REGIONAL PERFORMANCE MEASURES AND TARGETS

TASK FORCE MEETING

JANUARY 5, 2023

the heartbeat of HAMPTON ROADS TPO

TRANSPORTATION PLANNING ORGANIZATION

BACKGROUND

- Federal legislation requires that States and MPOs prepare and use a set of federally-established performance measures.
- States and MPOs must also set targets and monitor progress for each of these performance measures.
- HRTPO staff works in cooperation with the TTAC to produce these targets, and the TTAC formed a regional performance measures task force to assist with this.

MPO MEASURES

	Area	Measures	MPO Target Deadline
Annual Targets	Safety	Fatalities	2023 Deadline: 2/28/2023
		Fatality Rate	
		Serious Injuries	
		Serious Injury Rate	
		Bike/Pedestrian Fatalities & Serious Injuries	
	Transit	Transit Asset Management	2023 Deadline: 3/30/2023
		Transit Safety	2023 Deadline: 3/30/2023
4-Year Targets	Pavement Condition	% Interstate System pavement in good condition	3/20/2023
		% Interstate System pavement in poor condition	
		% Non-Interstate System NHS pavement in good condition	
		% Non-Interstate System NHS pavement in poor condition	
	Bridge Condition	% NHS bridge deck area in good condition	Same as above
		% NHS bridge deck area in poor condition	
	Roadway Performance	Interstate Travel Time Reliability	Same as above
		Non-Interstate NHS Travel Time Reliability	
	Freight	Truck Travel Time Reliability Index	Same as above
	CMAQ	N/A for Attainment areas	N/A

TODAY'S AGENDA

- Establish one-year regional safety targets (2023)
- 2023 regional transit asset management and transit safety targets
- Establish four-year regional targets (2025) for pavement condition, bridge condition, roadway performance, and freight

SYSTEM PERFORMANCE REPORT

MPO TARGETS

- For target setting, the MPO may:
  - Adopt VDOT statewide targets, but report metrics specific to the Metropolitan Planning Area (MPA)
  - Select unique, MPO specific targets
  - Use a combination of statewide and unique targets
- There are no “penalties” for MPOs for not meeting their performance targets, although it can be addressed during the quadrennial certification review to ensure adequate performance-based planning.

MPO PERFORMANCE MEASURES

- **Safety**
- **Transit**
- **Bridge Condition**
- **Pavement Condition**
- **Roadway Performance**
- **Freight**

SAFETY TARGETS

- MPOs must set safety targets annually for:
  - Fatalities
  - Fatality Rate
  - Serious Injuries
  - Serious Injury Rate
  - Bike/Pedestrian Fatalities and Serious Injuries

2022 HRTPO SAFETY TARGETS

- **Based on the recommendation of the task force, all of the 2022 HRTPO Safety Targets were set based on Vision Zero:**
  - **Reduce the current number of fatalities, serious injuries, and bike/ped fatalities and serious injuries by a set amount each year to reach zero by 2050, the horizon of the upcoming LRTP.**

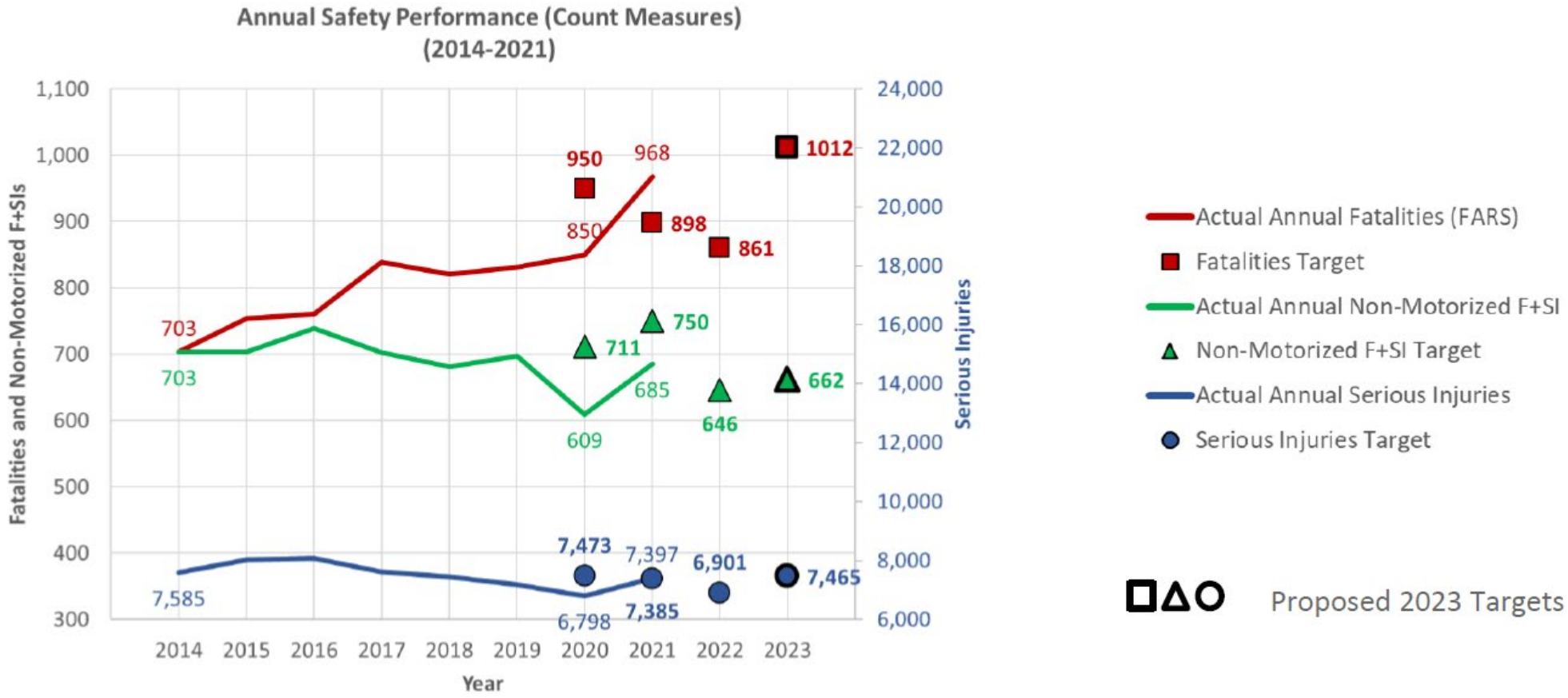
2022 HRTPO Safety Performance Targets	
Fatalities	125
Fatality Rate (per 100M VMT)	0.85
Serious Injuries	1,498
Serious Injury Rate (per 100M VMT)	10.19
Bike/Ped Fatalities and Serious Injuries Combined	179

2023 VIRGINIA STATEWIDE SAFETY TARGETS

- **The state revised its method for determining safety targets for 2020 and used similar methods to establish official 2023 safety targets.**
- **In addition, the CTB asked for aspirational safety targets this year.**

2020 - 2023 Statewide Safety Targets
CTB requested a more data-driven process
Accounts for increasing VMT, economic influences, and changing driver behavior
Based on predictive models (NCHRP 16-67) that analyze external factors (i.e. age of population, gas prices, liquor sales, emergency management spending, etc.)
Combines model predictions with anticipated crash reduction due to SMART SCALE & HSIP projects

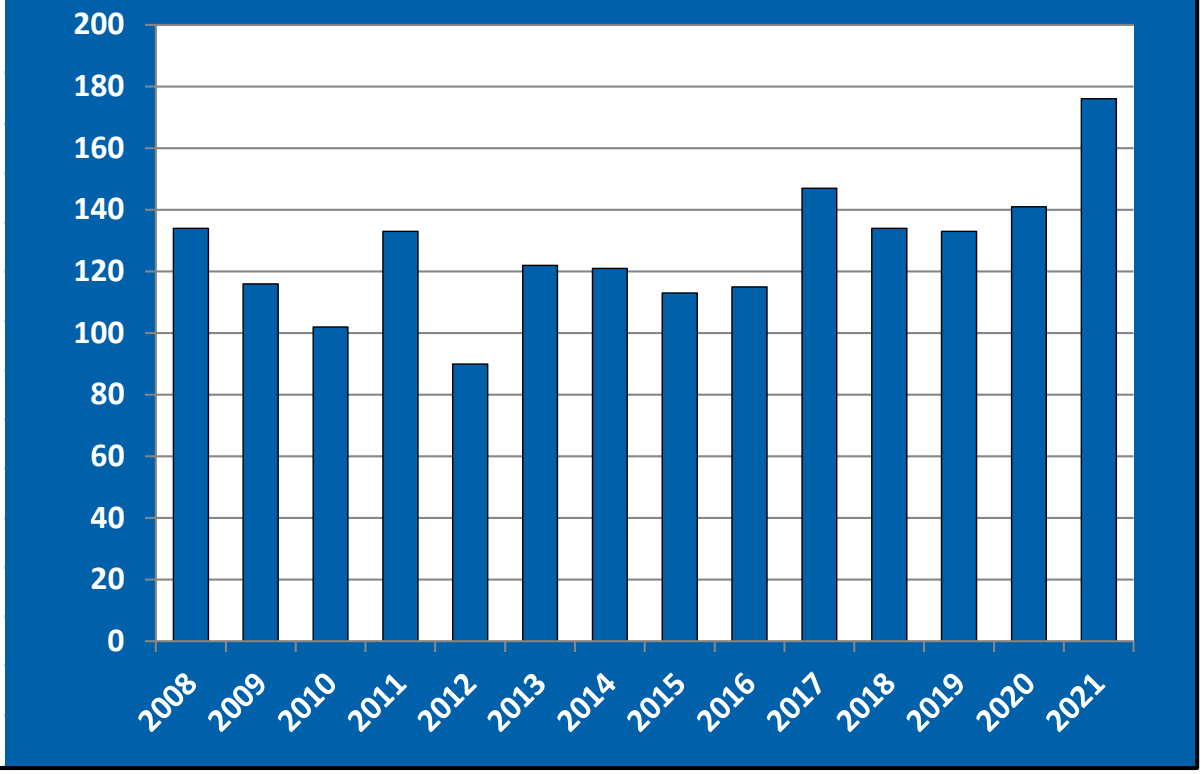
2023 VIRGINIA STATEWIDE SAFETY TARGETS



FATALITIES

HAMPTON ROADS FATALITIES – 2008 to 2021

YEAR	MPO FATALITIES
2008	134
2009	116
2010	102
2011	133
2012	90
2013	122
2014	121
2015	113
2016	115
2017	147
2018	134
2019	133
2020	141
2021	176



* 2021 data is preliminary, and is not used in the targets developed using the state method.

POSSIBLE 2023 HRTPO TARGETS

- **VISION ZERO** (Reduce by a set amount annually to reach zero by 2050) — **136**
- **2023 STATE METHOD** (Predictive Models) — **143**

FATALITY RATE

- **Fatality Rate targets (per 100M VMT) should be set by using the fatality targets and the anticipated change in regional VMT.**
  - **Statewide targets use a 0.77% annual increase in VMT from 2021 levels**

REGIONAL VMT

YEAR	VMT (100 MIL)
2008	141.5
2009	140.4
2010	142.6
2011	139.6
2012	138.5
2013	136.8
2014	134.8
2015	148.3
2016	142.6
2017	143.1
2018	142.2
2019	145.9
2020	128.8
2021	145.9
2022	147.1
2023	148.2

2021 Hampton Roads Fatality Rate = 1.20

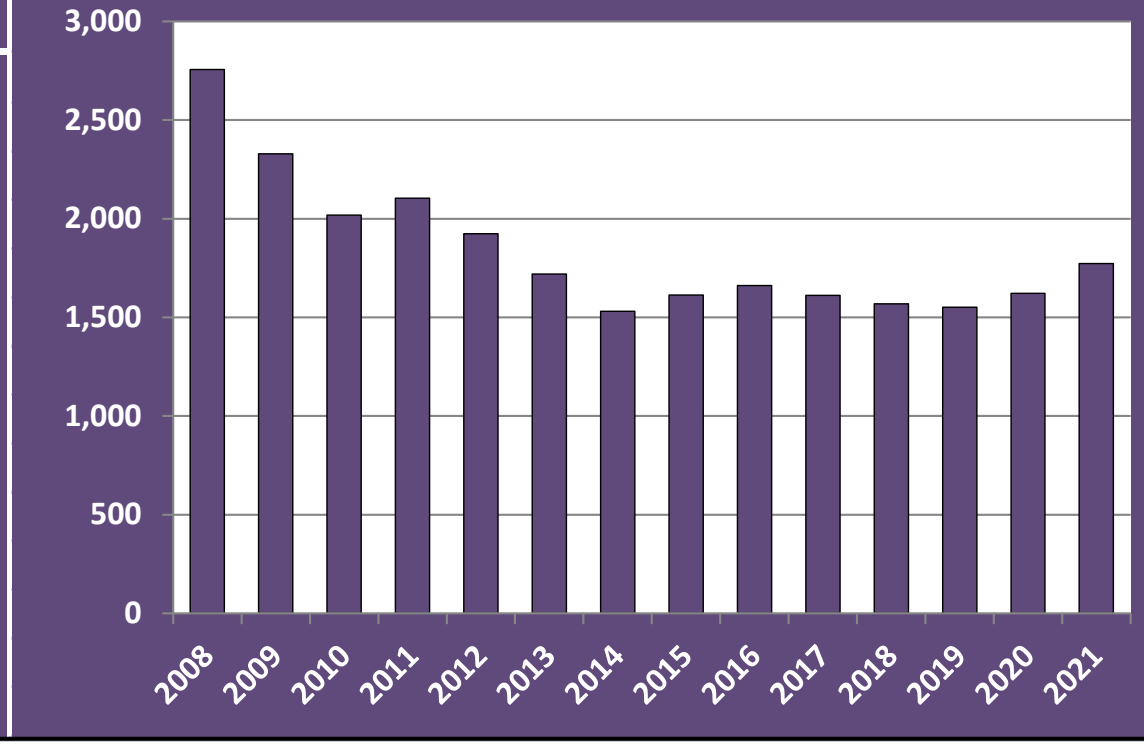
POSSIBLE 2023 HRTPO TARGETS

- **VISION ZERO** (Reduce by a set amount annually to reach zero by 2050) — **0.917**
- **2023 STATE METHOD** (Predictive Models) — **0.966**

SERIOUS INJURIES

HAMPTON ROADS SERIOUS INJURIES – 2008 to 2021

YEAR	MPO SER. INJURIES
2008	2,756
2009	2,328
2010	2,018
2011	2,103
2012	1,923
2013	1,720
2014	1,531
2015	1,613
2016	1,662
2017	1,612
2018	1,569
2019	1,552
2020	1,622
2021	1,772



POSSIBLE 2023 HRTPO TARGETS

- **VISION ZERO** (Reduce by a set amount annually to reach zero by 2050) — **1,513**
- **2023 STATE METHOD** (Predictive Models) — **1,587**

SERIOUS INJURY RATE

- **Serious Injury Rate targets (per 100M VMT) should be set by using the serious injury targets and the anticipated change in regional VMT.**
  - **Statewide targets use a 0.77% annual increase in VMT from 2021 levels**

REGIONAL VMT

YEAR	VMT (100 MIL)
2008	141.5
2009	140.4
2010	142.6
2011	139.6
2012	138.5
2013	136.8
2014	134.8
2015	148.3
2016	142.6
2017	143.1
2018	142.2
2019	145.9
2020	128.8
2021	145.9
2022	147.1
2023	148.2

2021 Hampton Roads Serious Injury Rate = 12.14

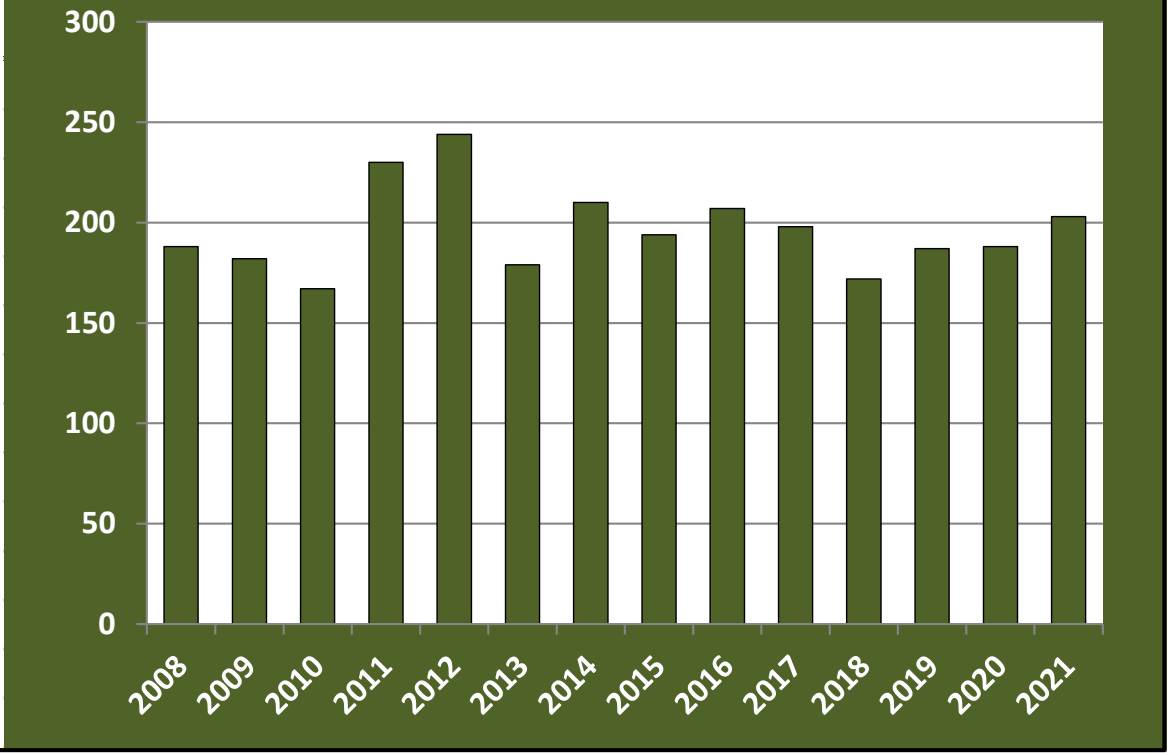
POSSIBLE 2023 HRTPO TARGETS

- **VISION ZERO** (Reduce by a set amount annually to reach zero by 2050) — **10.21**
- **2023 STATE METHOD** (Predictive Models) — **10.71**

BIKE/PEDESTRIAN FATALITIES AND SERIOUS INJURIES

HAMPTON ROADS BIKE/PED FAT & SI – 2008 to 2021

YEAR	MPO FAT & SI
2008	188
2009	182
2010	167
2011	230
2012	244
2013	179
2014	210
2015	194
2016	207
2017	198
2018	172
2019	187
2020	188
2021	203



* 2021 data is preliminary, and is not used in the targets developed using the state method.

POSSIBLE 2023 HRTPO TARGETS

- **VISION ZERO** (Reduce by a set amount annually to reach zero by 2050) — **177**
- **2023 STATE METHOD** (Predictive Models) — **187**

HRTPO 2023 PROPOSED SAFETY TARGETS

- **Consensus to continue using Vision Zero targets?**

Measure	Vision Zero (Reduce by a set amount annually to reach zero by 2050)	2023 State Method (Statewide Predictive Models)
Fatalities	136	143 (+3.7%)
Fatality Rate* (per 100M VMT)	0.917	0.966
Serious Injuries	1,513	1,587 (-0.5%)
Serious Injury Rate* (per 100M VMT)	10.21	10.71
Bike/Ped Fatalities and Serious Injuries	177	187 (-0.9%)

*Fatality and serious injury rates assume an annual 0.77% growth in VMT

**Percent changes shown are compared to the historical 5-year rolling average (2016-2020).

MPO PERFORMANCE MEASURES

- Safety
- Transit
- Bridge Condition
- Pavement Condition
- Roadway Performance
- Freight

TRANSIT ASSET MANAGEMENT (TAM) TARGETS

Asset Type	Performance Measure	Asset Classes
Rolling Stock	% of revenue vehicles within each asset class that have met or exceeded their useful life benchmark	Buses, ferry boats, light rail vehicles, trolley buses, vans.
Equipment/Service Vehicles	% of vehicles that have met or exceeded their useful life benchmark	Non-revenue automobiles, trucks, other rubber tire vehicles
Infrastructure	% of track segments, signals, and systems with performance restrictions	Light rail infrastructure
Facilities	% of facilities in each asset class rated under 3.0 on FTA's TERM scale	Passenger facilities, parking facilities, maintenance facilities, administrative facilities

TRANSIT ASSET MANAGEMENT (TAM) TARGETS

- Tier I transit agencies (HRT) must develop and carry out their own TAM plans and targets.

- Tier II transit agencies (WATA and Suffolk Transit) are eligible to participate in group TAM plans.
  - WATA and Suffolk Transit chose to use the DRPT statewide targets.

- Draft regional transit asset management targets are based on a weighted average of HRT, WATA, and Suffolk Transit targets.

HRTPO 2023 PROPOSED TAM TARGETS

Asset Type	Performance Measure	Asset Classes	2023 HRT Target	2023 WATA/Suffolk Transit Target	DRAFT 2023 HRTPO Target
Rolling Stock	% of revenue vehicles within each asset class that have met or exceeded their useful life benchmark	Bus	30%	15%	< 28%
		Cutaway Buses	21%	10%	< 17%
		Ferry Boat	20%	N/A	< 20%
		Light Rail Vehicles	0%	N/A	0%
		Minibus	N/A	20%	< 20%
		Trolley Buses	0%	15%	0%
		Van	0%	20%	0%
Equipment/ Service Vehicles	% of vehicles that have met or exceeded their useful life benchmark	Non-Revenue/ Service Vehicles	23%	30%	< 26%
		Trucks & Other Rubber Tire Vehicles	38%	30%	< 38%
Infrastructure	% of track segments, signals, and systems with performance restrictions	Light Rail Infrastructure	0%	N/A	0%
Facilities	% of facilities in each asset class rated under 3.0 on FTA's TERM scale	Passenger/Parking	0%	15%	< 1%
		Maintenance	10%	10%	< 10%
		Administrative	10%	10%	< 10%

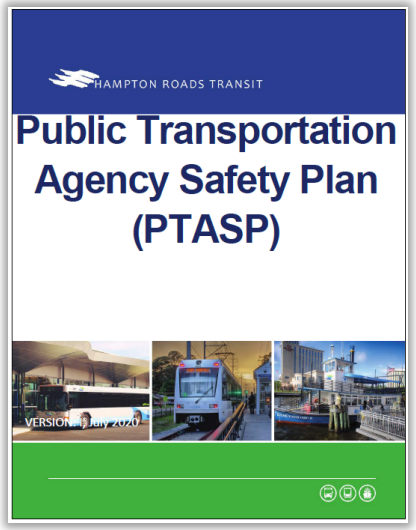
TRANSIT SAFETY TARGETS

Category	Measure
Fatalities	Total number of reportable fatalities per year
	Rate per total vehicle revenue miles by mode
Injuries	Total number of reportable injuries per year
	Rate per total vehicle revenue miles by mode
Safety Events	Total number of safety events per year
	Rate per total vehicle revenue miles by mode
System Reliability	Distance between major failures

TRANSIT SAFETY TARGETS

- **Similar to transit asset management, Tier I transit agencies must develop and carry out their own Public Transportation Agency Safety Plans (PTASPs), and Tier II transit agencies are eligible to participate in group PTASPs.**

- **Draft regional transit safety targets are based on a weighted average of HRT, WATA, and Suffolk Transit targets.**



2023 TRANSIT SAFETY TARGETS - HRT

		HRT			
Category	Measure	Bus	Demand Response	Light Rail	Vanpool
Fatalities	Total number of reportable fatalities per year	0	0	0	0
	Rate per total vehicle revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Injuries	Total number of reportable injuries per year	76	0	0	0
	Rate per total vehicle revenue miles	< 8.68 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Safety Events	Total number of safety events per year	56	0	5	0
	Rate per total vehicle revenue miles	< 6.40 per 100,000 revenue miles	0 per 100,000 revenue miles	< 15.40 per 100,000 revenue miles	0 per 100,000 revenue miles
System Reliability	Distance between major failures	> 10,000 miles	> 30,000 miles	> 9,470 miles	> 498,800 miles
	Distance between minor failures	-	-	-	-

2023 TRANSIT SAFETY TARGETS – WATA AND SUFFOLK TRANSIT

		WATA		SUFFOLK TRANSIT	
Category	Measure	Bus	Demand Response	Bus	Demand Response
Fatalities	Total number of reportable fatalities per year	0	0	0	0
	Rate per total vehicle revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Injuries	Total number of reportable injuries per year	6	0	1	0
	Rate per total vehicle revenue miles	< 0.5 per 100,000 revenue miles	< 0.5 per 100,000 revenue miles	< 0.5 per 100,000 revenue miles	< 0.5 per 100,000 revenue miles
Safety Events	Total number of safety events per year	12	1	3	0
	Rate per total vehicle revenue miles	< 1.0 per 100,000 revenue miles	< 1.0 per 100,000 revenue miles	< 1.0 per 100,000 revenue miles	< 1.0 per 100,000 revenue miles
System Reliability	Distance between major failures	> 10,000 miles	> 10,000 miles	> 10,000 miles	> 10,000 miles
	Distance between minor failures	> 3,200 miles	> 3,200 miles	> 3,200 miles	> 3,200 miles

HRTPO 2023 PROPOSED TRANSIT SAFETY TARGETS

		DRAFT HRTPO 2023 TARGETS			
Category	Measure	Bus	Demand Response	Light Rail	Vanpool
Fatalities	Total number of reportable fatalities per year	0	0	0	0
	Rate per total vehicle revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Injuries	Total number of reportable injuries per year	< 83	0	0	0
	Rate per total vehicle revenue miles	< 7.62 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Safety Events	Total number of safety events per year	< 71	< 1	< 5	0
	Rate per total vehicle revenue miles	< 5.70 per 100,000 revenue miles	< 0.04 per 100,000 revenue miles	< 15.40 per 100,000 revenue miles	0 per 100,000 revenue miles
System Reliability	Distance between major failures	> 10,000 miles	> 29,249 miles	> 9,470 miles	> 498,800 miles

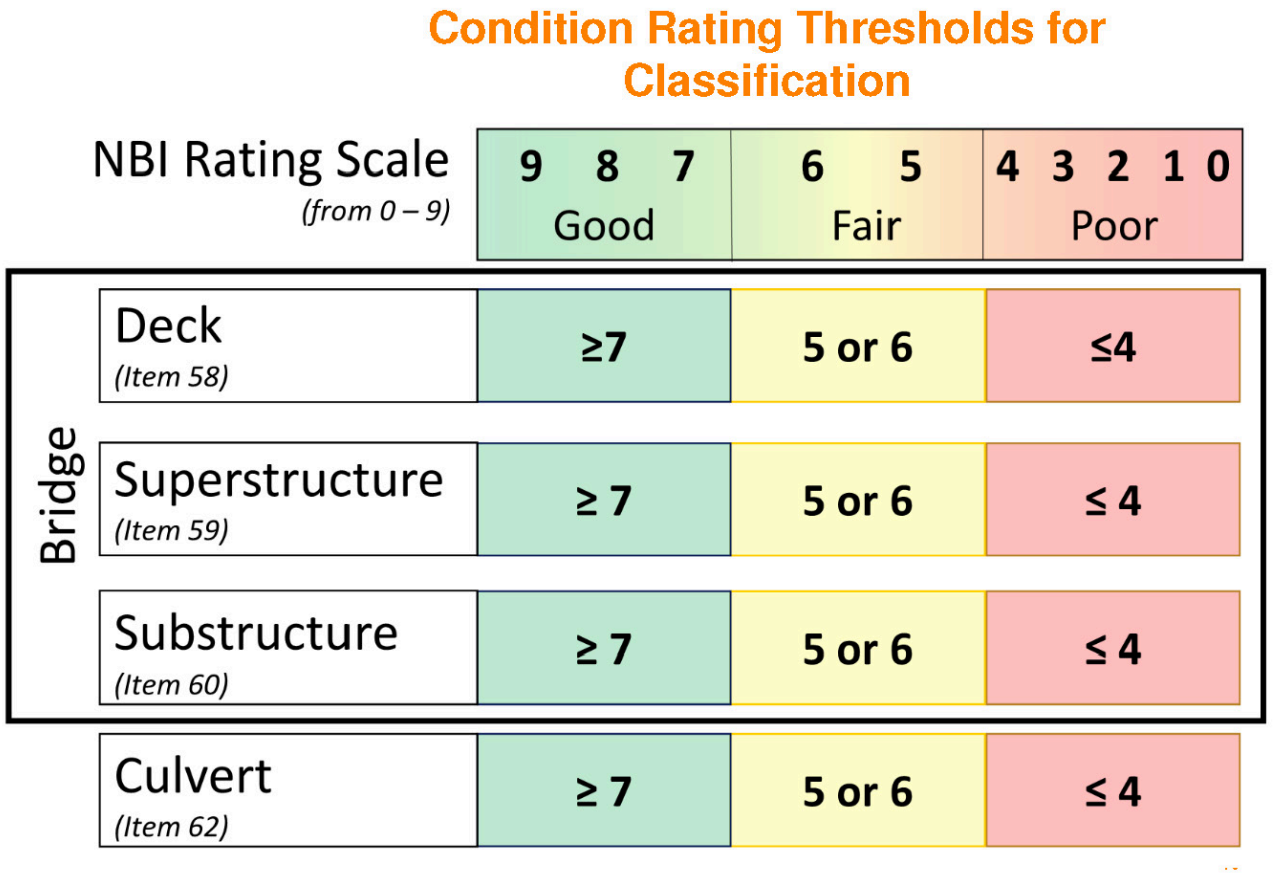
MPO PERFORMANCE MEASURES

- Safety
- Transit
- **Bridge Condition**
- Pavement Condition
- Roadway Performance
- Freight

BRIDGE CONDITION

- MPOs must set four-year targets for:
  - % NHS bridge deck area in good condition
  - % NHS bridge deck area in poor condition
- Only includes bridges included in the National Bridge Inventory
  - Must carry a roadway ➡ Open to general public ➡ > 20’ in length
- Previously, HRTPO established a target for poor condition (< 3.0%) that matched the statewide target, and a good condition target (> 27%) that was based on maintaining the percentage of bridge deck area that was in good condition at that time.

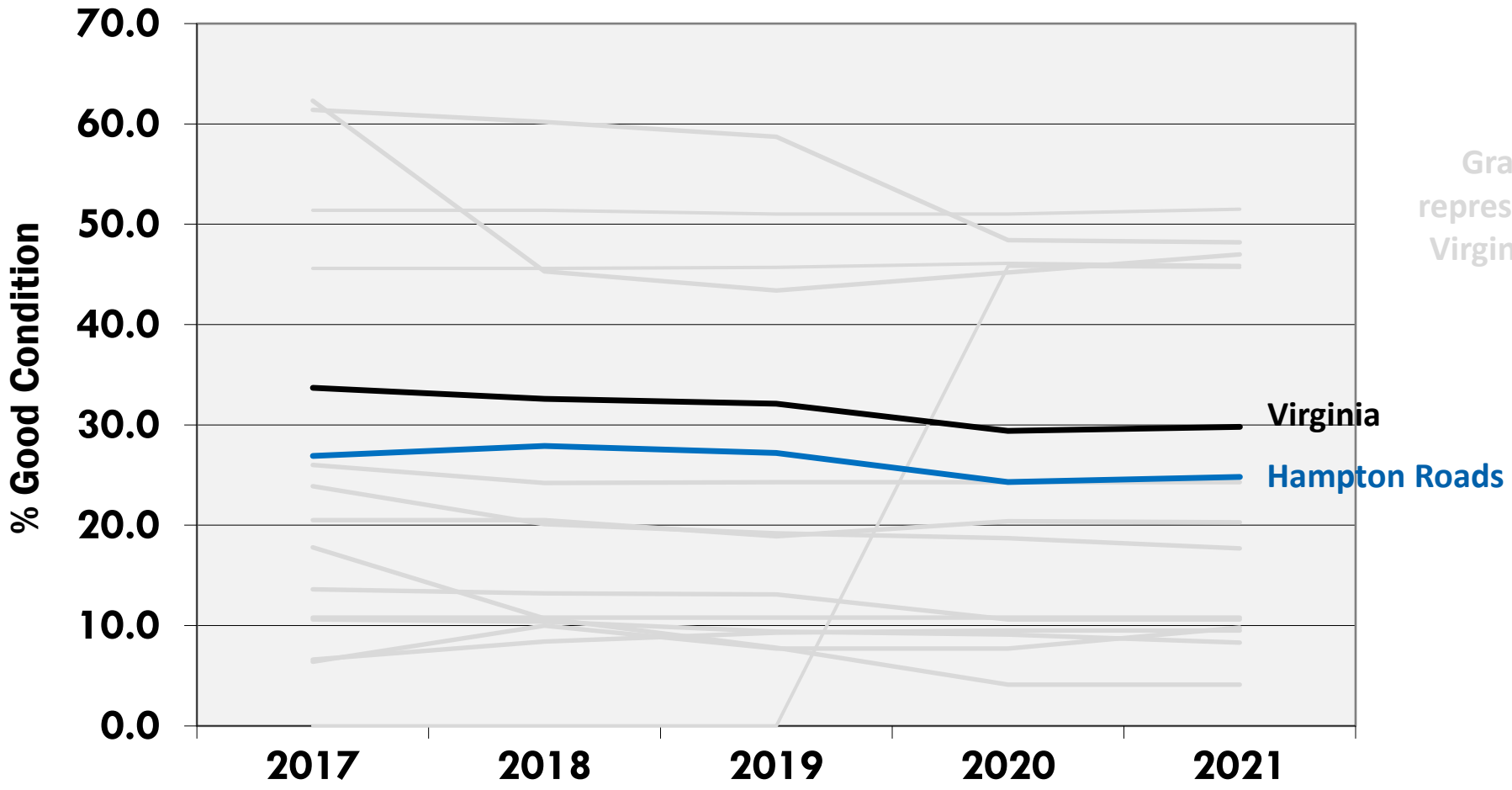
BRIDGE CONDITION



Bridge Condition is determined by the lowest condition rating

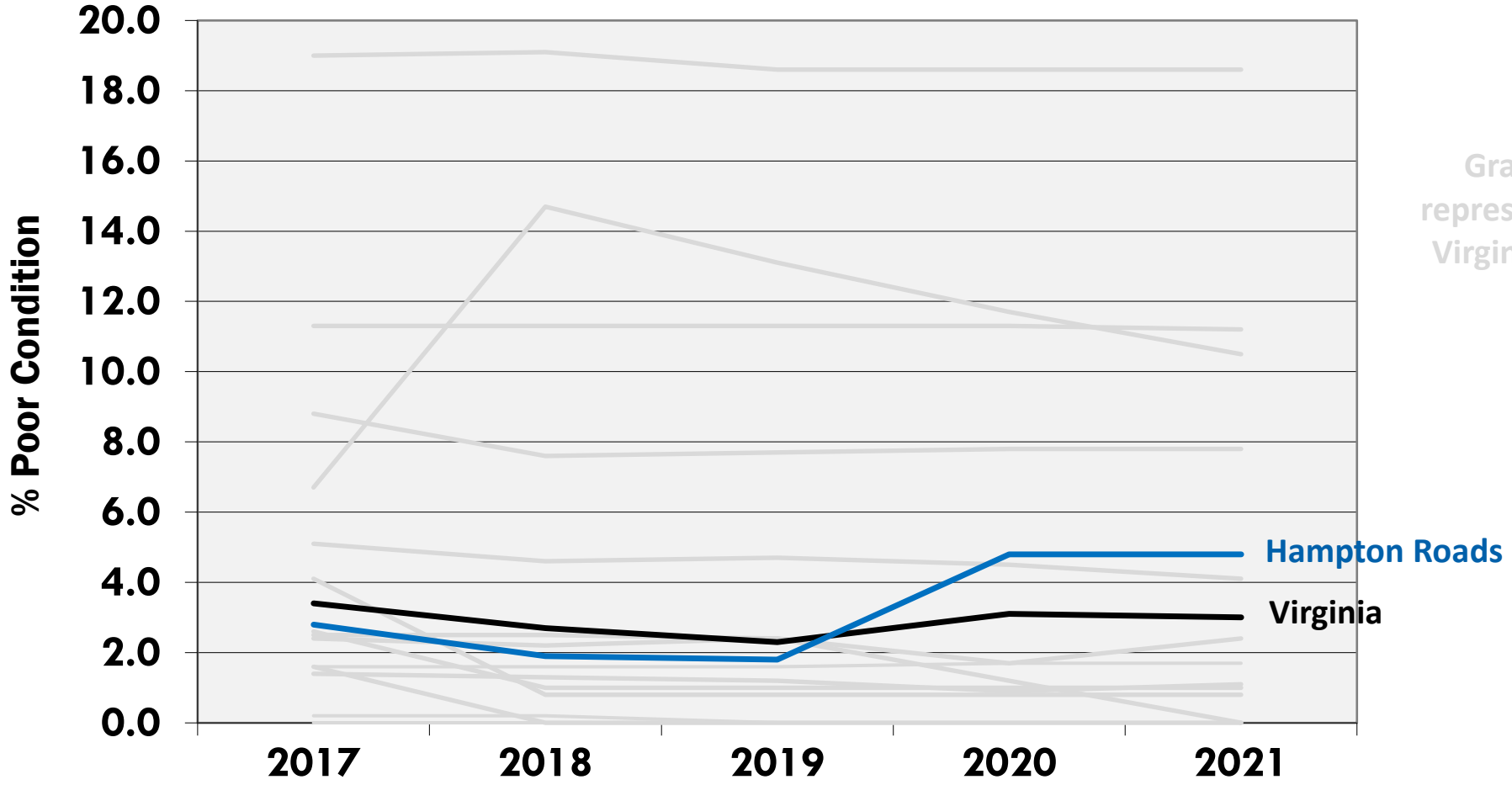
BRIDGE CONDITION

% Bridge Deck Area in Good Condition – NHS



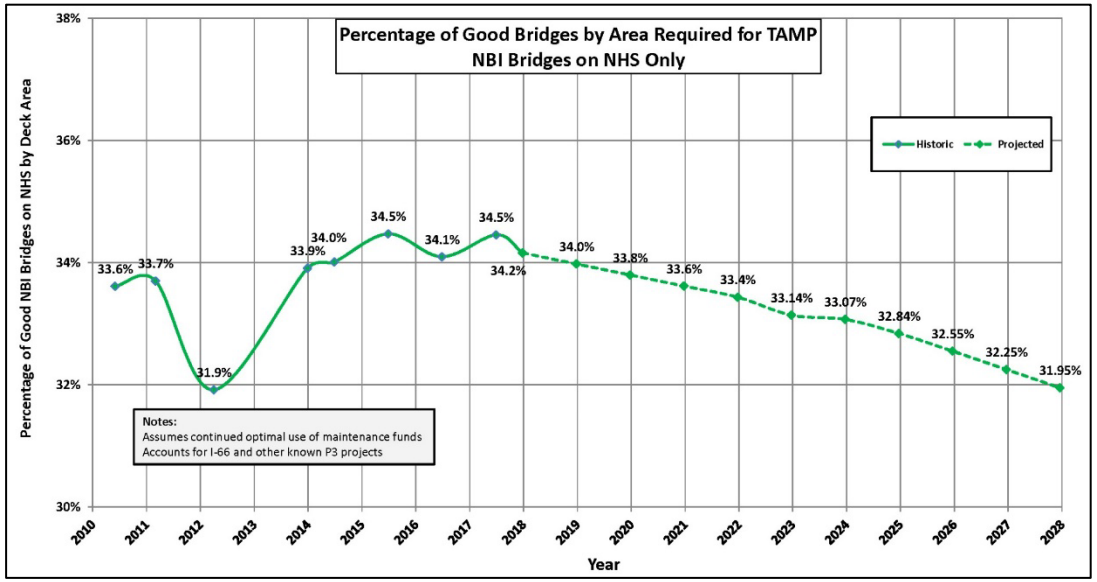
BRIDGE CONDITION

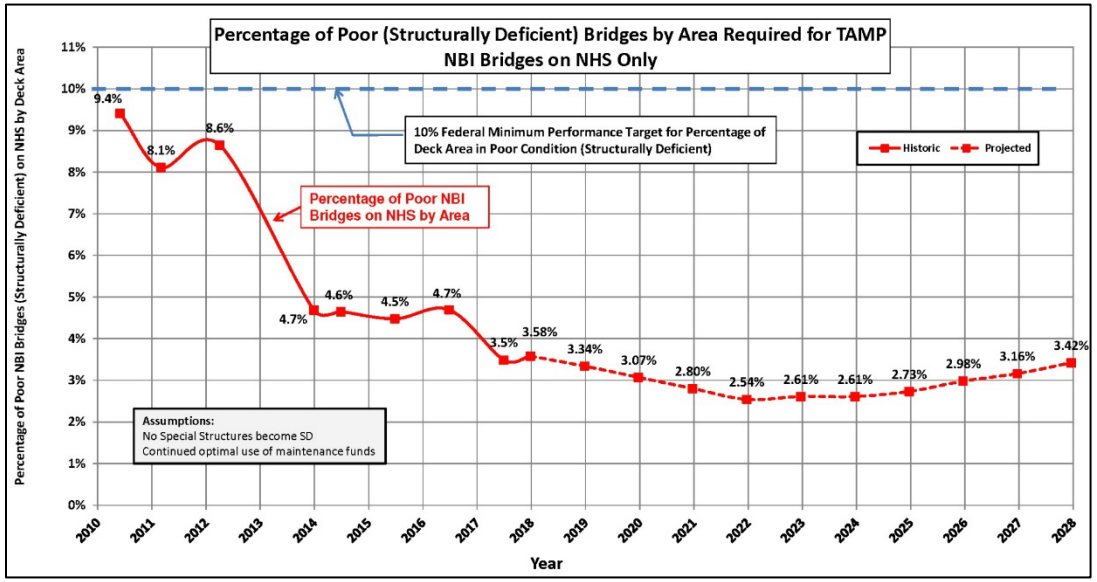
% Bridge Deck Area in Poor Condition – NHS



Gray lines represent other Virginia MPOs

BRIDGE CONDITION





HRTPO 2025 PROPOSED BRIDGE CONDITION TARGETS

Measure	Virginia Current Value (2021)	VDOT Approved 4-Year Target (2025)	HRTPO Current Value (2021)	HRTPO Staff Recommended 4-Year Target (2025)	Working Group Recommended Target
NHS Deck Area - Good Condition	29.8%	> 25.1%	24.8%	> 25.1% (match state target)	
NHS Deck Area - Poor Condition	3.0%	< 3.6%	4.8%	< 3.6% (match state target)	

MPO PERFORMANCE MEASURES

- Safety
- Transit
- Bridge Condition
- Pavement Condition
- Roadway Performance
- Freight

PAVEMENT CONDITION

- MPOs must set four-year targets for:
  - % Interstate System pavement in good condition
  - % Interstate System pavement in poor condition
  - % Non-Interstate System NHS pavement in good condition
  - % Non-Interstate System NHS pavement in poor condition

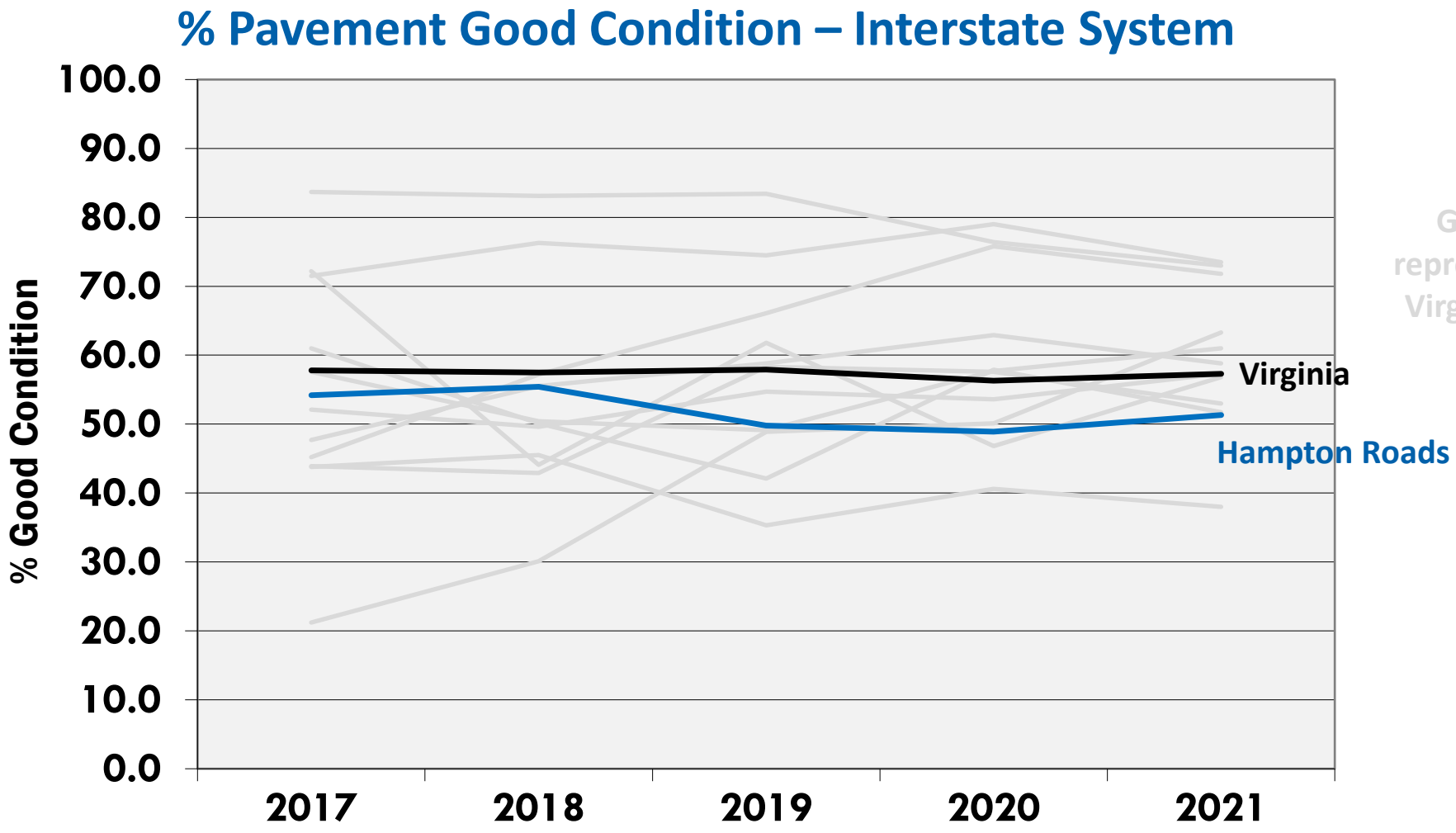
- Previously, HRTPO established pavement condition targets that matched the statewide targets established by the CTB.

PAVEMENT CONDITION

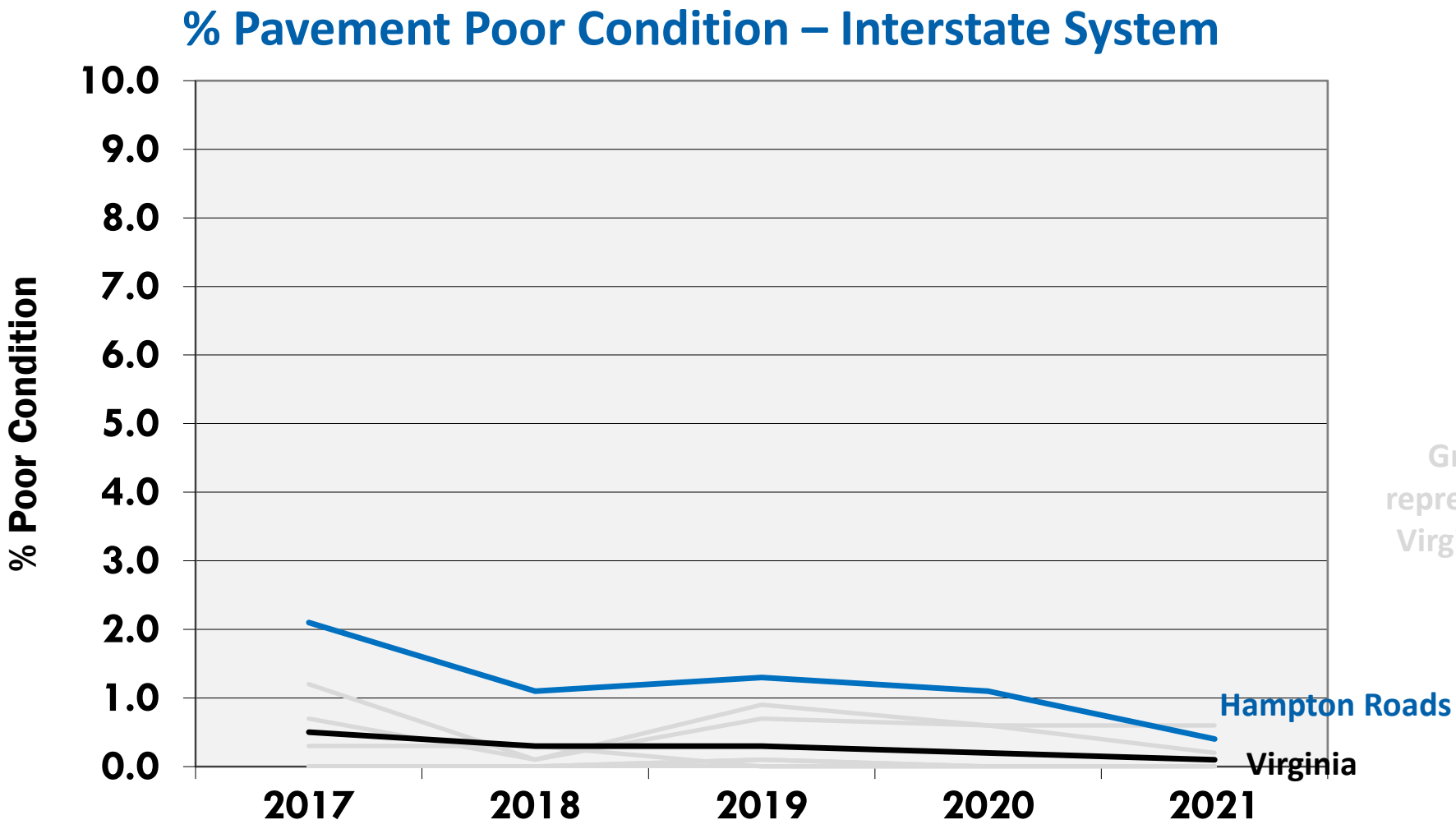
	Good	Fair	Poor
IRI (inches/mile)	<95	95-170	>170
Rutting (inches)	<0.20	0.20-0.40	>0.40
Faulting (inches)	<0.10	0.10-0.15	>0.15
Cracking (%)	<5	5-20 (asphalt) 5-15 (JCP) 5-10 (CRCP)	>20 (asphalt) >15 (JCP) >10 (CRCP)

	Pavement Type			
	Asphalt and Jointed Concrete	Continuous Concrete		
Overall Section Condition Rating	3 metric ratings (IRI, cracking and rutting/faulting)	2 metric ratings (IRI and cracking)		Measures
Good	All three metrics rated "Good"	Both metrics rated "Good"	→	percentage of lane-miles in "Good" condition
Poor	≥ 2 metrics rated "Poor"	Both metrics rated "Poor"	→	percentage of lane-miles in "Poor" condition
Fair	All other combinations	All other combinations		

PAVEMENT CONDITION

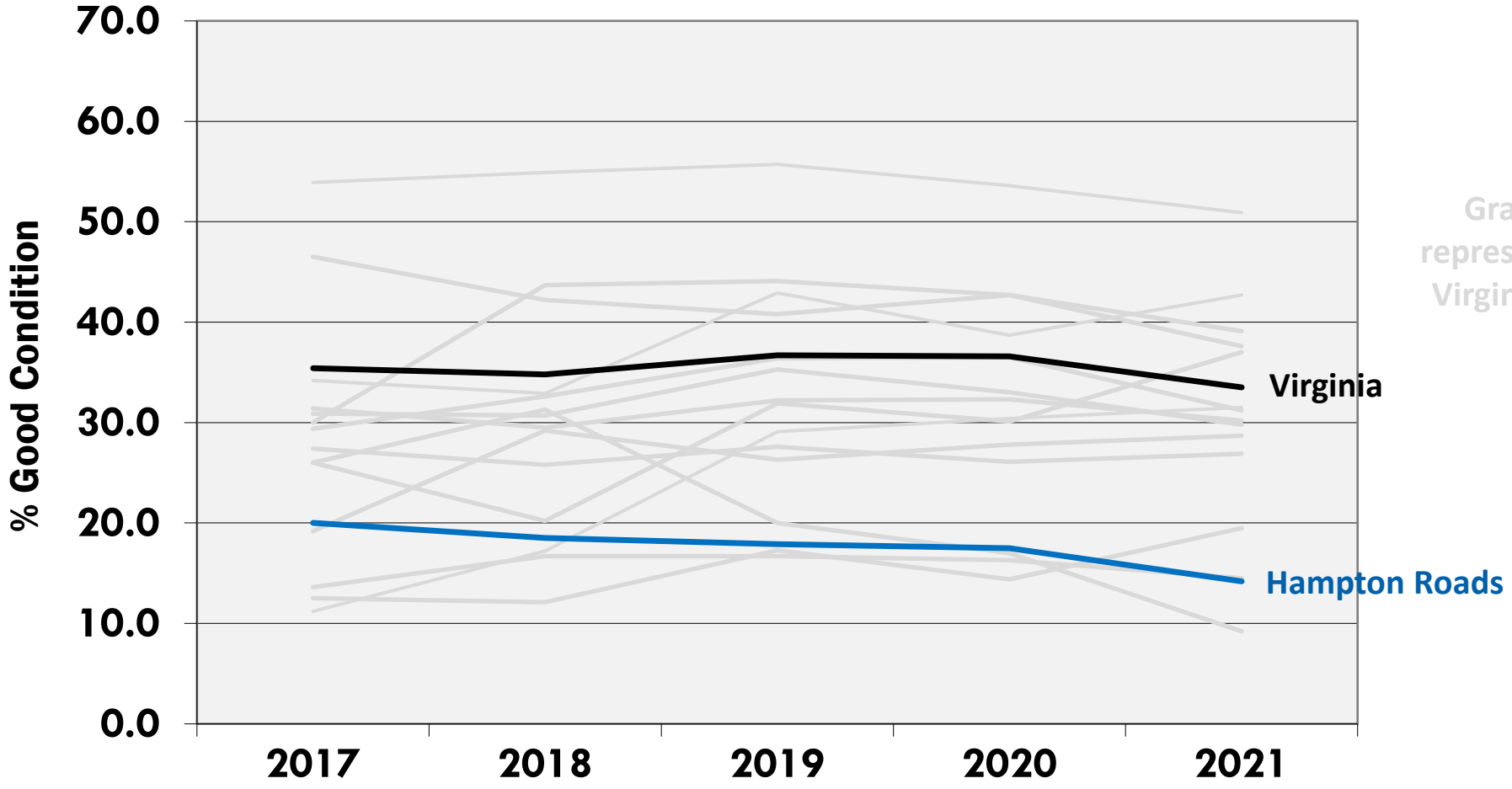


PAVEMENT CONDITION



PAVEMENT CONDITION

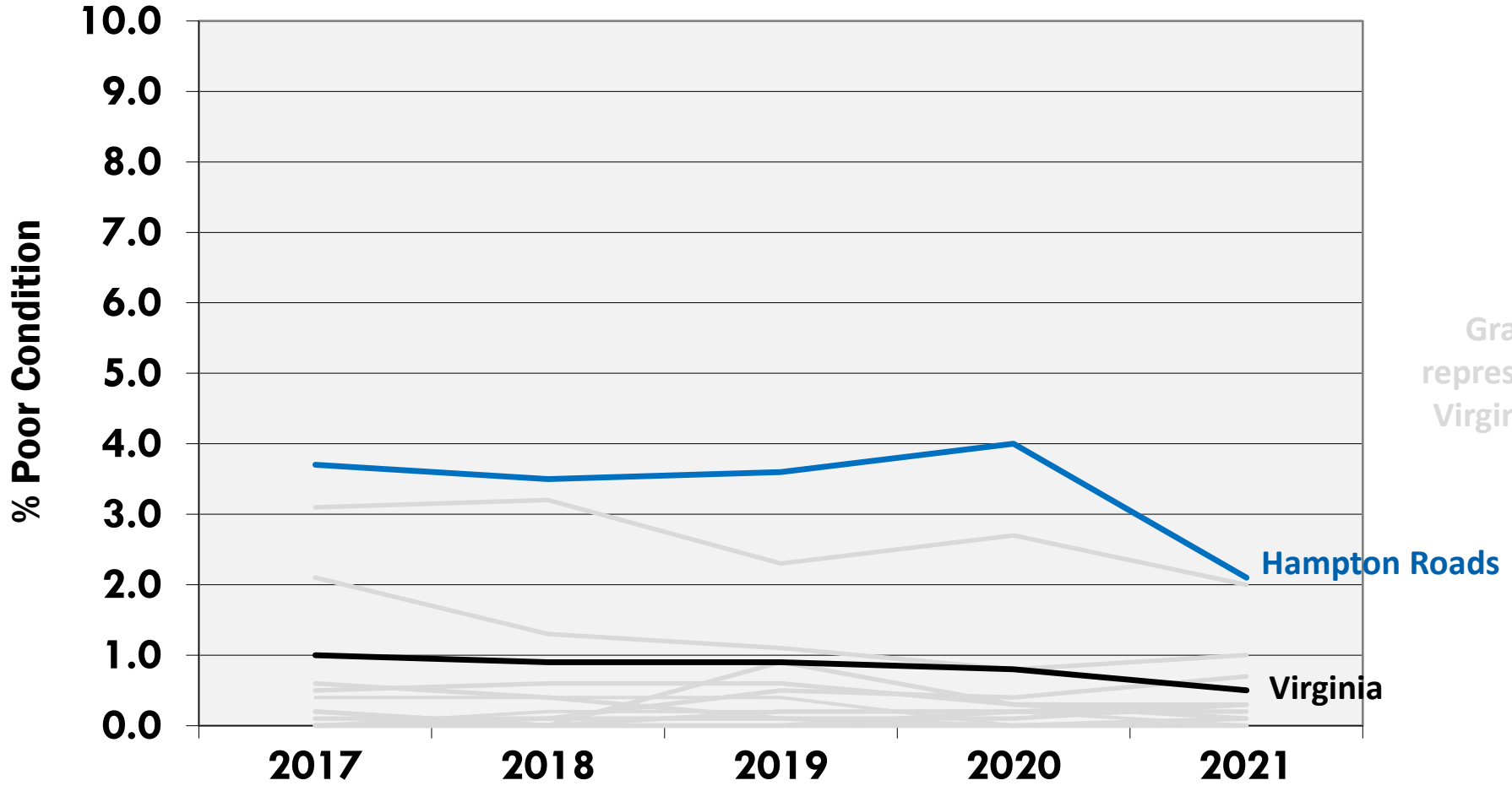
% Pavement Good Condition – Non-Interstate NHS



Gray lines represent other Virginia MPOs

PAVEMENT CONDITION

% Pavement Poor Condition – Non-Interstate NHS



HRTPO 2025 PROPOSED PAVEMENT CONDITION TARGETS

Measure	VDOT Current Value (2021)	VDOT Approved 4-Year Target (2025)	HRTPO Current Value (2021)	HRTPO Staff Recommended 4-Year Target (2025)	Working Group Recommended Target
Interstate System - Good	57.3%	> 45%	51.3%	> 45% (match state target)	
Interstate System - Poor	0.1%	< 3%	0.4%	< 3% (match state target)	
Non-Interstate System NHS - Good	33.5%	> 25%	14.2%	> 14% (maintain current level)	
Non-Interstate System NHS - Poor	0.5%	< 5%	2.1%	< 5% (match state target)	

MPO PERFORMANCE MEASURES

- Safety
- Transit
- Bridge Condition
- Pavement Condition
- Roadway Performance
- Freight

ROADWAY PERFORMANCE

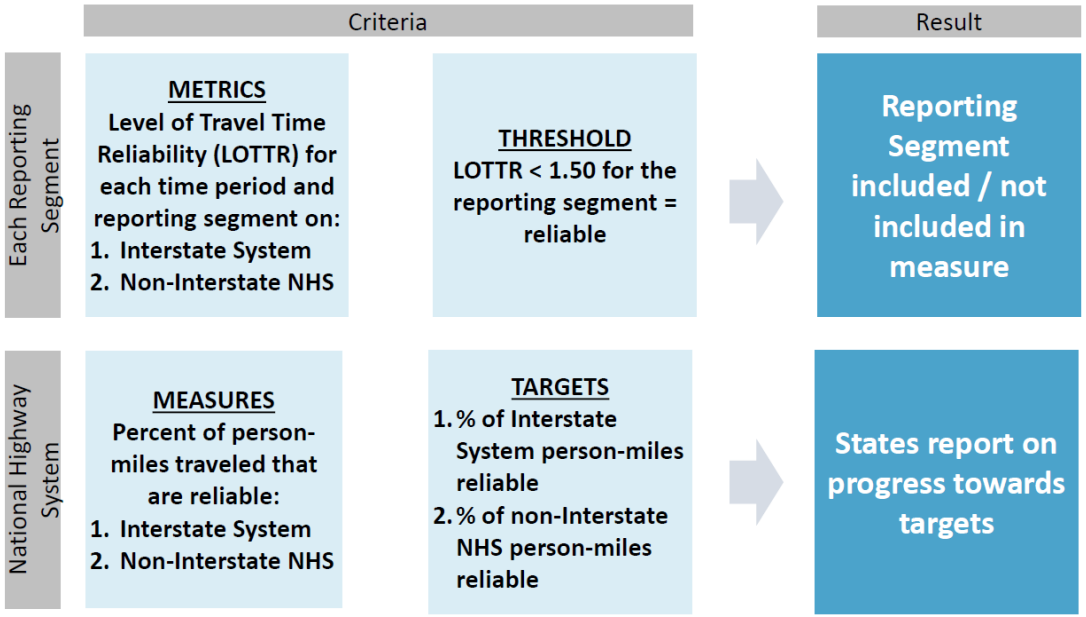
- MPOs must set four-year targets for:
  - Interstate Travel Time Reliability
  - Non-Interstate System NHS Travel Time Reliability

- Previously, HRTPO established roadway performance targets that matched the statewide targets established by the CTB, largely due to the unknown impacts that the regional priority projects would have on reliability.

ROADWAY PERFORMANCE

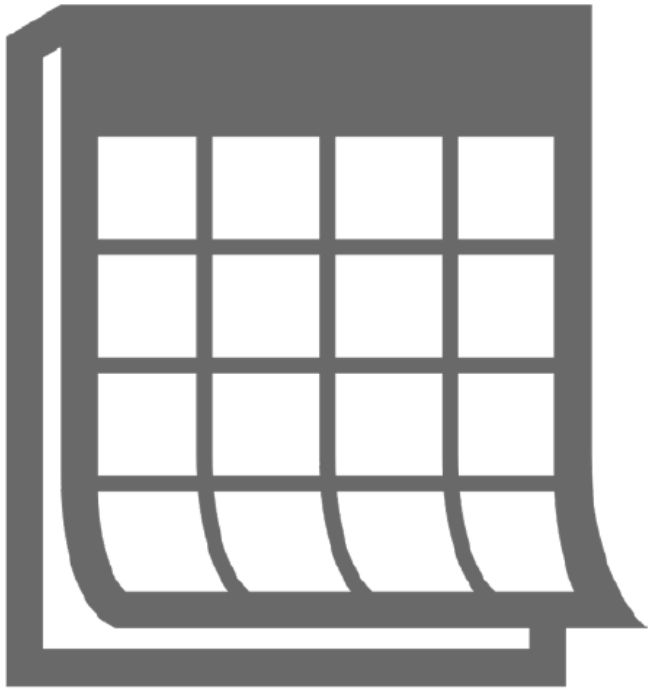
- **The roadway performance metric is Level of Travel Time Reliability (LOTTR), which is the ratio of the 80th percentile travel time to the mean (50th percentile) travel time.**
- **The measure is the percent of person-miles traveled on the portion of the NHS that are reliable.**

Travel Time Reliability Measure



Four Time Horizons

Full Year (Jan 1-Dec 31)



Weekdays (Mon – Fri)

- 6 – 10am
- 10am – 4pm
- 4 – 8pm

Weekends

- 6am – 8pm

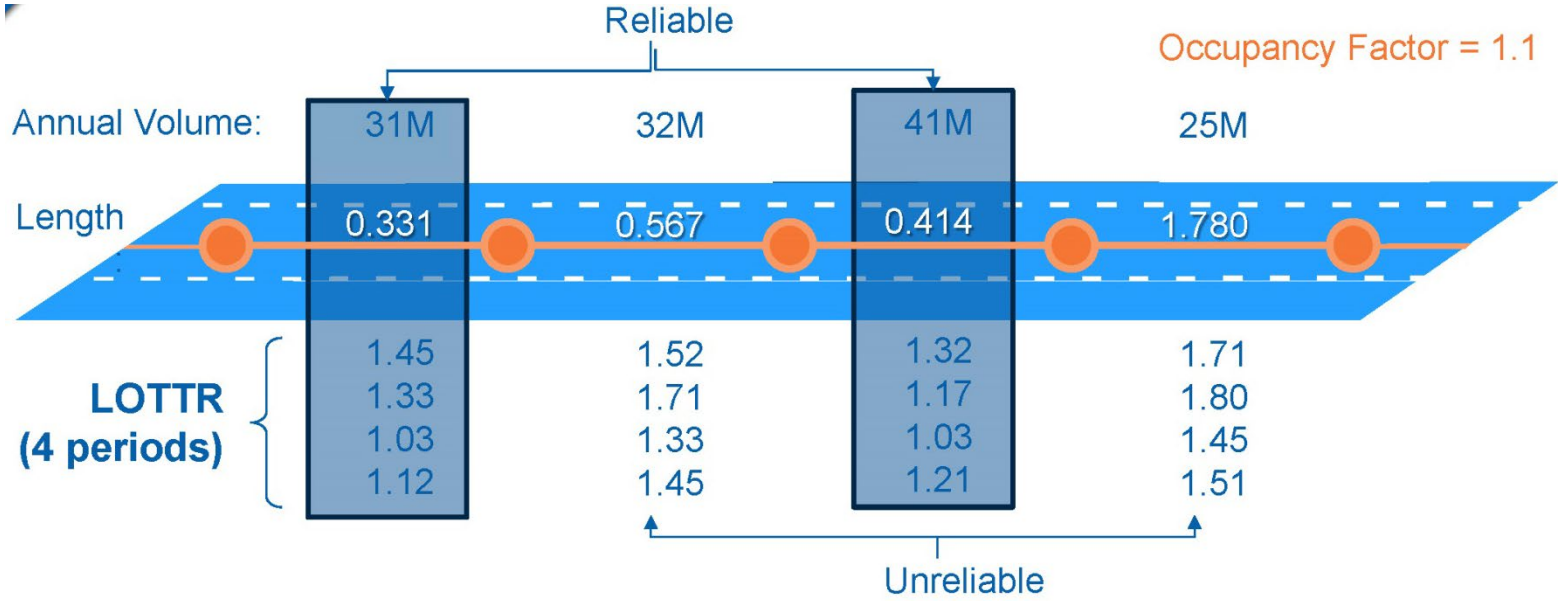
Four Total Time Periods

LOTTR Calculation Example

$$\frac{\text{Longer Travel Time (80th)}}{\text{Normal Travel Time (50th)}} = \frac{\text{\# seconds}}{\text{\# seconds}} = \text{Level of Travel Time Reliability Ratio}$$

Level of Travel Time Reliability (LOTTR) *(Single Segment, Interstate Highway System)*		
Monday – Friday	6am – 10am	$\text{LOTTR} = \frac{44 \text{ sec}}{35 \text{ sec}} = 1.26$
	10am – 4pm	LOTTR = 1.39
	4pm – 8pm	LOTTR = 1.54
Weekends	6am – 8pm	LOTTR = 1.31
Must exhibit LOTTR below 1.50 during **all** of the time periods		Segment is not reliable

Travel Time Reliability Measure Example



$$\text{Travel Time Reliability Measure} = \frac{(0.331 \times 31 \times 1.1) + (0.414 \times 41 \times 1.1)}{(0.331 \times 31 \times 1.1) + (0.567 \times 32 \times 1.1) + (0.414 \times 41 \times 1.1) + (1.780 \times 25 \times 1.1)}$$

$$= \frac{11.287 + 18.671}{11.287 + 19{,}958 + 18.671 + 48.950}$$

$$= \frac{29.958}{98.866}$$

$$= 30.3\%$$

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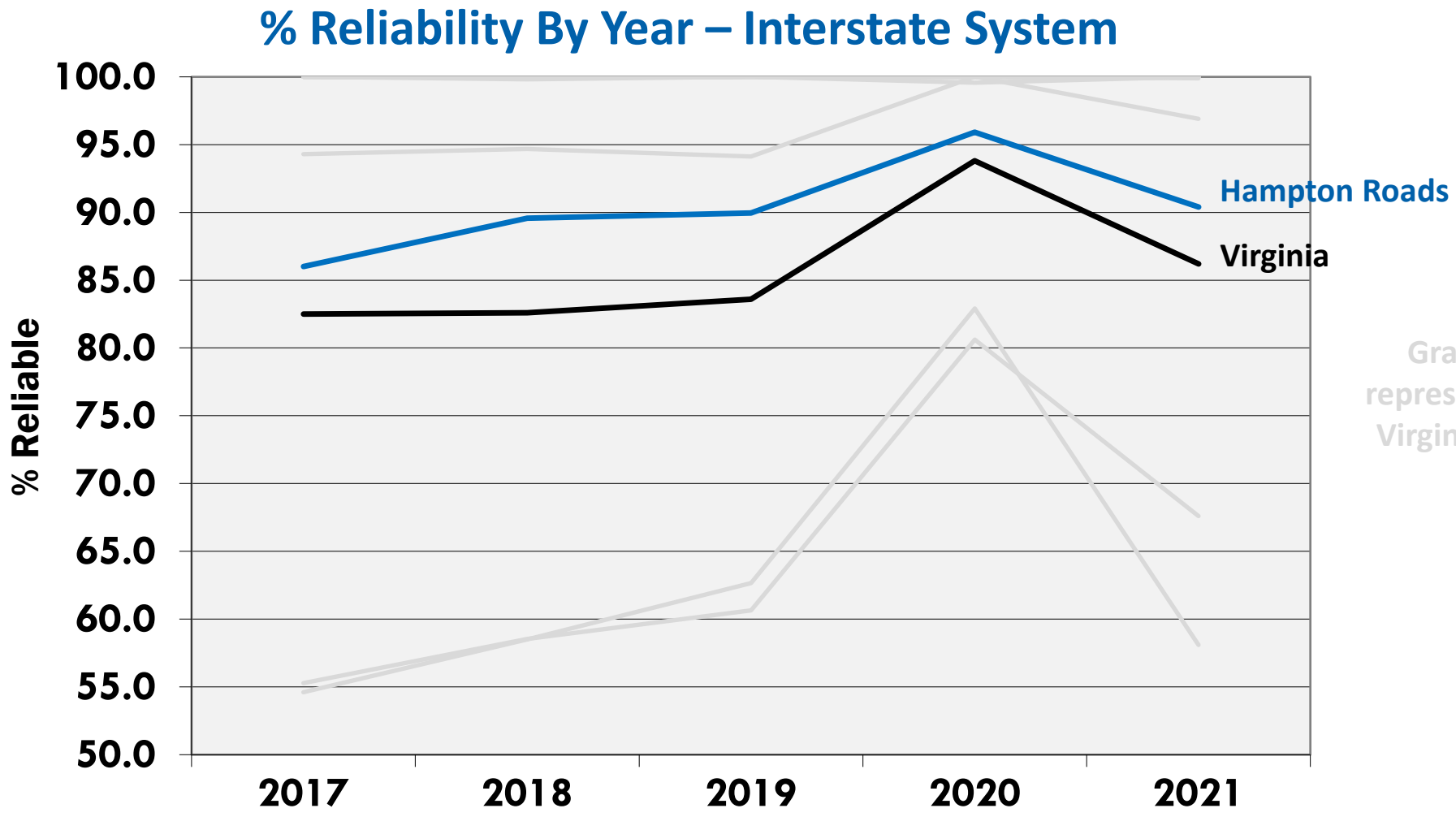
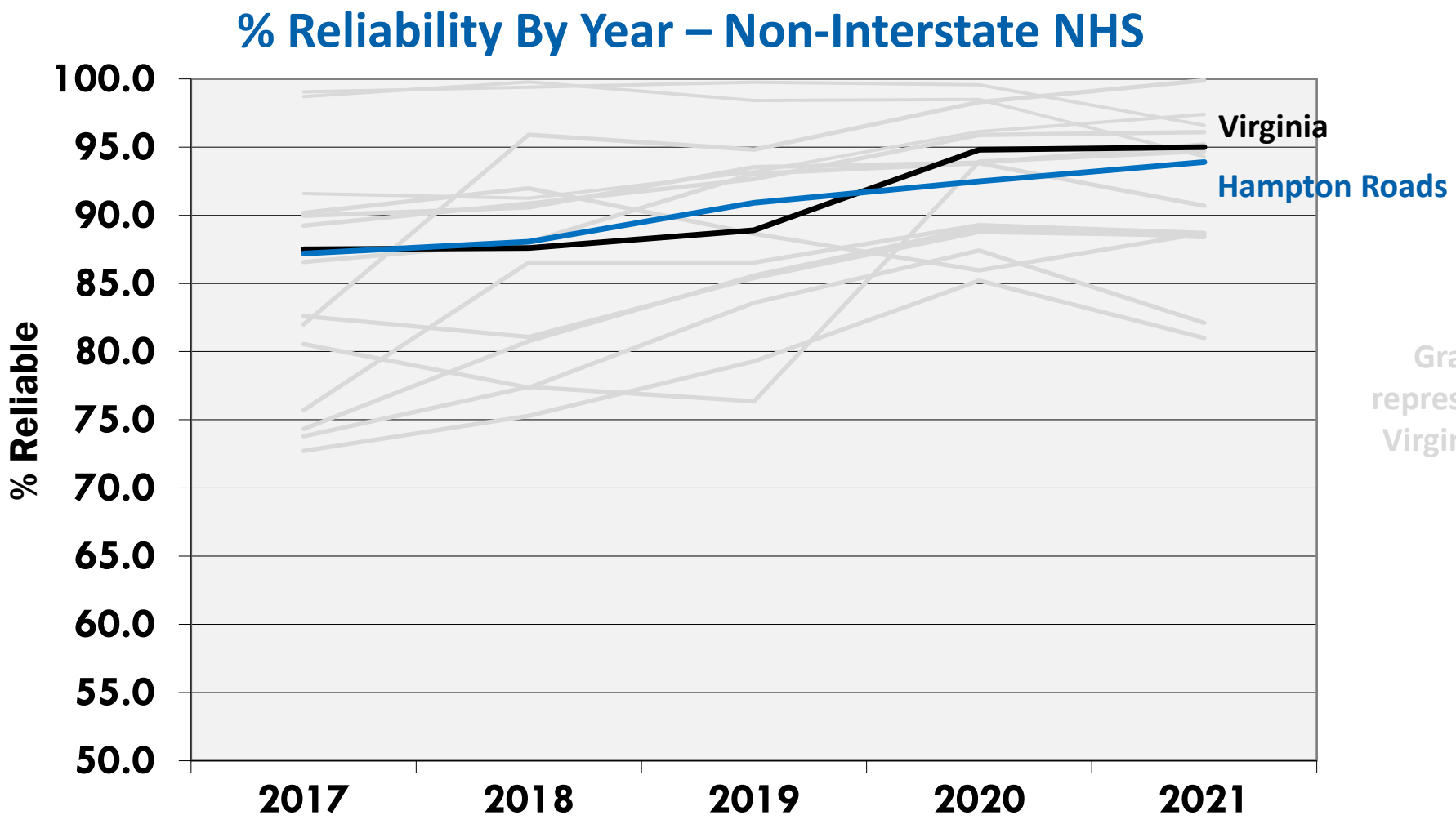
ROADWAY PERFORMANCE

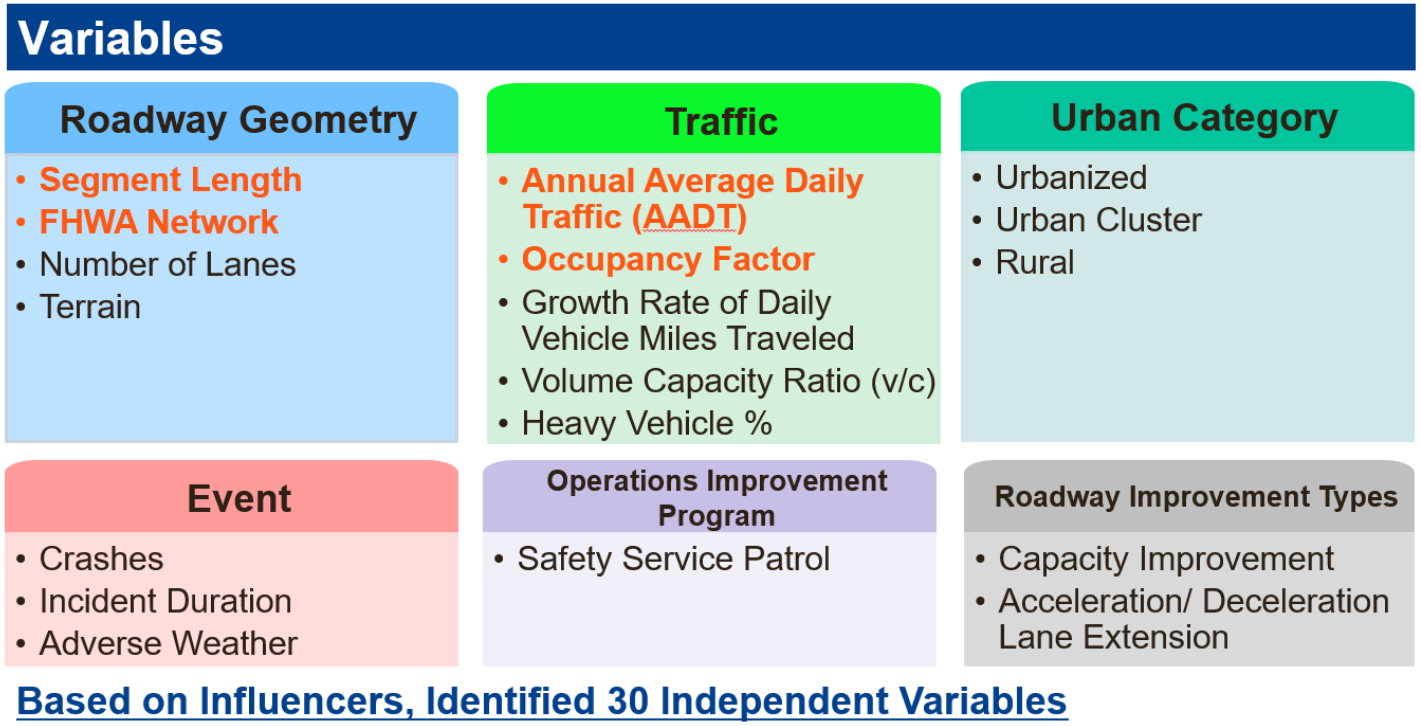


ROADWAY PERFORMANCE



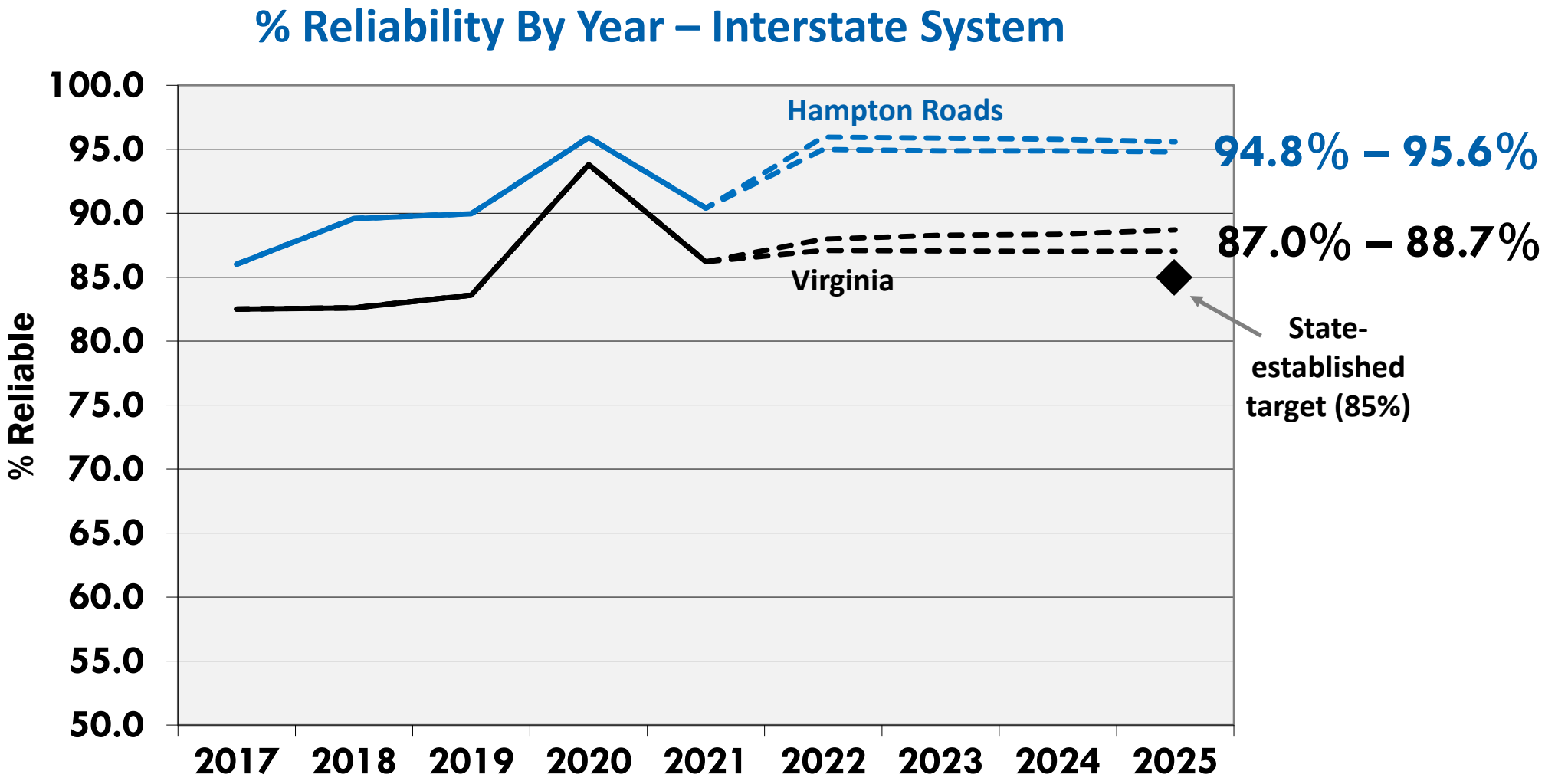
ROADWAY PERFORMANCE

- **VDOT staff estimated future reliability values for both the state and each MPO based on a model they created that includes a number of variables.**

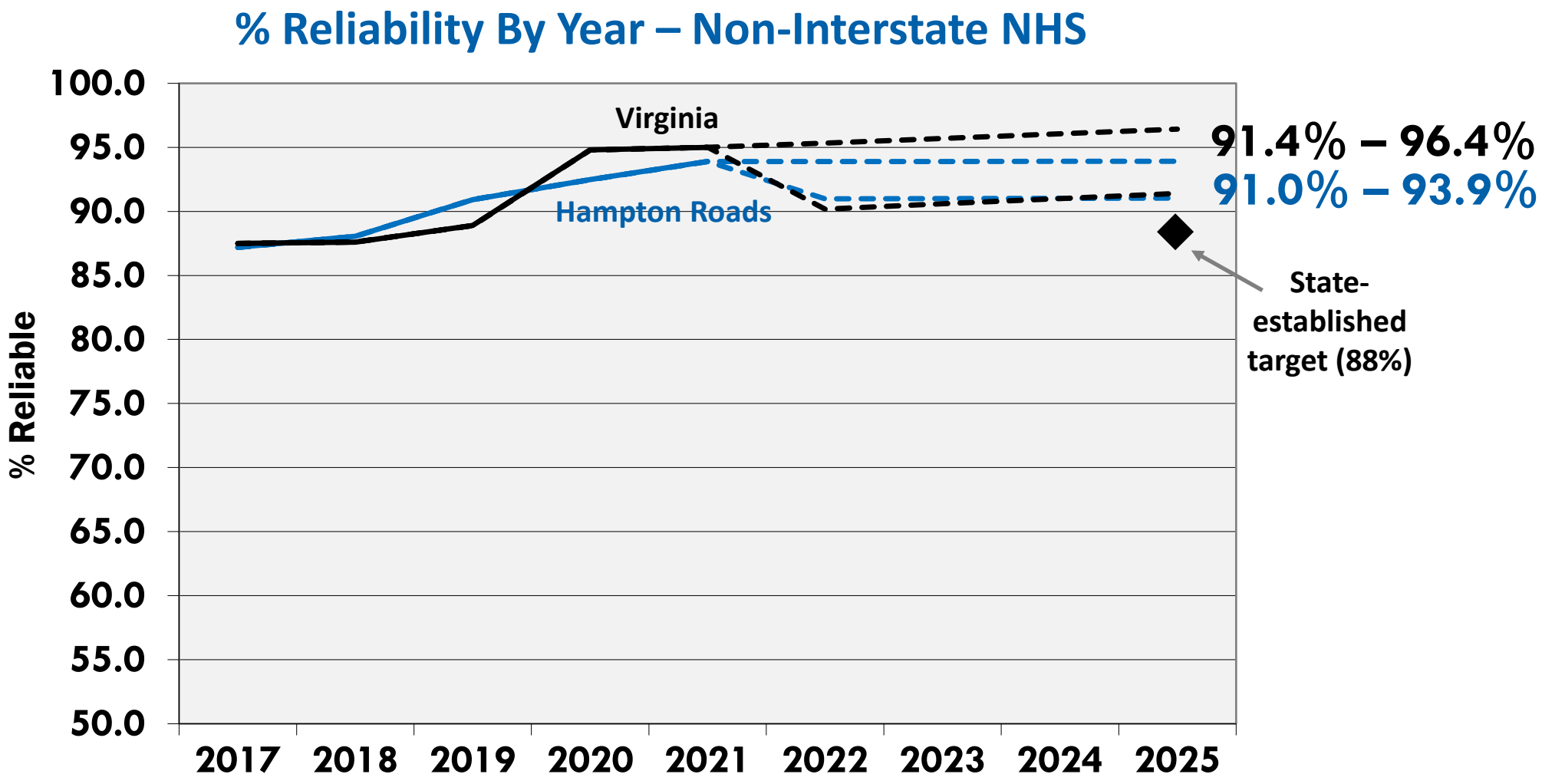


Based on Influencers, Identified 30 Independent Variables

ROADWAY PERFORMANCE



ROADWAY PERFORMANCE



HRTPO 2025 PROPOSED ROADWAY PERFORMANCE TARGETS

Measure	Virginia Current Value (2021)	VDOT Approved 4-Year Target (2025)	HRTPO Current Value (2021)	HRTPO Staff Recommended 4-Year Target (2025)	Working Group Recommended Target
Interstate Travel Time Reliability (% reliable miles)	86.2%	> 85%	90.4%	> 94% (based on VDOT projection)	
Non-Interstate NHS Travel Time Reliability (% reliable miles)	95.0%	> 88%	93.9%	> 88% (based on VDOT projection/ match state target)	

MPO PERFORMANCE MEASURES

- Safety
- Transit
- Bridge Condition
- Pavement Condition
- Roadway Performance
- Freight

FREIGHT

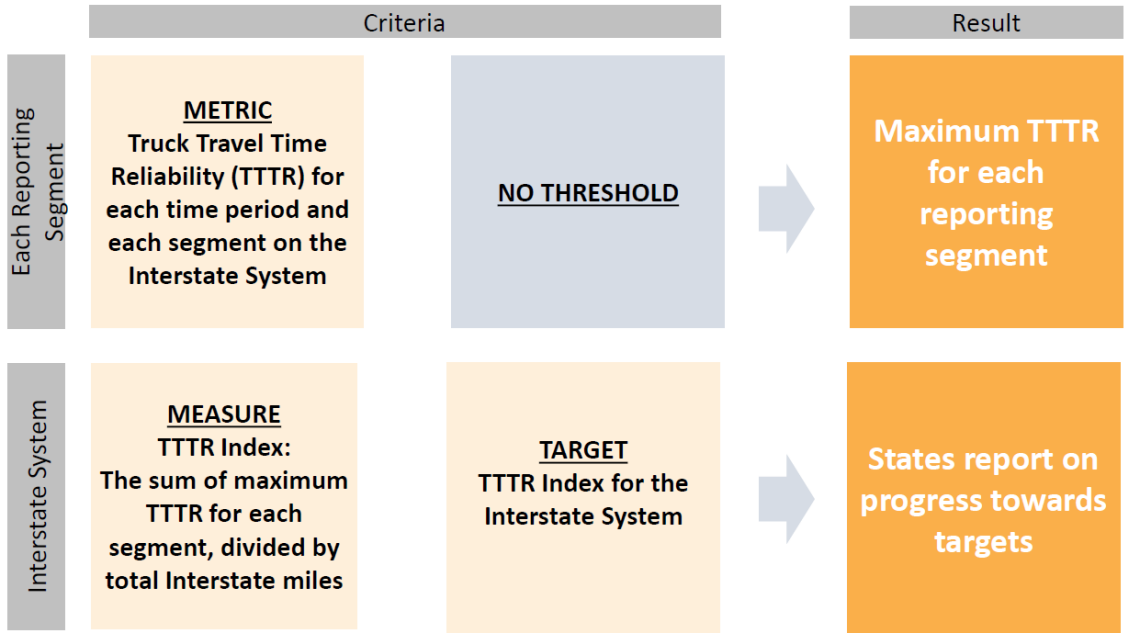
- MPOs must set four-year targets for:
  - Truck Travel Time Reliability (TTTR) Index on the Interstate system

- Previously, HRTPO established a freight reliability target (2.13) based on applying a growth rate to the current regional index that matched the expected statewide growth rate in the TTTR Index.

FREIGHT

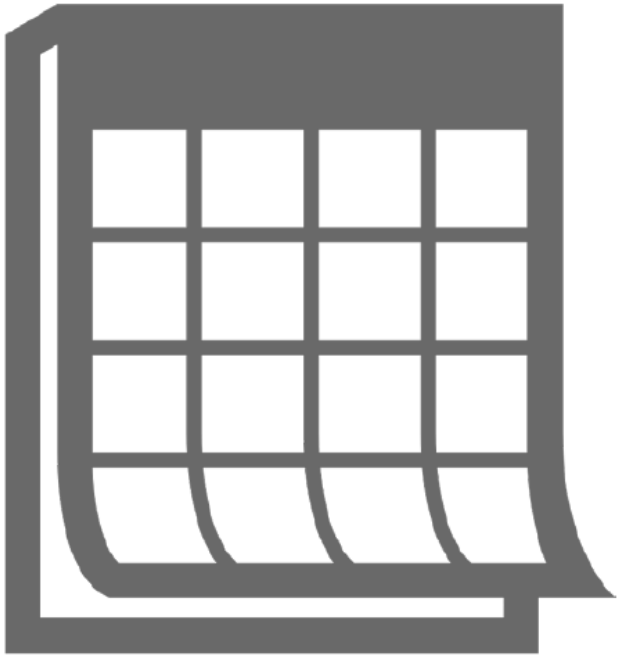
- **The metric is Truck Travel Time Reliability (TTTR), the ratio of the 95th percentile travel time to the mean (50th percentile) travel time.**
- **The measure is the Truck Travel Time Reliability Index: The sum of each interstate segment's Maximum TTTR x segment length divided by the length of the interstate.**

Freight Reliability Measure



Five Time Horizons

Full Year (Jan 1-Dec 31)



Weekdays (Mon – Fri)

6 – 10am

10am – 4pm

4 – 8pm

Weekends

6am – 8pm

Overnight (all days)

8pm – 6am

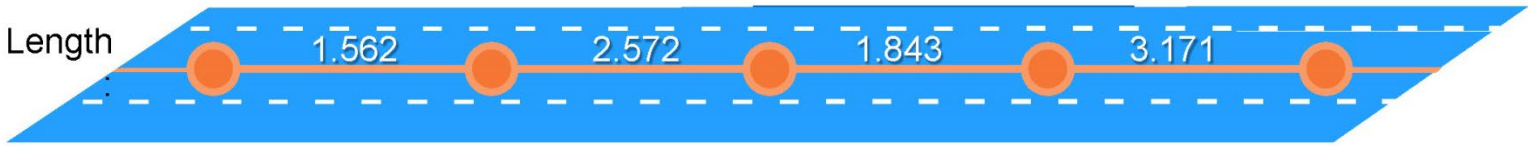
Five Total Time Periods

TTTR Calculation Example

$$\frac{\text{Longer Truck Travel Time (95th)}}{\text{Normal Truck Travel Time (50th)}} = \frac{\text{\# seconds}}{\text{\# seconds}} = \text{TTTR Ratio}$$

TTTR: Single Segment, Interstate Highway System		
Monday – Friday	6 – 10 a.m.	$\text{TTTR} = \frac{63 \text{ sec}}{42 \text{ sec}} = 1.50$
	10 a.m. – 4 p.m.	$\text{TTTR} = \frac{62 \text{ sec}}{45 \text{ sec}} = 1.38$
	4 – 8 p.m.	$\text{TTTR} = \frac{85 \text{ sec}}{50 \text{ sec}} = \mathbf{1.70}$
Weekends	6 a.m. – 8 p.m.	$\text{TTTR} = \frac{52 \text{ sec}}{40 \text{ sec}} = 1.30$
Overnight	8 p.m. – 6 a.m.	$\text{TTTR} = \frac{46 \text{ sec}}{38 \text{ sec}} = 1.21$
Maximum TTTR		**1.70**

Freight Reliability Measure Example



TTTR	1.50	**2.10**	1.45	1.56
	1.38	1.83	**1.71**	**2.30**
	1.70	1.79	1.62	2.12
	1.30	1.42	1.22	1.82
	1.21	1.03	1.01	1.27

$$\text{TTTR} = \frac{(1.70 \times 1.562) + (2.10 \times 2.572) + (1.71 \times 1.843) + (2.30 \times 3.171)}{(1.562 + 2.572 + 1.843 + 3.171)}$$

$$= \frac{2.655 + 5.401 + 3.152 + 7.293}{9.148}$$

$$= 2.022$$

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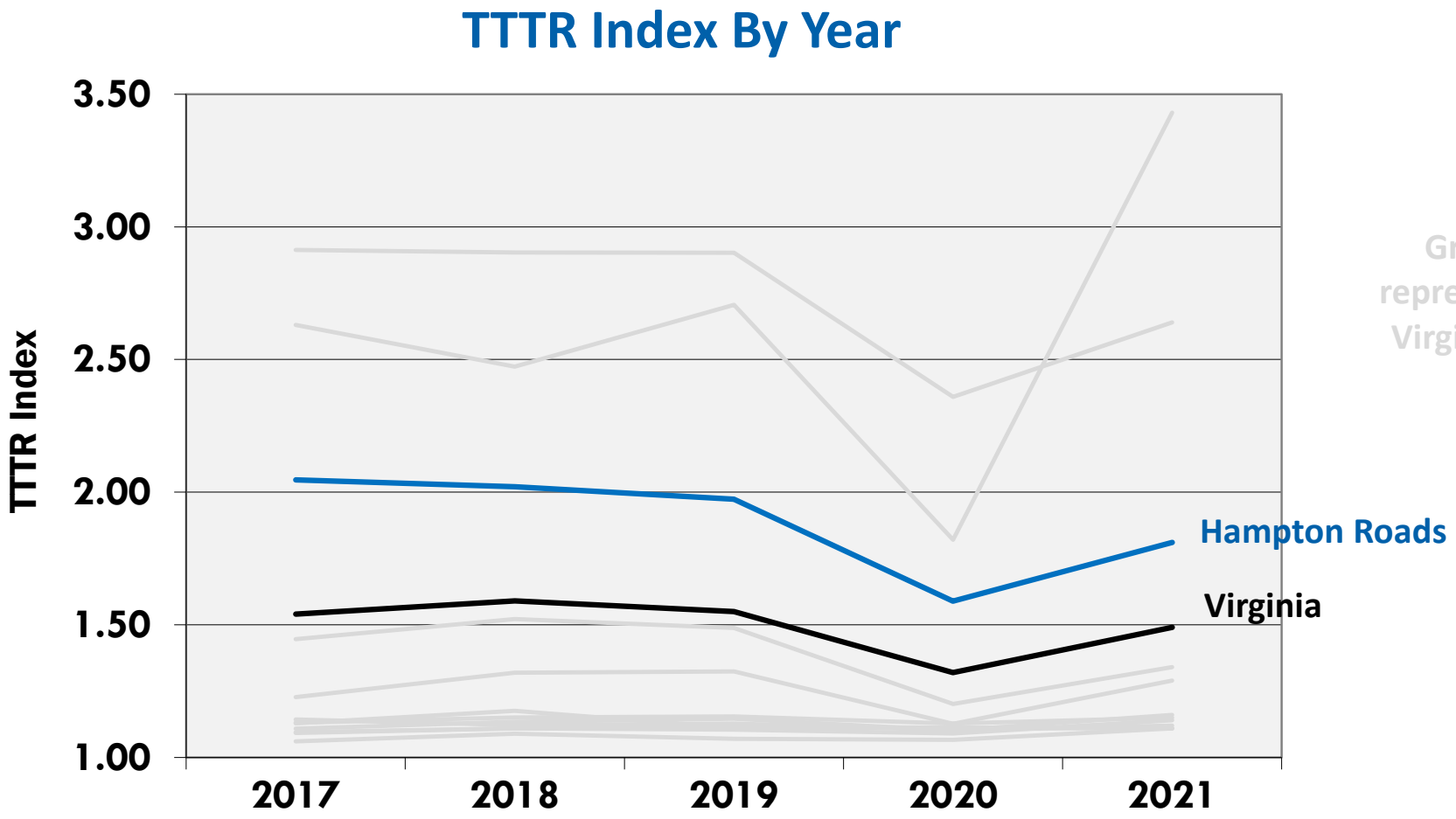
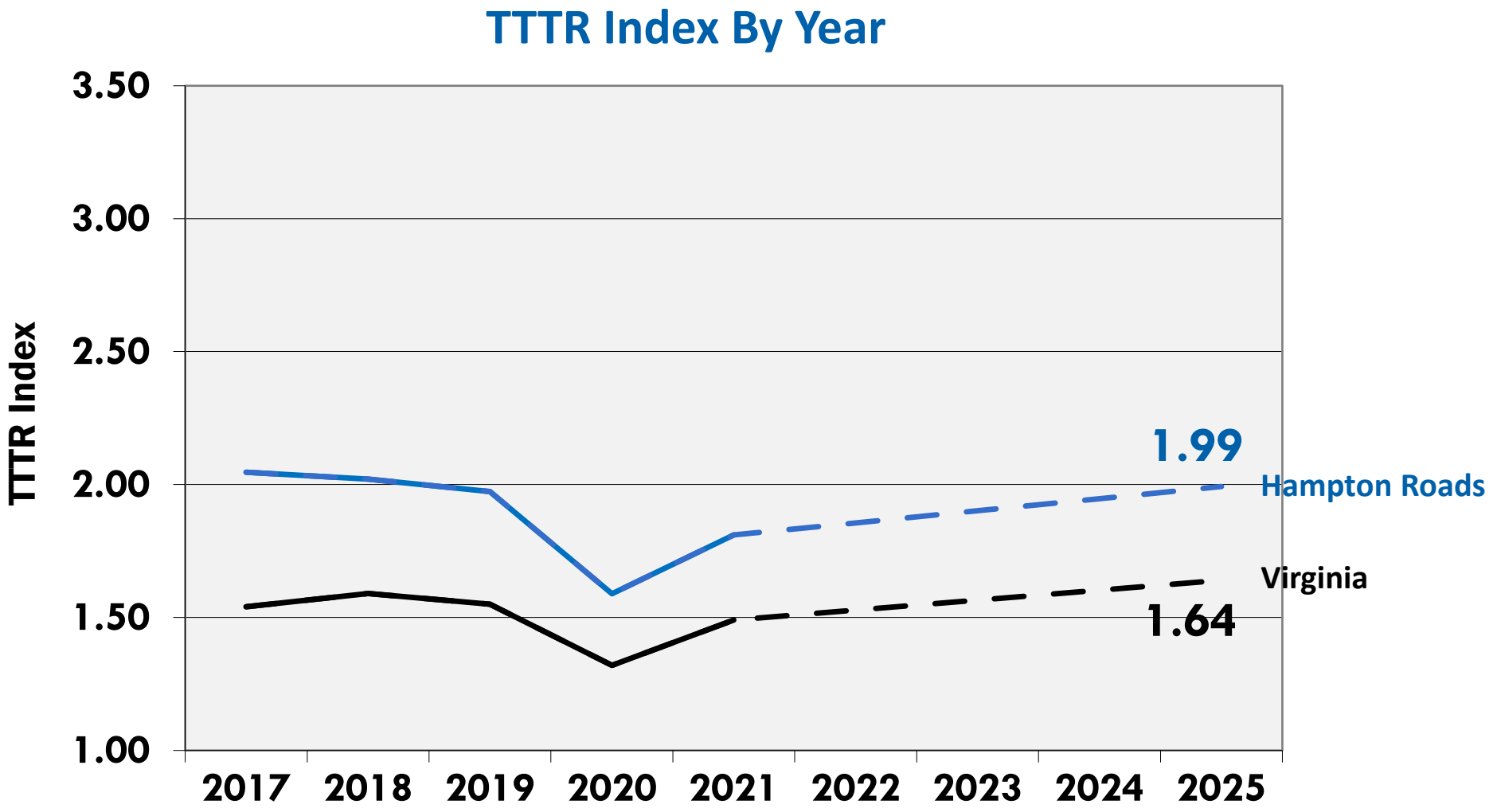
FREIGHT


TTTR Index By Year
TTTR Index
3.50
3.00
2.50
2.00
1.50
1.00
2017
2018
2019
2020
2021
Hampton Roads
Virginia
Gray lines represent other Virginia MPOs

FREIGHT


TTTR Index By Year
TTTR Index
3.50
3.00
2.50
2.00
1.50
1.00
2017
2018
2019
2020
2021
2022
2023
2024
2025
1.99
Hampton Roads
Virginia
1.64

HRTPO 2025 PROPOSED FREIGHT TARGETS

Measure	Virginia Current Value (2021)	VDOT Approved 4-Year Target (2025)	HRTPO Current Value (2021)	HRTPO Staff Recommended 4-Year Target (2025)	Working Group Recommended Target
TTTR Index	1.49	< 1.64	1.81	< 1.99 (based on VDOT projection)	

SUMMARY - HRTPO 2025 PROPOSED TARGETS

Measure	HRTPO Staff Recommended 4-Year Target (2025)	Target Basis
Bridge: NHS Deck Area – Good Condition	> 25.1%	Match state target
Bridge: NHS Deck Area – Poor Condition	< 3.6%	Match state target
Pavement: Interstate – Good Condition	> 45%	Match state target
Pavement: Interstate – Poor Condition	< 3%	Match state target
Pavement: Non-Interstate NHS – Good Condition	> 14%	Maintain current level
Pavement: Non-Interstate NHS – Poor Condition	< 5%	Match state target
Roadway Performance: Interstate Reliability (LOTTR)	> 94%	VDOT Projection
Roadway Performance: Non-Interstate NHS Reliability (LOTTR)	> 88%	VDOT Projection
Freight: Reliability (TTTR)	< 1.99	VDOT Projection

SUMMARY - HRTPO 2023 PROPOSED SAFETY TARGETS

Measure	Vision Zero (Reduce by a set amount annually to reach zero by 2050)
Fatalities	136
Fatality Rate* (per 100M VMT)	0.917
Serious Injuries	1,513
Serious Injury Rate* (per 100M VMT)	10.21
Bike/Ped Fatalities and Serious Injuries	177

*Fatality and serious injury rates assume an annual 0.77% growth in VMT

SUMMARY - HRTPO 2023 PROPOSED TAM TARGETS

Asset Type	Performance Measure	Asset Classes	DRAFT 2023 HRTPO Target
Rolling Stock	% of revenue vehicles within each asset class that have met or exceeded their useful life benchmark	Bus	< 28%
		Cutaway Buses	< 17%
		Ferry Boat	< 20%
		Light Rail Vehicles	0%
		Minibus	< 20%
		Trolley Buses	0%
		Van	0%
Equipment/ Service Vehicles	% of vehicles that have met or exceeded their useful life benchmark	Non-Revenue/ Service Vehicles	< 26%
		Trucks & Other Rubber Tire Vehicles	< 38%
Infrastructure	% of track segments, signals, and systems with performance restrictions	Light Rail Infrastructure	0%
Facilities	% of facilities in each asset class rated under 3.0 on FTA's TERM scale	Passenger/Parking	< 1%
		Maintenance	< 10%
		Administrative	< 10%

SUMMARY - HRTPO 2023 PROPOSED TRANSIT SAFETY TARGETS

		DRAFT HRTPO 2023 TARGETS			
Category	Measure	Bus	Demand Response	Light Rail	Vanpool
Fatalities	Total number of reportable fatalities per year	0	0	0	0
	Rate per total vehicle revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Injuries	Total number of reportable injuries per year	< 83	0	0	0
	Rate per total vehicle revenue miles	< 7.62 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles	0 per 100,000 revenue miles
Safety Events	Total number of safety events per year	< 71	< 1	< 5	0
	Rate per total vehicle revenue miles	< 5.70 per 100,000 revenue miles	< 0.04 per 100,000 revenue miles	< 15.40 per 100,000 revenue miles	0 per 100,000 revenue miles
System Reliability	Distance between major failures	> 10,000 miles	> 29,249 miles	> 9,470 miles	> 498,800 miles

NEXT STEPS

- **Draft targets will be open for a two-week pubic comment period starting later this week.**
- **Approval of these proposed targets will be recommended at the TTAC and TPO Board meetings in February.**

REGIONAL PERFORMANCE MEASURES AND TARGETS

TASK FORCE MEETING

JANUARY 5, 2023

the heartbeat of HAMPTON ROADS TPO

TRANSPORTATION PLANNING ORGANIZATION