PROTECT Formula Program

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www.dot.state.mn.us/sustainability/resilience.html

PROTECT Formula Program Overview

Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)

- Purpose: Provides funds to states to help make surface transportation more resilient to current and projected natural hazards

- Federal appropriation:
  $23 million annually for Federal FY 22-26 (State FY 23-27)

- Limitations:
  - Must use 2% of funds for planning activities annually
  - Can use up to 40% of funds to construct new capacity
  - Can use up to 10% of funds for development phase activities

Key Areas/Project Types

1. **Resilience Improvements**
   - Projects to make existing surface transportation assets more resilient by improving drainage, upgrading to meet or exceed design standards, relocating roadways, or elevating bridges
2. **Resilience Planning**
   - Development of Resilience Improvement Plans, resilience planning activities, capacity building, and evacuation planning and preparation
3. At –Risk Coastal Infrastructure
   - Protecting, strengthening, or relocating coastal highway and non-rail infrastructure
4. Evacuation Routes for Community Resilience
   - Improvements to make evacuation routes more resilient or add capacity and redundant evacuation routes

PROTECT Funds | Investment Approach

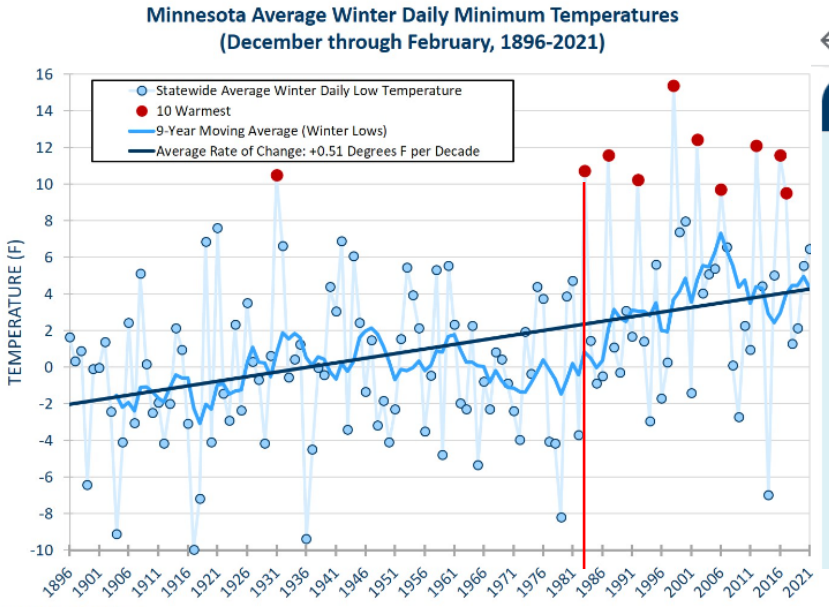
- Distribution approach, FY24-27:
  - 70/30 split between Districts and ATPs
  - expand resilience, not meant to backfill funding gaps or supplant other federal funds
- What projects can be funded?
  - Phase 1, FY24-25:
    - Broad FHWA guidance will determine project eligibility
  - Phase 2, FY 26-27:
    - A Resilience Improvement Plan set priorities and inform methods for project identification to respond to Minnesota-specific climate vulnerabilities

PROTECT … against what?

Wetter and warmer weather – and greater variations

Cold weather warming

Most of Minnesota's observed warming has been when it's coolest. Over the entire period of record (back to January of 1895), average daily minimum or low temperatures have risen at more than twice the rate of average daily maximum or high temperatures, and the winter season (December through February) has warmed 2-3 times faster than summer (June through August). Winter warming rates in particular have risen even more sharply in recent decades, and from 1970 through 2021, average daily winter low temperatures rose more than 15 times faster than average daily summer high temperatures. The frequencies of -35° F readings in northern Minnesota and -25° F readings in the south have fallen by up to 90%. We don't get as cold as we once did, and even though Minnesota always will see periodic severe cold spells, the long-term decline in cold extremes is all but guaranteed to continue.



dnr.state.mn.us/climate/climate_change_info/climate-trends.html

More damaging rains

Heavy rains are now more common in Minnesota and more intense than at any time on record. Long-term observation sites have seen dramatic increases in 1-inch rains, 3-inch rains, and the size of the heaviest rainfall of the year. Since 2000, Minnesota has seen a significant uptick in devastating, large-area extreme rainstorms as well. Rains that historically would have been in the 98th percentile annually (the largest 2%) have become more common. Climate projections indicate these big rains will continue increasing into the future.

Minnesota keeps getting warmer and wetter

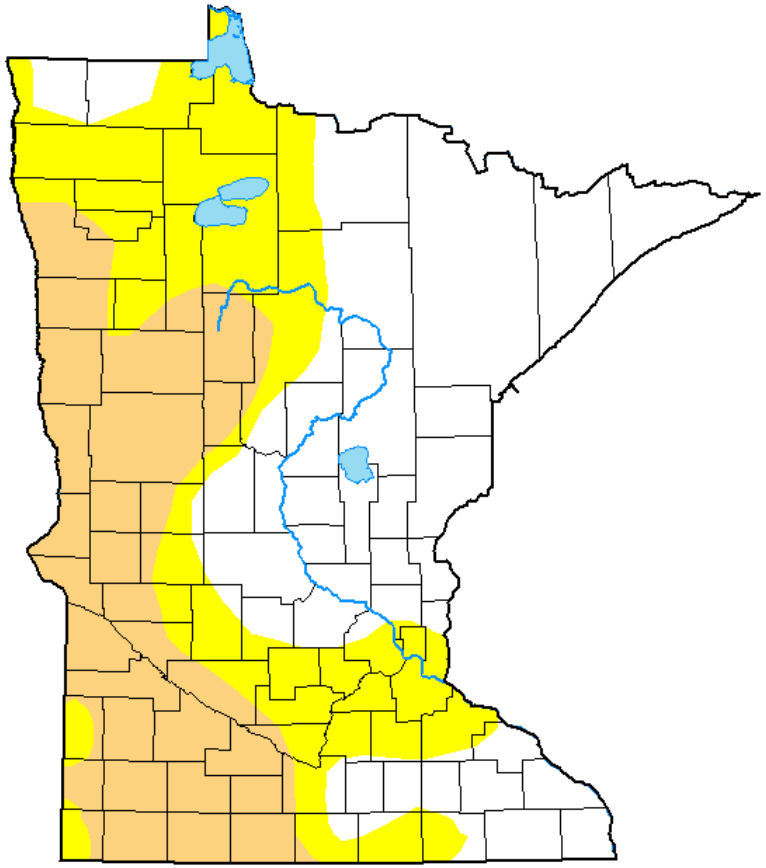
Minnesota has warmed by 3.0 degrees F between 1895 and 2020, while annual precipitation increased by an average of 3.4 inches. Although Minnesota has gotten warmer and wetter since 1895, the most dramatic changes have come in the past several decades. Compared to 20th century averages, all but two years since 1970 have been warm, wet, or both, and each of the top-10 combined warmest and wettest years on record occurred between 1998 and 2020. Although climate conditions will vary from year to year, these increases are expected to continue

www.dot.state.mn.us/sustainability/resilience.html

PROTECT … against what?

U.S. Drought Monitor

Minnesota



March 7, 2023

(Released Thursday, Mar. 9, 2023)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	43.61	56.39	27.19	0.00	0.00	0.00
Last Week *02-28-2023*	43.38	56.62	27.21	0.00	0.00	0.00
3 Months Ago *12-06-2022*	22.50	77.50	48.11	19.13	4.88	0.00
Start of Calendar Year *01-03-2023*	29.19	70.81	44.90	15.91	0.00	0.00
Start of Water Year *09-27-2022*	45.67	54.33	22.48	4.37	0.00	0.00
One Year Ago *03-08-2022*	45.93	54.07	20.20	5.88	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

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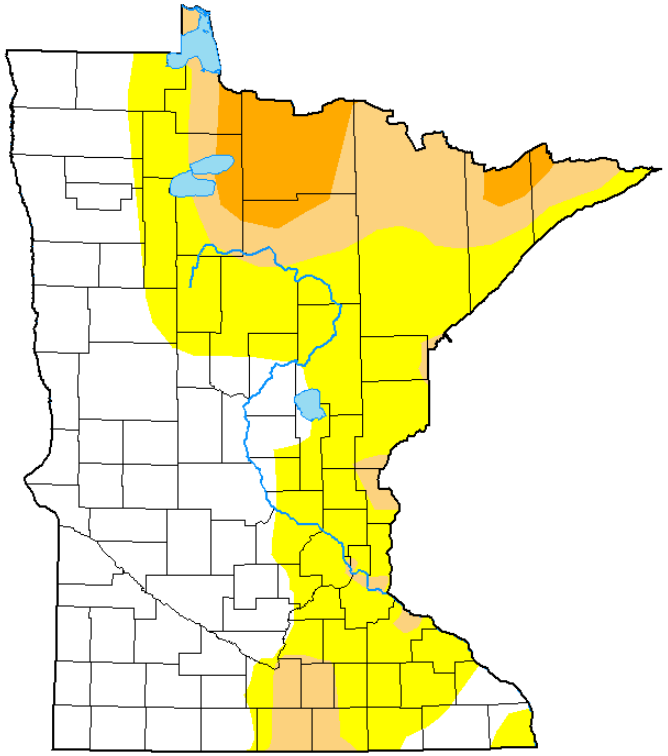
National Drought Mitigation Center

droughtmonitor.unl.edu

March 8, 2022



Eligible Resilience Improvement Activities

- Incorporation of natural infrastructure
- Resurfacing, restoration, rehabilitation, reconstruction, replacement, improvement, or realignment of an existing eligible surface transportation facility eligible
- The upgrade of an existing surface transportation facility to meet or exceed design standards
- Installation of mitigation measures that prevent the intrusion of floodwaters into surface transportation systems.
- Strengthening systems that remove rainwater from surface transportation facilities.
- Upgrades to and installation of structural stormwater controls
- A resilience project that addresses identified vulnerabilities described in the eligible entity's Resilience Improvement Plan
- Relocating roadways in a base floodplain to higher ground above projected flood elevation levels, or away from slide prone areas
- Stabilizing slide areas or slopes
- Installing riprap
- Lengthening or raising bridges to increase waterway openings, including to respond to extreme weather
- Increasing the size or number of drainage structures.
- Installing seismic retrofits on bridges
- Adding scour protection at bridges
- Adding scour, stream stability, coastal, and other hydraulic countermeasures, including spur dikes
- Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, facilitate wildfire control, and provide erosion control.
- Any other protective features, including natural infrastructure, as determined by the Secretary.

PROTECT Funds | Distribution Approach

Distribution Based on Federal and State Share in FY23-26 STIP

MnDOT distributes 70% of funds to the Districts via a modified balancing formula and ATPs receive local share.

Notes:

A 70/30 split between MnDOT and locals is the long-time accepted historic split of funds and the default distribution for new programs that provide federal funds to Minnesota.

The distribution table is only federal funds. Local agencies are required to provide 20% match. MnDOT target does not include 20% match at this time.

Annual Funding Distribution Targets		
	Districts (2024-2025)	ATP (2024-2027)
District 1	1,400,000	
ATP 1		800,000
District 2	900,000	
ATP 2		500,000
District 3	2,000,000	
ATP 3		1,200,000
District 4	1,400,000	
ATP 4		600,000
District 6	1,400,000	
ATP 6		1,000,000
District 7	1,200,000	
ATP 7		700,000
District 8	700,000	
ATP 8		500,000
Mero District	9,000,000	
ATP M		6,400,000

PROTECT Funds | Resilience Improvement Plan

A plan to address surface transportation system resilience to current and future weather events and natural disasters

- Be for immediate and long-range planning activities
- Demonstrate a systemic approach to transportation system resilience and be consistent with and complementary of the State and local mitigation plans required under section 322 of the Stafford Act (42 U.S.C. 5165); and
- Include a risk-based assessment of vulnerabilities of transportation assets and systems to current and future weather events and natural disasters. (23 U.S.C. 176(e)(2)(A-C)).”
- Describe how to respond promptly to the impacts of weather events and natural disasters and to be prepared for changing conditions.
- Describe the codes, standards, and regulatory framework, if any, adopted and enforced to ensure resilience improvements within the impacted area of proposed projects included in the Resilience Improvement Plan;
- Consider the benefits of combining transportation assets and natural infrastructure;
- Assess the resilience of other community assets;
- Use a long-term planning period; and
- Include such other information as the State or MPO considers appropriate. (23 U.S.C. 176(e)(2)(E)(i)-(vi)).

Project Selection Guidance

Consider the following questions in project selection:

- Is the project in a vulnerable area?
- Is the project making a resilience improvement to a vulnerable asset that would not have been fixed in the next three years?
- Are there different tactics that could achieve resilience?
  (e.g., culverts that could be lined instead of rebuilt)
- Will the project benefit disadvantaged communities?

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PROTECT Funding

METROPOLITAN COUNCIL

April 2023

Approach to PROTECT Funds

- 2024 – 2027 projects
  - Options Discussed Today
- Incorporate language into the 2024 solicitation application to identify new projects for 2028 and 2029
- Explore additional opportunities during the Regional Solicitation Evaluation Study for the 2026 solicitation cycle and beyond

Eligible Elements

Elements Identified in Current Regional Solicitation Projects

- Storm sewer
- Ponding
- Erosion and landscaping
- Retaining walls

PROTECT Funding by Year

	2024	2025	2026	2027	2028	2029	2030	2031
PROTECT Funding	$6,278,400	$6,278,400	$4,708,800	$3,531,600	2024 Regional Solicitation Cycle		2026 Regional Solicitation Cycle	

- TAC F&P requested options that could utilize the 2025-2027 PROTECT funds from unfunded projects in the last Regional Solicitation
- TAB's Federal Funding Reallocation Policy suggests bringing options to TAB

2024 PROTECT Funding

- PROTECT funds in 2024 are being put into the draft TIP this spring and will be used on existing Regional Solicitation projects given the TIP timelines/rules.
- No action is needed for 2024 funds.

2025-2027 PROTECT Funding: Input Needed

Federal Funds Reallocation Policy: The first priority for use of future-year funds will be to include the funds in a future TAB solicitation process if at all possible. When not possible, TAB should first consider items 1-3 and 5 from the above list (i.e., advanced construction/payback). It can also consider other options such as selecting an unfunded project from the most recent solicitation that could be delivered within the required timeframe. Other options could include setting up a special solicitation, depending on the amount of funds and time available, or other measures as TAB deems appropriate to address unique opportunities.

Transportation Advisory Board Federal Reallocation Policy (metrocouncil.org)

2025-2027: Option 1
Use on Projects/Reduce Overprogramming

Similar to the approach for 2024 funds, use the PROTECT funding on eligible project elements within recently selected Regional Solicitation projects.

	2025	2026	2027
Starting Balance by Year	$(17,077,234)	$(15,233,627)	$(19,442,095)
PROTECT Funding by Year	$6,278,400	$4,708,800	$3,531,600
Use PROTECT on Eligible 2022 Projects Elements Results in Reduced Overprogramming	$(10,798,834)	$(10,524,827)	$(15,910,495)
Yet to Program Carbon Reduction Funds		$7,980,000	$6,480,000

2025-2027: Option 2
Use on a Mix of Existing Projects/Reduce Overprogramming and New Projects

The next unfunded project from 3 of the 12 application categories in the 2022 Regional Solicitation had eligible PROTECT elements as follows:

Application Category	Project	Eligible Elements	Eligible Costs	Total Project Request
Spot Mobility and Safety	Hennepin Co Rockford Rd Project	Storm sewer	$177,000	$1,624,000
Strategic Capacity	Carver Co Highway 5 Lake Minnewashta and Arboretum Access and Mobility Project	Raising roadway out of the floodplain & reconnecting aquatic habitats	$10,000,000	$10,000,000
Roadway Reconstruction	Washington Co CR 19A/100th St Realignment	Storm sewer	$825,000	$7,000,000

Since there are not other federal funds to combine with the PROTECT funds in 2025-2027, the only viable option is the Highway 5 project as Carver Co's entire project request can be funded with PROTECT.

2025-2027: Option 2 (Continued) Use on a Mix of Existing Projects/Reduce Overprogramming and New Projects

- 2024: Use on existing projects
- 2025: Use $5.1M on existing projects; $1.2M on Highway 5 Lake Minnewashta and Arboretum Project
- 2026 & 2027: Use funds on the Highway 5 Lake Minnewashta and Arboretum Project
- The addition of a new roadway project slightly shifts the modal balance of the 2022 funding cycle for roadways by about 1% from 53% to 54% with a similar percentage decrease for the other modes.

	2024	2025	2026	2027	2028	2029	2030	2031
PROTECT Funding	$6,278,400	$6,278,400	$4,708,800	$3,531,600	Select in 2024 Reg Sol Cycle		Select in 2026 Reg Sol Cycle	
Option 2	Existing Projects	• $5.1M on Existing Projects • $1.2M on Hwy 5	Hwy 5 Project	Hwy 5 Project	New Projects		New Projects	

2025-2027: Option 3
Use funding in 2024 Regional Solicitation

- Staff does not believe that pushing the 2025-2027 funds to the 2024 Regional Solicitation cycle is a viable option. PROTECT can only be used on specific project elements within a larger project. Since the region does not have other federal funds in 2025-2027, we will not have a list of projects to mix and match PROTECT and STP/CMAQ funds. STP/CMAQ funding will be available in 2028 and 2029. PROTECT funds in these years can be used to mix and match funding sources.

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