the U.S. (42% of which are over 50 years old) to withstand future conditions costs up to **$170 billion** by 2050.

Impacts to States' Transportation Budgets

- **Acute physical risks:** Higher upfront costs for emergency repairs and service disruptions from severe weather and natural disasters.
- **Chronic physical risks:** More frequent maintenance, repair, and complete redesigns needed to adapt these systems to persistent climate stressors.
- **Transition Risks**: Policies and technologies to reduce greenhouse gas emissions, like the rise of electric vehicles, could decrease gas tax revenues that typically fund transportation infrastructure maintenance.

How State and Local Governments Can Make Cost-Effective Investments in Resilience

A framework for assessing and prioritizing infrastructure needs

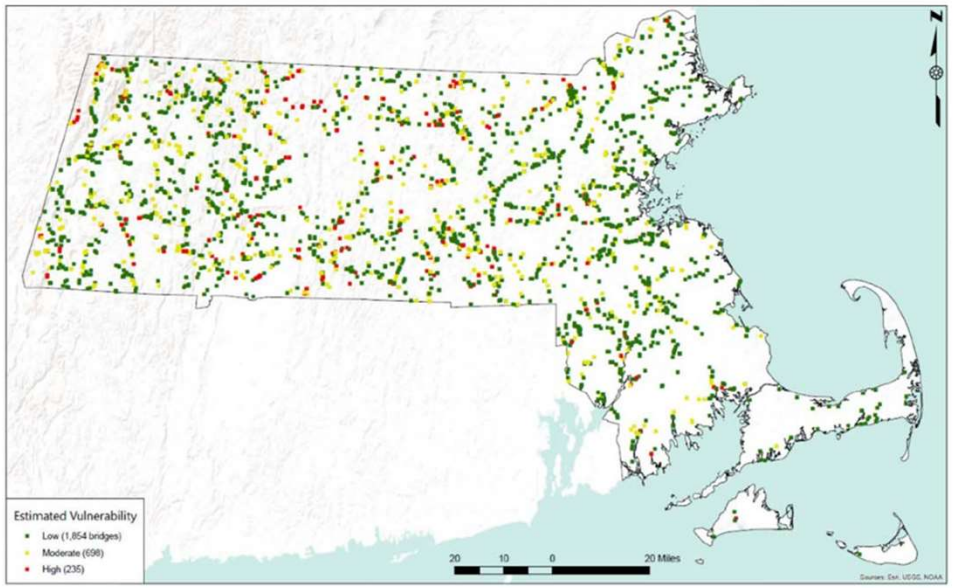


Sources: Rawlings Miller, *A Roadmap: Matching Climate Assessments to Decision Making*, Nov. 13, 2023; Robert Lempert et al., *Fourth National Climate Assessment*, Volume II, Chapter 28: Reducing Risks Through Adaptation Actions, 2018

Assessing Climate Risks: Massachusetts

Massachusetts identifies vulnerable bridges in their TAMP to help guide inspection and replacement efforts.

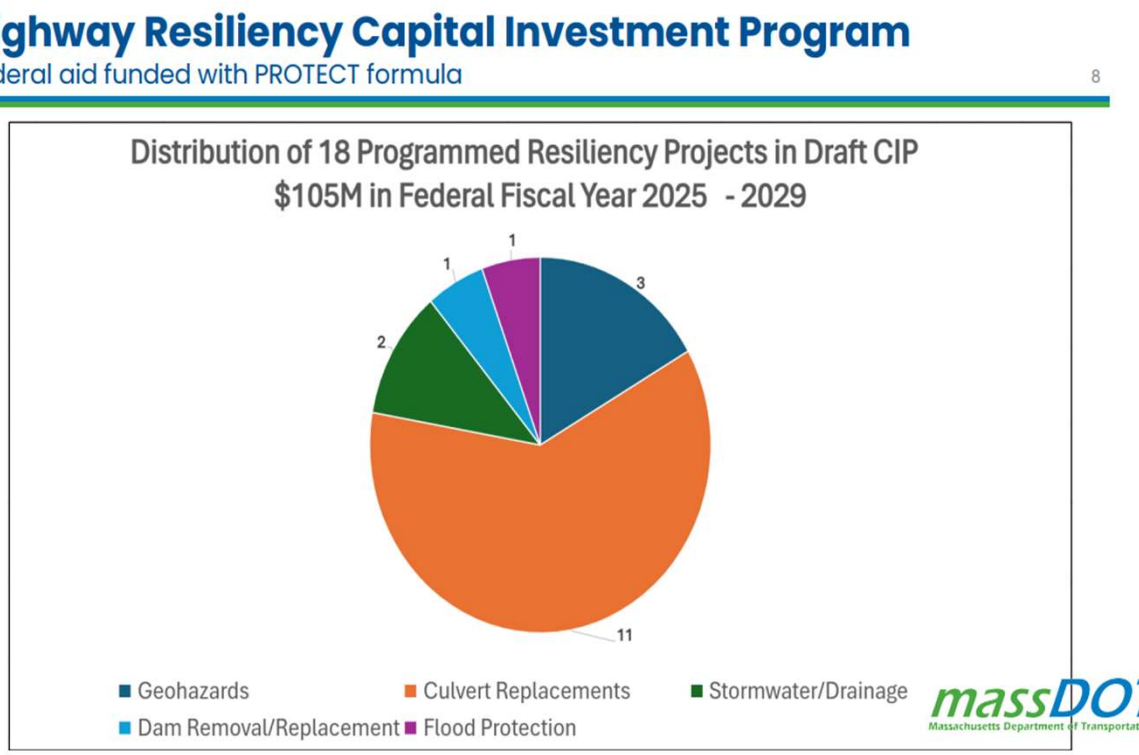
Exhibit 5.1 Vulnerable Bridges over Massachusetts Rivers and Streams, *Physical Design and Flow Characteristics*



This information will be used to drive inspection and replacement efforts going forward.

Source: Massachusetts DOT 2022 Transportation Asset Management Plan

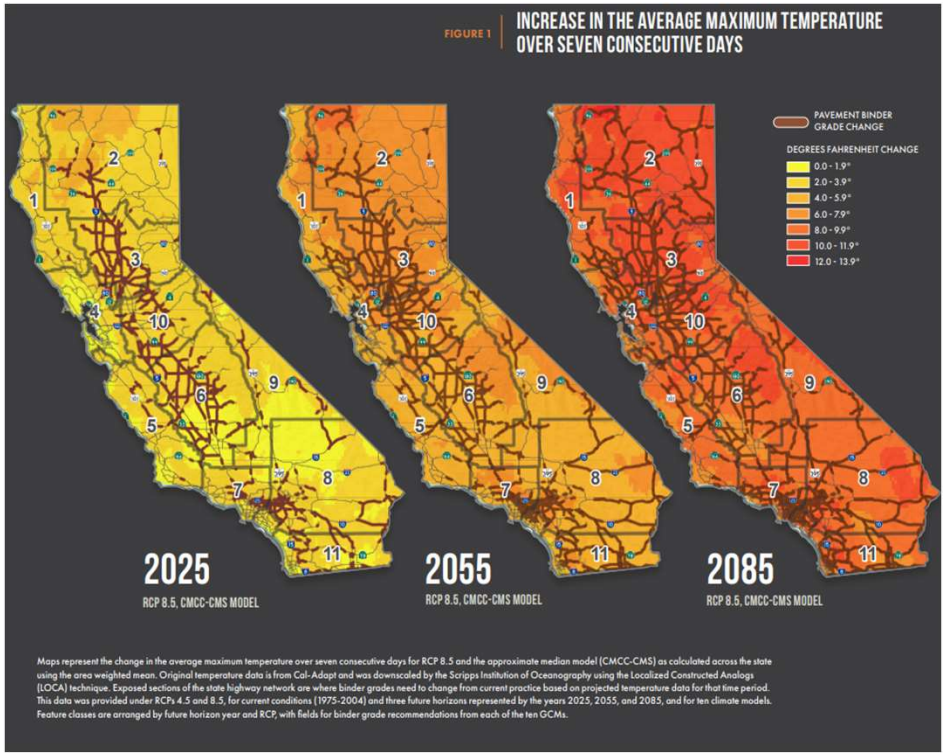
Developing a Payment Strategy: Massachusetts



Source: MassDOT Highway Resilience Improvement Plan (RIP) and Resiliency Improvement Capital Program (2024).

Assessing Risks and Developing a Payment Strategy: California

- In 2018, Caltrans began conducting vulnerability assessments in its 12 transportation districts to identify key climate risks in each area.
- By 2021, results were used to establish district-specific adaptation priorities.
- In response, The California Transportation Commission created the Local Transportation Climate Adaptation Program(LTCAP), to provide grants to address these local adaptation and resilience needs.
- As of 2023, LTCAP has awarded **$309.2 million** to 15 resilience-focused projects across the state.



Sources: California Transportation Commission, Local Transportation Climate Adaptation Program (LTCAP) (2024); Caltrans Climate Change Vulnerability Assessment Statewide Summary Report. (2021)

Key Findings

- New Mexico tracks surface transportation needs and performance and anticipates a performance gap over the next decade.
- Fuel taxes and federal spending make up half of New Mexico's resources for highway spending.
- States, including New Mexico, are anticipating future declines in fuel taxes and are exploring tools to plan for and manage that drop.
- Electric vehicle adoption is just one source of uncertainty in transportation funding and planning. How can states address current needs and build resilience?
- How can Pew's research help?

For more information:

https://www.pewtrusts.org/en/projects/state-fiscal-policy

David Draine
Principal Officer
ddraine@pewtrusts.org

Fatima Yousofi
Senior Officer
fyousofi@pewtrusts.org

Mollie Mills
Principal Associate
mmills@pewtrusts.org

Pew