CHITTENDEN COUNTY RPC
Communities Planning Together

CCRPC Transportation Advisory Committee (TAC)
May 2, 2023
Agenda Item #6

NHS Infrastructure Condition, System Reliability, and Freight Movement Performance Targets for the Metropolitan Planning Area

Background:

The Federal Transportation Acts (MAP-21 and FAST Act) placed considerable emphasis on system performance and directed State Departments of Transportation (DOTs), MPOs and Transit Providers to evaluate how well the transportation system is doing. At the national level, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have established a Transportation Performance Management (TPM) program, a strategic initiative designed to achieve national transportation performance goals. The intent is to measure progress against the national goals through a reliable data-driven process. FHWA has established measures in the following areas: Safety, Infrastructure Condition (Pavement & Bridges), Congestion, System Reliability (NHS Performance), Freight Movements (Interstate), and Environmental Sustainability. Once the *measures* were established, it was up to state DOTs and MPOs to set quantifiable *targets* to gauge progress towards national goals. The schedule to establish targets, varies by measure. Federal regulations generally have state DOTs set performance targets in various categories (safety, asset condition, system performance, etc.) and then give MPOs another 180 days to either accept the State targets or establish their own.

NHS Infrastructure Condition Measures and Targets

Established performance measures for the National Highway System (NHS) Condition are:

Pavement

1. Percentage of pavement on the Interstate in good condition
2. Percentage of pavement on the Interstate in poor condition
3. Percentage of pavement on the non-Interstate NHS in good condition
4. Percentage of pavement on the non-Interstate NHS in poor condition

Bridges

1. Percentage of NHS bridges in good condition
2. Percentage of NHS bridges in poor condition

VTrans establishes statewide pavement and bridge performance targets for the interstate and non-Interstate NHS in collaboration with the CCRPC. VTrans has submitted the statewide infrastructure performance targets to FHWA in December, 2022 (Statewide Transportation Asset Management Plan) and the CCRPC is required to act on these targets within 180 days.

Under federal regulations the CCRPC can either:

1. Accept the state targets for each performance measure and support them through programming; or
2. Define their own quantifiable targets for the MPO area.

The following tables show the NHS Infrastructure Condition (pavement and bridges) measures and targets for the Metropolitan Planning Area.

CCRPC NHS Pavement Condition as of August 23, 2022			
Interstate System		**Non-Interstate NHS**	
77.3 Total miles		47.97 Total miles	
Percentage of pavements of the Interstate in **Good** Condition 61.98 miles	80.7%	Percentage of pavements of the Non-Interstate in **Good** Condition 11.40 miles	23.8%
Target:	**28.0%**	**Target:**	**30.0%**
Percentage of pavements of the Interstate in **Poor** Condition 4 miles	5.2%	Percentage of pavements of the Non-Interstate in **Poor** Condition 3.27 miles	6.8 %
Target:	**4.9%**	**Target:**	**9.9%**
Federal Maximum:	5.0%	Federal Maximum:	10.0%

All NHS Bridges in CCRPC area	
Percentage of NHS Bridges classified as in **Good** Condition:	
Current:	52.5%
Target:	**35.0%**
Percentage of NHS Bridges classified as in **Poor** Condition:	
Current:	0.0%
Target:	**6.0%**

NHS Reliability Measures and Targets

Established performance measures for National Highway System Reliability are:

1. Interstate travel time reliability: Percent of the person-miles traveled on the Interstate that are reliable
2. Non-Interstate NHS travel time reliability: Percent of person-miles traveled on the non-Interstate NHS that are reliable
3. Freight reliability measure: Truck Travel Time Reliability (TTTR) Index (Interstate)

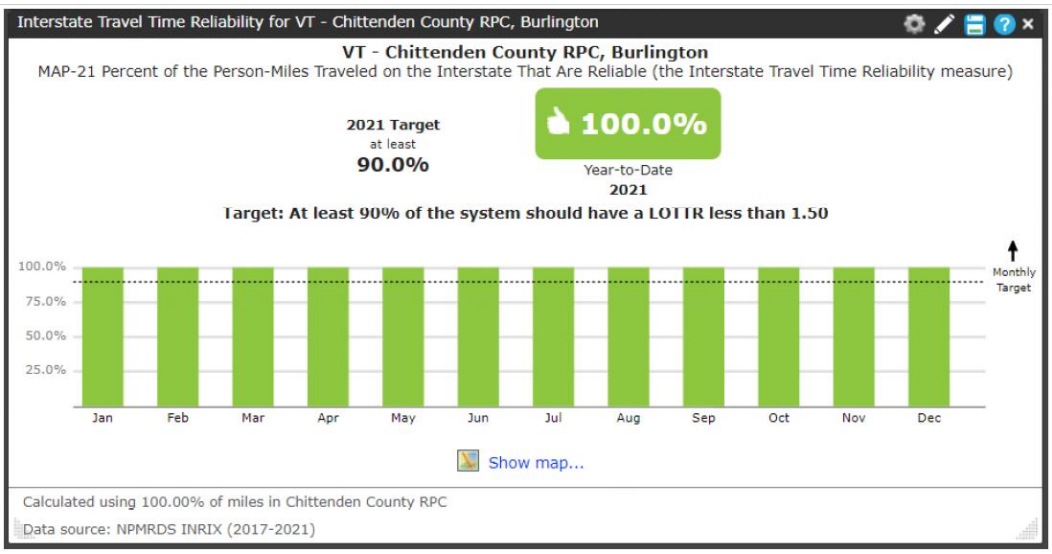
Travel time reliability is a measure of how reliable, or predictable, travel times are on the NHS over the course of a calendar year. *Truck time travel reliability* index is a measure of how reliable the truck travel time is on the Interstate.

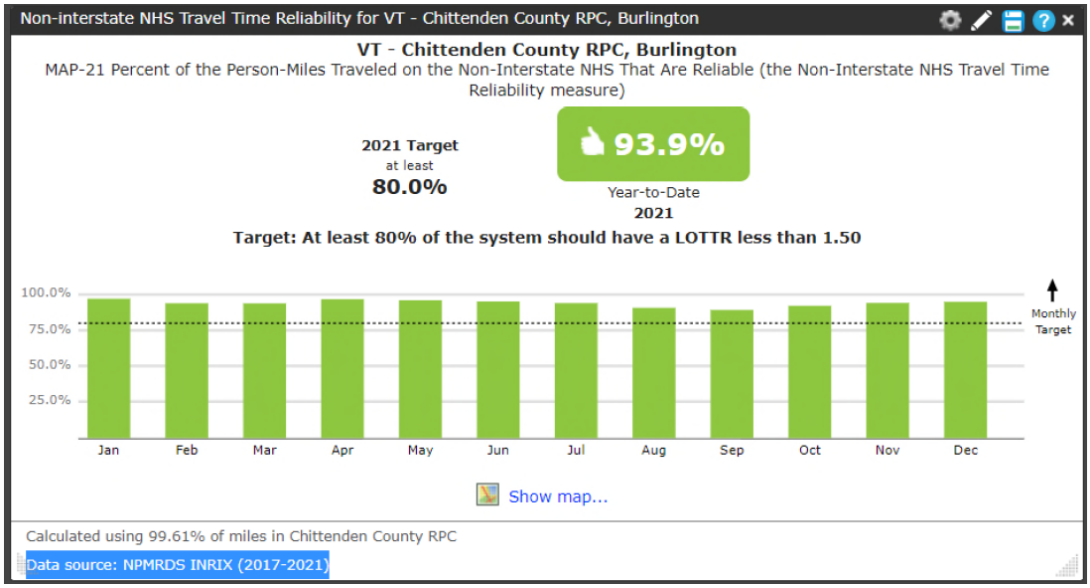
VTrans used FHWA's National Performance Management Research Data Set (NPMRDS v2) to monitor travel time performance for passenger vehicles and trucks on the NHS.

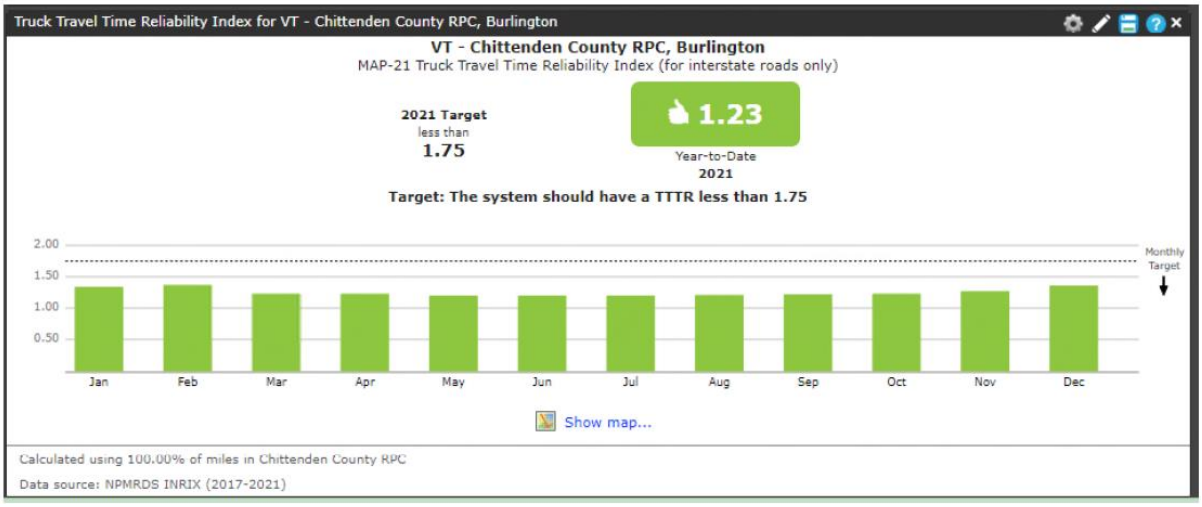
The following Travel Time Reliability and Freight targets were set for Vermont:

- Interstate travel time: 90% of the person-miles traveled are reliable
- Non-Interstate NHS travel time: 80% of person-miles traveled are reliable
- Freight reliability measure: Truck Travel Time Reliability Index less than 1.75

Graphs below indicate that targets were met for all travel reliability measures as well as freight in Chittenden County based on 2021 data.


Interstate Travel Time Reliability for VT - Chittenden County RPC, Burlington
VT - Chittenden County RPC, Burlington
MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)
2021 Target
at least
90.0%
100.0%
Year-to-Date
2021
Target: At least 90% of the system should have a LOTTR less than 1.50
100.0%
75.0%
50.0%
25.0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Monthly Target
Show map...
Calculated using 100.00% of miles in Chittenden County RPC
Data source: NPMRDS INRIX (2017-2021)


Non-interstate NHS Travel Time Reliability for VT - Chittenden County RPC, Burlington
VT - Chittenden County RPC, Burlington
MAP-21 Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)
2021 Target
at least
80.0%
93.9%
Year-to-Date
2021
Target: At least 80% of the system should have a LOTTR less than 1.50
100.0%
75.0%
50.0%
25.0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Monthly Target
Show map...
Calculated using 99.61% of miles in Chittenden County RPC
Data source: NPMRDS INRIX (2017-2021)


Truck Travel Time Reliability Index for VT - Chittenden County RPC, Burlington
VT - Chittenden County RPC, Burlington
MAP-21 Truck Travel Time Reliability Index (for interstate roads only)
2021 Target
less than
1.75
1.23
Year-to-Date
2021
Target: The system should have a TTTR less than 1.75
2.00
1.50
1.00
0.50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Monthly Target
Show map...
Calculated using 100.00% of miles in Chittenden County RPC
Data source: NPMRDS INRIX (2017-2021)

Staff Recommendation:	The TAC accepts the latest statewide NHS Infrastructure and System Reliability performance targets established by VTrans in CY2022 for the metropolitan planning area and recommends that the CCRPC Board approves these targets
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