Ten-Year Plan Process

TYP
Ten-Year Plan

NCC
North Country Council

TAC
Transportation Advisory Committee

NHDOT
New Hampshire Department of Transportation

GACIT
Governor's Advisory Commission on Intermodal Transportation

Year 1

May - June

PRE-PROPOSAL

Communities can work with NCC to form and organize their preliminary proposal ideas.

The deadline to submit pre-proposal ideas is:

July 1st, 2022

1

July – Sept

FINAL PROPOSAL

Communities use this time to finalize their proposals and gather documents needed for submission.

The Submission Deadline is:

SEP 6th, 2022

2

Sept - Oct

INITIAL RANKINGS

NCC reviews project proposals, develops/refines cost estimates, and works with TAC to develop an initial ranked list of projects.

3

Year 2

Nov - Feb

NHDOT REVIEW

NCC submits the highest-ranked projects to NHDOT for their review and cost estimation on:

NOV 4th, 2022

4

Mar - Apr

FINAL RANKINGS

NCC works with communities to make revisions based on NHDOT feedback. The TAC and Commissioners approve changes and then are submitted to NHDOT to be included in the draft TYP.

5

May - Dec

PLAN APPROVAL

NHDOT drafts the TYP and submits it to GACIT for review and public consultation. The final plan is then sent to NH Governor and Legislature for approval.

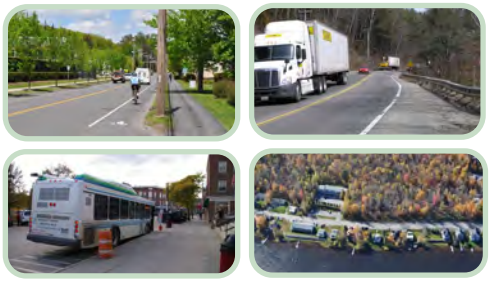
6

NH TEN YEAR PLAN: *Regional Project Review*

NEW HAMPSHIRE'S "TEN YEAR PLAN"

The *New Hampshire 10-Year Transportation Improvement Plan* ("*Ten Year Plan*") is a fiscally-constrained program of state– and federal-funded transportation projects. The *Ten Year Plan* is updated biennially, pursuant to the requirements of New Hampshire RSA 240.

The *Ten Year Plan* includes projects related to roadway improvements, bicycle and pedestrian travel, public transportation, aviation, and natural hazard resiliency.



REGIONAL PROJECT REVIEW PROCESS

As part of the biennial update of the *Ten Year Plan*, each of the nine New Hampshire Regional Planning Commissions (RPCs) leads a process to identify and prioritize transportation projects in their respective regions for inclusion in the *Plan*.

Projects eligible for consideration through the regional review process:

- ⇒ ***Asset management projects*** (e.g., bridge rehabilitation, bridge replacement, pavement/base/subbase repair/replacement);
- ⇒ ***Bicycle and pedestrian improvements*** (e.g., sidewalks, bike trails, multi-use paths; traffic calming improvements);
- ⇒ ***Infrastructure-related travel demand management projects*** (e.g., park and ride lots, transit or HOV lanes, priority signalization, bus shelters, intermodal transportation centers);
- ⇒ ***Planning studies*** assessing the need for future projects;
- ⇒ ***Roadway improvements*** (e.g., operational improvements, access management, intelligent transportation systems, widening, technology operation improvements).

FEDERAL HIGHWAY SYSTEM PERFORMANCE MEASURES

Under the *Fixing America's Surface Transportation Act* (FAST Act), state DOTs and Metropolitan Planning Organizations (MPOs) are required to use **performance measures** to work toward specific targets in support of **national goals for transportation management** in all federally-funded projects and programs.

The Ten-Year Plan Criteria detailed in this packet reflect these federal performance measures. Relevant federal performance measures are noted with each criterion.

PROJECT REVIEW CRITERIA

The criteria included in this packet are intended to help RPC's prioritize projects in their respective regions. A list of criteria is provided in the table to the right.

Each RPC may assign weights to different criteria to reflect regional priorities. Weights should be assigned to criteria prior to scoring projects.

For each project, a score should be assigned for each criterion in order to develop an overall project score. **Detailed scoring procedures are provided on page 2 of this packet.**

Each RPC should clearly define the specific scoring process that will be used prior to scoring projects.

CRITERION	SUB-CRITERIA
Economic Development	Local & Regional; Freight Movement
Equity, Environmental Justice, & Accessibility	Equity & Environmental Justice; Accessibility
Mobility	Mobility Need & Performance; Mobility Intervention
Natural Hazard Resiliency	Hazard Risk; Hazard Mitigation
Network Significance	Traffic Volume; Facility Importance
Safety	Safety Performance; Safety Measures
State of Repair	State of Repair; Maintenance
Support	n/a

For each criterion, the following reference table is provided in order to standardize & guide project reviews:

REGIONAL EVALUATION CONSIDERATIONS	POTENTIAL RESOURCES & DATA SOURCES
This column includes the factors that should be considered in order to evaluate and rank proposed Ten Year Plan projects. *Depending on data availability, some considerations may not be evaluated for all projects.*	This column includes data and established resources for best practices that can be used to justify project rankings. *Not all sources of data will be available for each project. It is left to the discretion of each RPC as to which sources to consult.*

Note: project review criteria and associated scores are intended to <u>inform</u> the regional project prioritization process. RPCs may consider other factors, such as project costs and timelines, when deciding final regional priorities.

PROJECT SCORING PROCEDURES

A score shall be assigned for each criterion. Criteria scores should then be multiplied by criteria weights. The weighted criteria scores should then be summed to develop the final project score.

RPCs should make reasonable attempts to assign a defensible score to each project for each criterion. *Criteria shall not be skipped when scoring a project.* If a defensible score cannot be developed for a particular criterion due to data/information limitations, RPCs should 1) use their best judgement to assign a score; and 2) record any relevant data/information limitations.

If a criterion is irrelevant to the project, a score of 1 out of 10 should be assigned for that criterion.

EVALUATING PROJECT NEED & PROJECT IMPACT

There are two types of project evaluation criteria: 1) criteria that assess the *need* for a project; and 2) criteria that assess the *impact* of a project. For example, looking at the history of crashes at an intersection can help evaluate the *need* for a safety improvement project, while looking at Crash Modification Factors for the proposed improvements can help evaluate the *impact* that the project will have on safety.

The table below presents the project scoring scales for evaluating project *need* and project *impact*. Additionally, each criterion in this packet is labeled to indicate if it is evaluating *need* or *impact*.

PROJECT SCORING SCALES

10 9 8 7 6 5 4 3 2 1 0

SCORE	PROJECT NEED		PROJECT IMPACT		CRITERION RELEVANCY
10	There is a **very high need** for the project under this criterion.	**OR**	The proposed project would deliver a **significant improvement** under this criterion.	-	- - -
5	There is a **moderate need** for the project under this criterion.	**OR**	The proposed project would deliver a **moderate improvement** under this criterion.	-	- - -
1	There is **minimal/no need** for the project under this criterion.	**OR**	The proposed project would deliver **minimal/no improvement** under this criterion.	**OR**	The proposed project is **not relevant** to this criterion.
0	- - -	-	The proposed project would result in a **negative impact** under this criterion.	-	- - -

Economic Development

Definition: the degree to which a project supports economic development needs and opportunities at the 1) **local** and 2) **regional** level; and 3) the degree to which the project impacts the movement of goods (**freight**).

REGIONAL EVALUATION CONSIDERATIONS

Local & Regional Economic Development — IMPACT

- Does the project directly relate to a documented community revitalization or economic development effort?
- Does the project improve mobility and/or accessibility to and from a regional employment hub?
- Does the project improve mobility and/or accessibility to and from a regional tourism destination?
- Does the project support the implementation of a regional economic development plan?

Freight Movement — IMPACT

- Does the project implement a high priority freight improvement project as identified in the NH State Freight Plan or an adopted Regional Transportation Plan?
- Does the project improve a freight bottleneck location as identified in the NH State Freight Plan or an adopted Regional Transportation Plan?
- Would the project improve freight transportation on a Critical Urban Freight Corridor (CUFC) or Critical Rural Freight Corridor (CRFC) candidate location as identified in the NH State Freight Plan (or as previously recommended by a MPO/RPC for future inclusion in the NH State Freight Plan)?
- Would the project improve Truck Travel Time Reliability on the Interstate system or other National Highway Freight Network Route?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

- Local, regional and statewide economic development plans and documents
- Transit system maps
- Bicycle network/route maps
- Sidewalk network maps
- Online isochrone tools
- Regional *Comprehensive Economic Development Strategies*
- Economic-related chapters and goals of *Regional Plans*

Resources:

- State Freight Plan
- Regional Long-Range Transportation Plans
- Critical Urban Freight Corridor (CUFC) Candidate Location List
- Critical Rural Freight Corridor (CRFC) Candidate Location List
- Truck Travel Time Reliability (TTTR) Index Data from the National Performance Management Research Data Set (NPMRDS)

Federal Performance Measures Addressed

Federal Highway Administration System Performance Measures: 1) truck time travel reliability on the Interstate System.

Equity, Environmental Justice, & Accessibility

Definition: the degree to which 1) a project benefits traditionally-underserved populations (**equity** & **environmental justice**; and 2) ensures **accessibility** by all potential users.

REGIONAL EVALUATION CONSIDERATIONS

Equity & Environmental Justice — IMPACT

- Would the project provide transportation infrastructure benefits to an identified concentration area for minority population, low-income population, limited English proficiency population, disabled population, or other traditionally-underserved population group as identified in a local, regional, or statewide Title VI or Environmental Justice Program?
- Would the project expand transportation choices or enhance alternative modes of transportation in an identified concentration area for minority population, low-income population, limited English proficiency population, disabled population, or other traditionally-underserved population group?
- Does the project implement transportation-related recommendations resulting from a local, regional, or statewide Community Health Improvement Plan (CHIP) or other comprehensive public health analysis?
- What is the impact of the project on air quality? Are air quality impacts disproportionately affecting traditionally underserved populations?

Accessibility — IMPACT

- Does the project incorporate Universal Design considerations to ensure that all users, including those with mobility impairments, visual impairments, hearing impairments or other disabilities can fully access and utilize the facility?
- Does the project incorporate accessibility upgrades or remove barriers to access?
- Does the project improve coordination between transportation service providers or between modes of transportation to improve access to essential services, particularly for elderly and disabled populations?"

POTENTIAL RESOURCES & DATA SOURCES

Resources:

- Regional and Statewide Title VI and Environmental Justice Programs
- Community Health Improvement Programs
- Region-specific Demographic Analyses
- US 13 CFR Part 301.3 Economic Distress Criteria (https://www.govinfo.gov/content/pkg/CFR-2018-title13-vol1/xml/CFR-2018-title13-vol1-part301.xml#seqnum301.3)
- Northern Border Regional Commission annual distress criteria reports
- CMAQ air quality analysis tools
- MPO regional emissions analyses
- RPC review of project scope

Resources:

- Conceptual Designs for Proposed Projects
- Local, Regional, or Statewide ADA Transition Plans
- Public Transit-Human Service Transportation Coordination Plans

Federal Performance Measures Addressed

Federal Highway Administration System Performance Measures: 1) on-road mobile source emissions reduction.

Mobility

Definition: 1) an historical analysis of the mobility **need** and **performance** of a location for all modes, and 2) a forward-looking analysis of how **interventions** proposed as part of a project would improve the mobility performance for all modes.

REGIONAL EVALUATION CONSIDERATIONS

Mobility Need & Performance **NEED**

Facility Purpose

- What is the federal functional classification of the project area (i.e., is high mobility an underlying function of the facility)?
- Is the facility a local, regional, or statewide connection?

Planning

- Are the mobility needs in the project area defined in a local, regional, or state plan?

Motor Vehicles

- For projects addressing mobility need for vehicle travel, what is the project area's performance relative to congestion or delay, and if available, what is person throughput for a defined time period?

Rail and Transit

- For projects addressing mobility need for rail and transit, what is transit's performance relative to congestion or delay, and if available, what is ridership for a defined time period (throughput)?

Bicycle and Pedestrian

- For projects addressing mobility need for bicycle and pedestrian travel, what is project area's performance relative to delay, and if available, what is traffic for defined time period (throughput)?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Functional Classification

- Federal Functional Classification (NHDOT GIS Roads Layer)
- FHWA Highway Functional Classification Guidance: https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section00.cfm

Planning

- Master Plans, Corridor Studies, Long Range Transportation Plans, MPO Congestion Management Process, etc.

Motor Vehicles

- Level of Travel Time Reliability (LOTTR) based on FHWA's National Performance Management Research Data Set (NPMRDS).
- Level of Service (LOS) related measures such as volume to capacity ratio, average travel speeds, average vehicle spacing, average delay at signal, field observation of traffic flow characteristics based on Highway Capacity Manual guidance.
- Throughput analyses based on local average vehicle occupancy data, regional model vehicle occupancy data or National Highway Travel Survey vehicle occupancy data multiplied by traffic data for defined time period.
- Regional and Statewide ITS architectures

Rail and Transit

- For projects addressing rail & transit mobility: Rail or transit operator report regarding on-time performance, ridership data, passenger surveys.

Bicycle and Pedestrian

- For projects addressing bicycle & pedestrian mobility: pedestrian/bicyclist intercept surveys, pedestrian signal timing data, pedestrian/bicyclist activity through project area for defined time period; bicyclist level of traffic stress.

Federal Performance Measures Addressed

Federal Highway Administration (FHWA) System Performance Measures: 1) reliable person-miles traveled on the Interstate System; 2) reliable person-miles traveled on the non-Interstate National Highway System.

Mobility (continued)

Definition: 1) an historical analysis of the mobility **need** and **performance** of a location for all modes, and 2) a forward-looking analysis of how **interventions** proposed as part of a project would improve the mobility performance for all modes.

REGIONAL EVALUATION CONSIDERATIONS

Mobility Intervention **IMPACT**

Motor Vehicles

- For projects addressing motor vehicle mobility, to what extent will the project provide congestion relief or mobility benefits?

Rail and Transit

- For projects addressing transit mobility, to what extent will the project impact a transit service's on time performance and/or improve transit user throughput (ie. the number of transit users moving through the project area in a given time period)?

Bicycle and Pedestrian

- For projects addressing bicycle or pedestrian mobility, to what extent will the project reduce bicyclist/pedestrian delay and/or improve bicyclist/ pedestrian throughput (ie. the number of bicyclists/ pedestrians moving through the project area in a given time period)?

Federal Performance Measures Addressed

Federal Highway Administration (FHWA) System Performance Measures: 1) reliable person-miles traveled on the Interstate System; 2) reliable person-miles traveled on the non-Interstate National Highway System.

POTENTIAL RESOURCES & DATA SOURCES

Resources:

RPC/MPO, NHDOT or independent evaluation of mobility interventions expressed in scope of work and project purpose. Including but not limited to the interventions listed below.

Motor Vehicles. Including but not limited to:

- *Intersection improvements*: signal optimization, roundabouts, addition of turning lanes, etc.
- *Road improvements*: HOV lanes, addition of breakdown lanes or shoulder widening, add lanes in merge areas, widen ramps, add exit lanes, ITS speed harmonization, ramp metering, etc.
- *Mode shift measures*: transit, park and ride lots, bike lanes, etc.
- *Capacity improvements*: adding lanes, access management measures [curb cut consolidation, left turn lanes, two way left turn lanes, medians, etc.]

Rail & Transit. Including but not limited to:

- Transit signal priority; dedicated transit lanes; improvement to sidewalk or bicycle connectivity to transit stops; transit stop improvements.

Bicycle and Pedestrian. Including but not limited to:

- *Bicycling interventions*:
  - ♦ New/improved bike lane
  - ♦ Widening of outside lane/shoulder
  - ♦ New off-street or parallel facility
  - ♦ Access management improvements (medians, elimination/consolidation of curb cuts)
  - ♦ Sight distance improvements
  - ♦ Intersection improvements for bicyclist
  - ♦ Improvements to speed differential between on street bicyclists and vehicles
  - ♦ Signage and road markings
- *Pedestrian interventions*:
  - ♦ New/improved sidewalk
  - ♦ New/improved off-street or parallel facility
  - ♦ Intersection improvements for pedestrians (new or improved crosswalks, medians/pedestrian refuges, new or improved pedestrian signals)
  - ♦ Access management (medians, limitation of curb cuts)
  - ♦ Removal of pedestrian conflicts (utility poles, etc.)
  - ♦ New or improved buffer between road and pedestrian facility (green buffer, on-street parking, trees, etc).

Natural Hazard Resiliency | NH TEN YEAR PLAN *Regional Project Review*

Definition: 1) an analysis of the **natural hazard risks** (i.e. flood history) to a transportation facility, and; 2) a forward-looking analysis of how the **natural hazard mitigation** measures proposed as part of a project would reduce hazard risks.

REGIONAL EVALUATION CONSIDERATIONS

Natural Hazard Risk — NEED

Hazard Risk

- Are natural hazards in the project area documented in a plan, study, or database?
- Have natural hazards previously impacted transportation infrastructure and/or mobility in the project area? How frequently?
- Are natural hazard risks anticipated to increase in severity/impact (for example, due to anticipated impacts of climate change)?

Natural Hazard Mitigation — IMPACT

Hazard Mitigation - All Projects

To what extent does the project mitigate or adapt to known natural hazards in the project area? Does the project propose in-kind replacement of hazard-prone infrastructure?

- Mitigate (highest score): project eliminates or substantially reduces risk from known natural hazard (e.g., relocates infrastructure away from flood hazard area).
- Adapt (moderate score): project addresses known natural hazard but does not entirely mitigate risk (e.g., reinforces infrastructure in place).
- In-kind (lower score): project simply replaces hazard-prone with same/similar infrastructure (e.g., replace stream culvert with culvert of same dimensions).

Hazard Mitigation - Additional Stream Culvert & Bridge Project Considerations

- Is the project responsive to stream characteristics, such as flood propensity, slope, bankfull width, and orientation to roadway?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Hazard Risk

- Local plans: Hazard Mitigation Plans, Master Plans, Capital Improvement Plans, Emergency Operations Plans, etc.
- Regional plans: Regional Transportation Plan, Corridor Studies, River Corridor Management Plans, Watershed-Based Plans, Regional Plan, Comprehensive Economic Development Strategy, etc.
- Local and Regional Vulnerability Assessments
- Results of studies or assessments, such as geotechnical studies, fluvial geomorphology studies, SADES-based assessments, etc
- Hydraulic capacity modeling results/reports
- FEMA Flood Hazard Maps
- Regional studies on anticipated impacts of climate change on natural hazard risk

Resources:

Hazard Mitigation - All Projects

- RPC review of project scope
- Section 6.4 of FHWA's *HEC 17: Highways in the River Environment - Floodplains, Extreme Events, Risk, and Resilience, 2nd* Edition https://www.fhwa.dot.gov/engineering/hydraulics/pubs/hif16018.pdf
- Section 3.4 FHWA's *HEC 25: Highways in the Coastal Environment: Assessing Extreme Events: Volume 2 - 1st Edition* https://www.fhwa.dot.gov/engineering/hydraulics/pubs/nhi14006/nhi14006.pdf

Hazard Mitigation - Stream Culvert & Bridge Projects

- NH SADES stream crossing assessment data
- Hydraulic capacity modeling results/reports
- North Country Council *Stream Crossings for Flood Resiliency & Ecological Health*: http://www.nccouncil.org/wp-content/uploads/2019/08/NCC-Stream-Crossing-Guide_FINAL.pdf

Network Significance

Definition: the extent to which the project area is regionally-significant based on 1) **traffic volume**; and 2) the **importance of the facility** to the local and the regional transportation system.

REGIONAL EVALUATION CONSIDERATIONS

Traffic Volume

NEED

Vehicular volume

- What is the present-day traffic volume in or near the project area?
- How does the traffic volume in the project area compare to other traffic volumes in the region?
- Have traffic volumes increased, decreased, or stayed about the same over time?

Bicycle & pedestrian volume

- What is the measured or estimated present-day bicycle and pedestrian volume on or near the impacted facility?
- What is the relative demand for pedestrian and bicycle trips based on development density, presence/lack of current ped-bike facilities, etc.?

Facility Importance

NEED

Origins and Destinations

- Does the facility move people or goods between major locations/destinations?
- Is the project area proximate to key transportation facilities, such as airports or transit/intermodal facilities?

Network Centrality

- To what degree is the project area "central" to the local and regional transportation network?
- Would traffic increase on other areas of the transportation network if the project is not implemented (e.g., would more drivers use alternate routes)?

Alternate Routes

- What would be the increase in travel time if travelers were detoured around the project area?
- Is the proposed project located on a defined or obvious evacuation route?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Vehicular volume

- NHDOT Transportation Data Management System https://nhdot.ms2soft.com/tcds/tsearch.asp?loc=nhdot
- Regional Planning Commission traffic count databases

Bicycle & pedestrian volume

- Regional Planning Commission bicycle & pedestrian count databases
- Pedestrian & Bicycle Information Center; Counting & Estimating Volumes http://www.pedbikeinfo.org/topics/countingestimating.cfm
- Congestion Mitigation & Air Quality (CMAQ) analysis tools
- Strava data

Resources:

Origins and Destinations

- Local, regional and statewide transportation planning documents
- Priority pedestrian and bicycle transportation corridors identified in the *Statewide Pedestrian and Bicycle Transportation Plan*
- Transit system maps
- Bicycle network/route maps
- Sidewalk network maps
- Online isochrone tools

Network Centrality

- Regional Planning Commission transportation model (if available)
- RPC review of road networks
- GIS database with "Network Analyst" license/module

Alternate Routes

- Google Maps Travel Time calculator
- RPC travel time analysis (if available)
- Documentation of evacuation route designation or other connectivity-related metric in statewide, local or municipal plans

Safety

Definition: 1) a historical analysis of the **safety performance** (i.e. crash history) of a location over the past five (5) year period for all modes, and; 2) a forward-looking analysis of how the **countermeasures** proposed as part of a project would improve safety performance for all modes.

REGIONAL EVALUATION CONSIDERATIONS

Safety Performance **NEED**

Crash data considerations (past 5 years):

- What is the number of passenger vehicle crashes at the location?
- What is the severity of passenger vehicle crashes at the location?
- What is the crash rate at the location?
- What is the number of non-motorized (pedestrian and bicycle) crashes at the location?
- What is the severity of non-motorized (pedestrian and bicycle) crashes at the location?
- What is the number of transit vehicle crashes at the location?
- What is the severity of transit vehicle crashes at the location?

Additional safety performance considerations:

- Was the location identified through local, regional, or statewide network screening?
- Was the location the subject of a previous Road Safety Audit due to crash history?
- Was the project referred to the TYP from the HSIP program due to scope/cost?
- Were improvements implemented over the past five-year period that have changed (or could change) the safety performance of the location?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Crash data

- State (NHDOS) Crash Database
- Fatality Analysis Reporting System (FARS) Database
- Crash Reports from Local Police Departments
- Crash Data from Local Transit Agencies

Additional safety considerations

- Network Screening Summaries from the NHDOT Bureau of Highway Design
- Completed and Pending Road Safety Audit (RSA) Reports
- HSIP Program Summaries from the NHDOT Bureau of Highway Design

Federal Performance Measures Addressed

Federal Highway Administration (FHWA) Safety Performance Measures: 1) number of fatalities; 2) rate of fatalities; 3) number of serious injuries; 4) rate of serious injuries; 5) number of non-motorized fatalities and serious injuries.

Federal Transit Administration (FTA) Performance Measures: 1) number of reportable public transportation fatalities and public transportation fatality rate per total vehicle revenue miles by mode; 2) number of reportable public transportation injuries and public transportation injury rate per total vehicle revenue miles by mode; 3) number of reportable public transportation events and public transportation event rate per total vehicle revenue miles by mode; 4) mean distance between major public transportation mechanical failures by mode.

Safety (continued)

Definition: 1) a historical analysis of the **safety performance** (i.e. crash history) of a location over the past five (5) year period for all modes, and; 2) a forward-looking analysis of how the **countermeasures** proposed as part of a project would improve safety performance for all modes.

REGIONAL EVALUATION CONSIDERATIONS

Safety Measures **IMPACT**

Highway and Bridge Safety Measures:

- How significant/effective are the Crash Modification Factors (CMFs) for key project design elements?
- Has a Benefit-Cost analysis been developed as part of a Road Safety Audit or other special study? If so, how compelling is the Benefit-Cost ratio?
- Are Proven Safety Countermeasures (as sanctioned by the FHWA Office of Safety) included in the project's design?

Rail & Transit Safety Measures:

- Does the project involve safety improvements to an existing at-grade Railway-Highway crossing?
- Does the project eliminate an existing at-grade Railway-Highway crossing?
- Does the project implement improvements identified in a local or statewide Public Transit Agency Safety Plan (PTASP)?

Pedestrian Safety Measures:

- Are Safe Transportation for Every Pedestrian (STEP) countermeasures (as sanctioned by the FHWA Office of Safety) included in the project's design?
- How significant/effective are the pedestrian-related Crash Modification Factors (CMFs) for key project design elements?

Bicycle Safety Measures

- Would the project improve Bicycle Level of Traffic Stress (LTS) from a Level 3 or 4 to at least Level 2?
- How significant/effective are the bicycle-related Crash Modification Factors (CMFs) for key project design elements?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Highway and Bridge Safety Measures:

- Crash Modification Factor Clearinghouse (www.cmfclearinghouse.org/)
- AASHTO Highway Safety Manual (www.highwaysafetymanual.org/)
- Completed or pending Road Safety Audits
- FHWA Proven Safety Countermeasures (www.safety.fhwa.dot.gov/provencountermeasures/)

Rail & Transit Safety Measures:

- NHDOT Bureau of Highway Design Railway-Highway Crossing Improvement Priorities
- Local or Statewide Public Transit Agency Safety Plans (PTASPs)

Pedestrian Safety Measures:

- FHWA Safe Transportation for Every Pedestrian (STEP) Countermeasures (https://safety.fhwa.dot.gov/ped_bike/step/resources/)
- Crash Modification Factor Clearinghouse (www.cmfclearinghouse.org/)

Bicycle Safety Measures

- Bicycle LTS Model Data (as developed by MPOs or as developed for rural areas in the NH Statewide Pedestrian and Bicycle Transportation Plan).
- Crash Modification Factor Clearinghouse (www.cmfclearinghouse.org/)

Federal Performance Measures Addressed

Federal Highway Administration Safety Measures: 1) number of fatalities; 2) rate of fatalities; 3) number of serious injuries; 4) rate of serious injuries; 5) number of non-motorized fatalities & serious injuries.

Federal Transit Administration Safety Measures: 1) number of reportable public transportation fatalities and public transportation fatality rate per total vehicle revenue miles by mode; 2) number of reportable public transportation injuries and public transportation injury rate per total vehicle revenue miles by mode; 3) number of reportable public transportation events and public transportation event rate per total vehicle revenue miles by mode; 4) mean distance between major public transportation mechanical failures by mode.

State of Repair

Definition: 1) the degree to which the project improves infrastructure condition in the project area (**state of repair**); and 2) the degree to which the project impacts NHDOT and/or municipal **maintenance**.

REGIONAL EVALUATION CONSIDERATIONS

State of Repair — NEED

- What is the condition of the infrastructure that is being addressed? For roadways, this includes pavement, sub-base, and base materials.
- Does the project address the underlying causes of current infrastructure conditions?

Maintenance Considerations — IMPACT

- Does the project address an infrastructure issue that currently requires increased maintenance activity/costs due to poor or dangerous infrastructure conditions?
- Does the project propose significant new/expanded transportation assets that will add significant new/ additional maintenance liabilities for NHDOT (e.g., new roadway/bridge construction)?
- Are there buried utilities (water, sewer, drainage) in the project area? If so, are any needed upgrades/ maintenance incorporated into the overall project scope? *Note: buried utility improvements are typically not Ten Year Plan-eligible (funded locally).*

POTENTIAL RESOURCES & DATA SOURCES

Resources:

- NHDOT Pavement Condition Index (if current)
- SADES assessment data
- Geotechnical studies/reports
- Information requests from NHDOT offices: District Engineers, Bridge Maintenance Bureau, etc
- *NHDOT Transportation Asset Management Plan*

Resources:

- NHDOT Pavement Condition Index (if current)
- SADES assessment data
- Geotechnical studies/reports
- Information requests from NHDOT offices: District Engineers, Bridge Maintenance Bureau, etc.
- Narrative from applicant
- Utility capacity/condition studies
- Capital Improvements Plans

Federal Performance Measures Addressed

Federal Highway Administration State of Repair Measures: 1) percentage of pavement on the Interstate System in good condition; 2) percentage of pavement on the Interstate System in poor condition; 3) percentage of pavement on the non-Interstate National Highway System (NHS) in good condition; 4) percentage of pavement on the non-Interstate National Highway System (NHS) in poor condition; 5) percentage of bridges on the National Highway System (NHS) in good condition; 6) percentage of bridges on the National Highway System (NHS) in poor condition.

Federal Transit Administration Transit Asset Management Measures: 1) percentage of rolling stock revenue vehicles meeting or exceeding their useful life benchmark; 2) percentage of non-revenue service vehicles meeting or exceeding their useful life benchmark; 3) percentage of facilities rated below 3.0 on the Transit Economic Requirements Model (TERM) scale; 4) percentage of track segments with performance restrictions.

Support

Definition: the degree of **support** for the project at the local, regional, and statewide level.

REGIONAL EVALUATION CONSIDERATIONS

Support **NEED**

Local Support

- Does the project support goal(s) of locally-adopted plan? Higher scores given to projects that are specifically defined in plans, and/or address specific plan goals/needs/issues.

Regional Support

- Does the project support goal(s) of a regional plan? Higher scores given to projects that are specifically defined in plans, or address specific plan goals/needs/issues.

Statewide Support

- Does the project support goal(s) of a statewide plan? Higher scores given to projects that are specifically defined in plans, or address specific plan goals/needs/issues.

Emergent Needs

- Does the project address an emergent need(s) (*identified after the previous TYP project solicitation*) that could have significant regional impacts if not addressed?

Public Involvement

- Has there been recent public discussion or input opportunities regarding this project?
- Do recent public input/discussions show support for the project?

POTENTIAL RESOURCES & DATA SOURCES

Resources:

Local Support

- Master Plan
- Capital Improvements Plan
- Hazard Mitigation Plan
- Other local plan (Bike-Ped Plan, Sub-Area Plan, etc)
- NHDOT Road Safety Audit reports

Regional Support

- Long Range Transportation Plan/Regional Transportation Plan
- Corridor Study
- Coordinated Public Transit and Human Services Transportation Plan
- Regional Plan
- Scenic Byway Corridor Management Plan
- Transit Operations Plan
- River Corridor Management Plan
- MPO Congestion Management Process Plans

Statewide Support

- *Statewide Long-Range Transportation Plan*
- *Statewide Strategic Transit Assessment*
- *Statewide Pedestrian and Bicycle Transportation Plan*
- *Strategic Highway Safety Plan*
- *Statewide Freight Plan*
- *Statewide Rail Trail Plan*
- *NHDOT Transportation Asset Management Plan*

Emergent Needs

Emergent issue/need is documented by one or more of the following:

- Letter from NHDOT District Engineer
- Letters from municipal boards or committees
- Letters from subject-area experts
- Results of studies and assessments

Public Involvement

- Minutes and meeting summaries from local board meetings and/or community outreach events
- Other documentation of public involvement

Community	Project Name	Description	Location	Notes
Conway	East Conway Road Reconstruction	Reconstruction of approximately 7.1 miles of E. Conway Road starting at Chatham Town Line.	Chatham town line to Center Conway (7.1mi)	E. Conway not shown as eligible on NHDOT project viewer.
Conway	Rt. 16/Intervale Crossroad Intersection Safety Improvements	Installation of traffic calming measures/ safety improvements to busy state-local intersection in North Conway	Intersection of NH 16 and Intervale Cross Rd.	Rte 16 Listed as Federally eligible on NHDOT Project Viewer
Gorham	Rt. 16 Sidewalk Infrastructure and Bike Lane Installation	Installation of sidewalk infrastructure on the Berlin-Gorham road from approximately 429 Main Street to Walmart.	Approximately 429 Main Street to 561 Main Street, Gorham	6,400LF of improvement area. Rte 16 Listed as Federally eligible on NHDOT Project Viewer
Gorham	Walkability Improvements from Rt. 16 to Libby Street	Installation of sidewalk infrastructure from the south intersection of Rt. 16 and Libby Street north to Libby Recreation Complex	Libby Street and Rt. 16.	Apprxomiately 950LF of improvement. Rte 16 Listed as Federally eligible on NHDOT Project Viewer
Lincoln	Lincoln Main St-Rte.112 Corridor Study	Corridor Study of the traffic and congestion issues on the approximately 2.5 mile stretch from I-93 to NH rte 112 & Knacamagus Hwy	2.5mi length from I-93 to Kancamagus Hwy	Rte 112 Listed as Federally eligible on NHDOT Project Viewer
Monroe	Guardrail Replacement	1/2 Mile of guardrails need replacement	NH135 South of Grange Hall Road	To be forwarded to Highway design bureau for inclusion in workflow
Monroe	Repair to Littleton Road (State Route 135 N)	Roadway repair/rehabilitation due to concerns about erosion of roadway into Connecticut River	NH135 South of Intersection with Barnet Road	NH135 listed as Federally eligible on NHDOT Project Viewer
Randolph	Intersection Rte 2 & Randolph Hill Rd	Widening of Rte 2 to accommodate turning lane and additional travel lane to improve safety of those entering and exiting the roadway	Intersection of Rte 2 & Randolph Hill Rd	NH Rte 2 listed as Federally eligible on NHDOT Project Viewer
Shelburne	Flood Mitigation on Rt. 2	Eliminate or mitigate flooding conditions that are present on Rt. 2 adjacent to Reflection Pond	Adjacent to Reflection Pond in Shelburne	NH Rte 2 listed as Federally eligible on NHDOT Project Viewer
Whitefield	Use of Abandoned Assets: A Rails-to-Trails Recreation and Transportation Alternative Project	5.2 Miles of rail bed restoration, track and tie removal, surface grading, and crowning work to connect to existing rail trail network for walking, cycling, horse riding, and snowmobile use.	Bethlehem, Whitefield, Dalton	Multi-community effort linking with existing rail trail systems. Mulit-use and pedestrian paths eligible by established guidance.

NH STATE CLEAN DIESEL PROGRAM FY22 OVERVIEW

RICKY DICILLO, GRANTS COORDINATOR, AIR RESOURCES DIVISION NHDES

- For official details on the program, see RFP, EPA Program Guide, and more at:
- https://www.des.nh.gov/business-and-community/loans-and-grants/dera

PROGRAM BASICS

- Anticipated available funding pool: $1,400,000
- Reimbursement projects to reduce diesel emissions
  - E.g. replace diesel units, upgrade diesel units, install idle reduction technology
- On-road/highway vehicles, non-road diesel equipment, locomotives, marine vessels, and, diesel engines!
- Open to most fleets/owners (public and private)
- Program is available now!
- First Round Proposals due September 9th at 4:00 PM
  - Round 2 due 11/1/22 and Round 3 due 1/1/23, if funding remains after previous round.

BACKGROUND & FUNDING

EPA has provided annual funding through the Diesel Emissions Reduction Act (DERA)

New Hampshire Volkswagen Beneficiary Trust funds match DERA funds to unlock bonus DERA funds

Leftover funds from FY21 added to this year's funding

Anticipated funds: approximately $1,400,000*

- *NHDES does not anticipate receiving FY22 funds until October

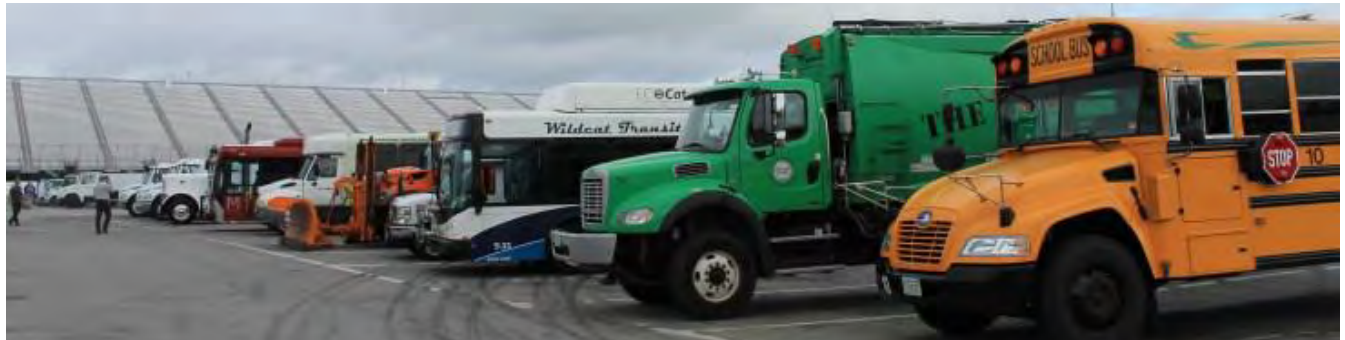
Purpose: to improve NH's air quality—for human health and for the environment—by reducing diesel emissions of NO_x, $PM_{2.5}$, and CO_2. Exposure to diesel emissions can contribute to health problems such as asthma, lung cancer, and other cardiac and respiratory diseases and can cause premature death.

TWO MAJOR CATEGORIES OF PROJECTS

Vehicle/Engine/Equipment Upgrades

- Replace old diesels (2009 or older) with new diesels
- Replace diesels (any age) with propane*, CNG*, or electric
- Replace engines in marine vessels
- Rebuild locomotives
- And more!

*Must be certified Low-NOx



Installing stationary plug-ins for idle reduction

- Electric truck stops/parking spaces
- Shore plug-in for marine vessels
- Plug-ins for locomotives

Photo Credit: CabAireLLC

EXAMPLE PROJECTS

- Replace **school buses** with electric school buses
- Replace old diesel **plow truck** with new diesel plow truck
- Replace old diesel **wheeled loader** with new diesel wheeled loader
- Replace diesel **refuse trucks** with CNG refuse trucks
- Replace old diesel **drayage trucks** with new diesel drayage trucks

- Replace diesel engines in a **fishing boat**
- Rebuild **locomotive** engine
- Install electric parking spaces at a **truck stop**
- Replace a diesel-powered **freight crane** with a crane plugged directly into the grid

SOME RESTRICTIONS TO KEEP IN MIND WHEN CONSIDERING

Eligibility Restrictions

On-road diesel vehicles? Must be Class 5-8.

For a diesel-to-diesel swap, the old engine must be EMY 2009 or older.

- No age restriction for electric, or low-NOx propane/CNG.

Must be in regular usage (specific hour/mile usage for each kind of unit).

If you replace a diesel unit, it must be scrapped after you get the new one.

Administration Restrictions

Funding % is based on project type (details next slide).

Funds are only reimbursed AFTER project is completed.

Projects must be completed no later than Sept 30, 2023.*

- *Extensions are possible, but not guaranteed.

Cannot start project until ***after*** G&C approval. Any funds expended before then will not be reimbursed.

Sample of Project Categories (non-exhaustive)	Max Grant %	Min Cost-Share	Example Project and Total Eligible Cost	Example Grant %
Drayage Truck Replacement	50%	50%	Replace 2 2007 trucks, $100,000 for each truck = $200,000	NHDES may reimburse up to $100,000 (50% of cost)
Replace 2009 or older vehicle/equipment with EPA certified diesel	25%	75%	Replace an EMY 2004 municipal plow/dump truck, $120,000	NHDES may reimburse up to $30,000 (25% of cost)
Replace vehicle/equipment with low-NOx propane or CNG	35%	65%	Replace 4 2013 refuse trucks with CNG trucks, $300,000 each truck = $1,200,000	NHDES may reimburse up to $420,000 (35% of cost)
Replace vehicle/equipment with electric (plus charger!)	45%	55%	Replace 2 2010 school buses with EV buses, $370,000 each = $740,000 2 AC chargers (1 per vehicle) = $3,000 Total = $746,000	NHDES may reimburse up to $335,700 (45% of cost)
Replace 2009 or older **engine** with EPA certified diesel	40%	60%	Replace 2 1985 propulsion engines in a fishing boat, $50,000 each = $100,000	NHDES may reimburse up to $40,000 (40% of cost)
EPA Verified Electrified Parking Space Technologies	30%	70%	Install TSE pedestals at a truck stop; total eligible cost = $200,000	NHDES may reimburse up to $60,000 (30% of cost)

Criteria	Points
A. Cost Effectiveness of Emissions Reductions Calculated using EPA's Diesel Emission Quantifier (DEQ) or Shore Power Emissions Calculator (for marine shore power projects only) and based upon the estimated lifetime emission reductions[1] of NO_x and $PM_{2.5}$.	45
B. Percent Operation in NH Based on hours of operation or miles traveled within NH.	20
C. Project Benefits an Environmental Justice Community or Population Evaluated using EPA's EJScreen mapping tool for areas most affected by project's proposed emissions reductions (e.g. areas of operation, corporate offices, and lots/depots).	10
D. Greenhouse Gas Emission Reductions Calculated using the DEQ's or Shore Power Emissions Calculator (for marine shore power projects only) estimated lifetime reduction[1] of CO_2 emissions.	10
E. Clarity of Proposal & Potential for Success Based on clarity of application materials, applicant's experience with similar projects, and potential for successful completion of project on time and on budget.	10
F. Project Benefits an Area Populated by Sensitive Receptors Affected unit(s) operates a significant amount of time near groups of people disproportionately impacted by exposure to air pollution (e.g. children, the elderly, populations with underlying health issues).	5
TOTAL	**100**
Bonus Criteria	Points
G. Replacement with Alternative Fuel Up to 25 points awarded for electric; up to 15 points for compressed natural gas, propane, and plug-in hybrid electric.	25
H. Government Entity Whether or not the unit(s)/technology is owned by a municipality, state agency, school district, or state college/university or will be operated under a contract with one of these entities for no fewer than eight years following the effective date of the project.	10
I. Additional Benefits Other benefits created by project, including water quality, noise reduction, a plan to showcase the project, leveraging the project for future projects, environmental benefits beyond air quality, and more.	5

SCORING IS BASED ON THESE CRITERIA

BONUS POINTS ARE AVAILABLE!

ESTIMATED TIMELINE

Date	Event
July 15, 2022	RFP and supporting documents published Application period open – interested parties may send proposals
September 9, 2022, 4:00 PM Eastern	Application period closes for Round 1
October 1, 2022 (approx.)	NHDES notifies selected projects to develop contracts
November 1, 2022, 4:00 PM Eastern	Application period closes for Round 2*
December 1, 2022 (approx.)	NHDES notifies selected projects from Round 2* to develop contracts
January 1, 2023, 4:00 PM Eastern	Application period closes for Round 3
February 1, 2023 (approx.)	NHDES notifies selected projects from Round 3* to develop contracts
G&C Approval (variable timing)	Projects may begin
September 30, 2023**	All projects must be completed**
For 5 years after completion	Short usage reports every quarter (first 2 years) and year (last 3 years)

*Round 2 and Round 3 contingent on available funding after previous round project selection.

**Extensions are possible, but not guaranteed, and are contingent on EPA approval.

HOW CAN WE HELP? CONTACT US!

Granite State Clean Cities Coalition

Help with project development/ fleet analysis

Alternative Fuels Resources

- Database of vehicle/equipment options
- Cost of ownership calculators
- Case studies and usage reports
- Connections to alt fuel fleet managers & vendors

Workshops, webinars, meetings, and live demos of new technology

NHDES

Technical support – accessing, understanding, and submitting proposal materials

Eligibility determination – not sure if your project could qualify? Ask!

Examples of past projects

Note: NHDES and GSCCC staff cannot advise on a project's likelihood of being selected for funding. For best results, contact us *early*.

CONTACT INFO AND WEBSITE

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- Granite State Clean Cities Coordinator and Transportation Specialist
- NHDES / Air Resources / Mobile Sources Section
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Recommended reading order:
-Request for Proposals (read entirety)
-EPA Program Guide (as referenced in RFP)
-Proposal form (fillable document)

https://www.des.nh.gov/business-and-community/loans-and-grants/dera