PERFORMANCE BASED PLANNING & PROGRAMMING

2022 Update on Performance Targets

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TPB Technical Committee
March 4, 2022

Agenda Item 8

National Capital Region
Transportation Planning Board

Contents of Presentation

- PBPP and Visualize 2045 (2022) and the 2023-2026 TIP
- 2022 Update on PBPP Performance Targets
  - Pavement Condition
  - Bridge Condition
  - Travel Time Reliability
  - Truck Travel Time Reliability
  - Traffic Congestion: Peak Hour Excessive Delay
- CMAQ Program Targets
- Next Steps

Performance Based Planning and Programming

- Federal surface transportation regulations require the implementation of performance based planning and programming (PBPP) by State DOTs, MPOs, and transit agencies

  "transition to a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision-making, and more efficient investment of federal transportation funds."

- State DOTs, MPOs, and providers of public transportation must link investment priorities to the achievement of performance targets in the TIP and the long-range transportation plan

Federal PBPP Performance Areas

- Federal PBPP process requires State DOTs, MPOs and providers of public transportation to set targets (annually or every two/four years) for 26 performance measures
  - Highway Safety – ***annual***
  - Highway Assets (Pavement and Bridge Condition) – ***2/4-year***
  - Highway System Performance (Reliability, Freight, CMAQ Program) – ***2/4-year***
  - Transit Assets – ***annual / with TIP***
  - Transit Safety – ***annual***

4-Year Target reporting and setting in 2022

- Next round of 4-year targets for the two areas of Highway Assets and Highway Systems Performance for the period 2022-2025 must be set by State DOTs by **October 1, 2022**
  - State DOTs must submit information on actual performance vs. targets for years 2018 through 2021 to the FHWA by October 1, 2022 in a *Full Period Performance Progress Report*
  - State DOTs must develop and formally adopt new targets for years 2022 through 2025, and submit these targets to the FHWA by October 1, 2022 in a *Baseline Period Performance Progress Report*
- MPOs have up to 180 days afterwards to set targets

PBPP and Visualize 2045 (2022) and the FY 2023-2026 TIP

- The Visualize 2045 long range transportation plan must include an overall system performance report
  - Appendix D: System Performance Report
- The FY 2023-2026 TIP must discuss the impact of projects on performance

- The Plan and TIP will include data on performance vs. the 2018-2021 targets for Highway Assets and Highway System Performance
  - Anticipate setting most new 4-year targets for 2022-2025 after Visualize 2045 and the FY 2023–2026 TIP are approved
  - Considering option of drafting updated system performance report (Appendix D) after targets set and ahead of federal certification

TPB Measures and Targets

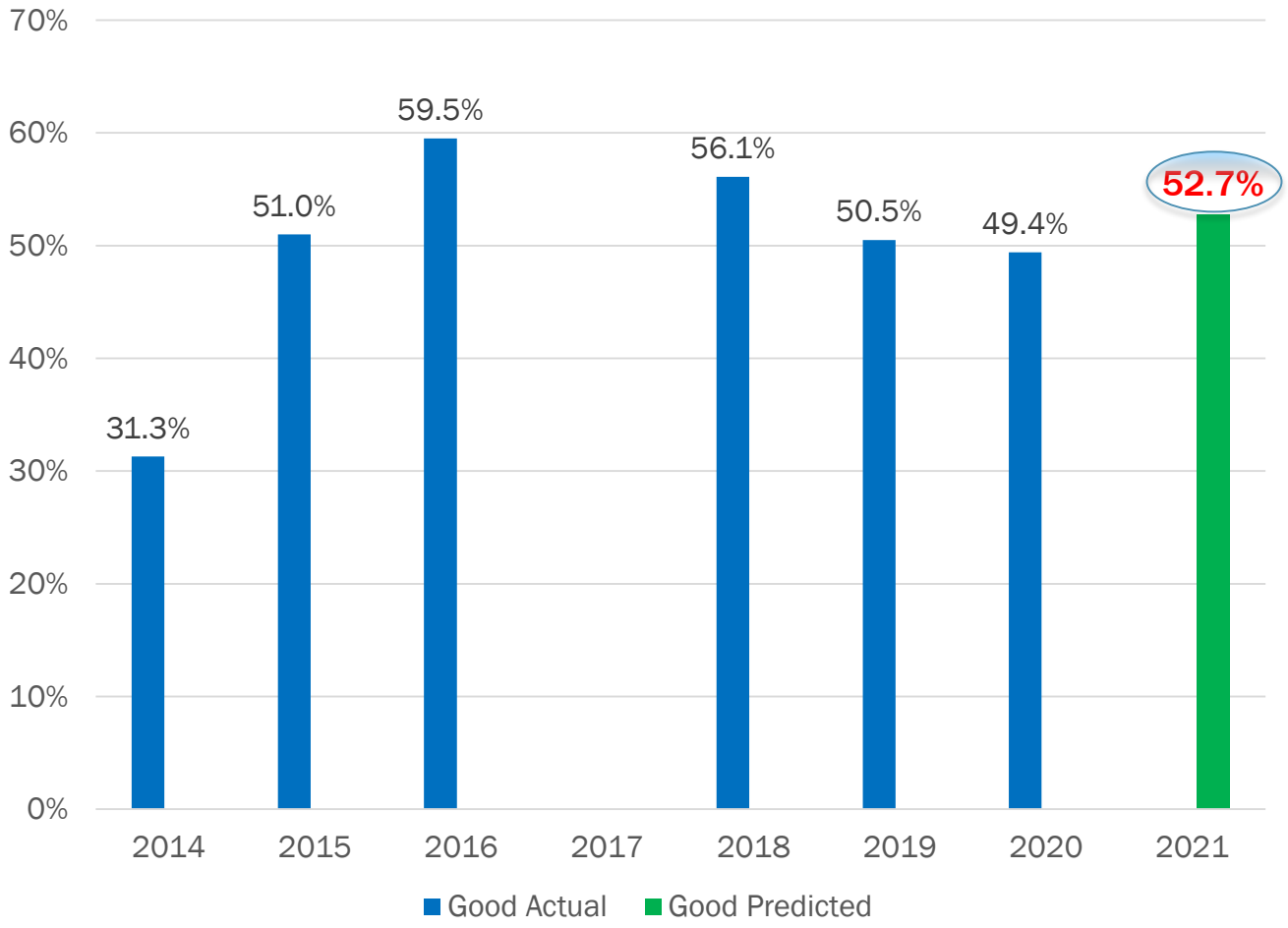
Performance Area	Measure	Metric	Adopted Targets as of January 19, 2022
Highway Safety	Five-Year Rolling Average	# of Fatalities	253.0
	Five-Year Rolling Average	Rate of Fatalities	0.588
	Five-Year Rolling Average	# of Serious Injuries	1889.7
	Five-Year Rolling Average	Rate of Serious Injuries	3.867
	Five-Year Rolling Average	# of Non-Motorized Fatalities and SI	492.4
Highway Asset Condition	Percent Pavement Lane Miles Interstate / NHS (excl. Interstate)	In Good Condition	52.7% / 31.1%
	Percent Pavement Lane Miles Interstate / NHS (excl. Interstate)	In Poor Condition	1.7% / 7.0%
	Percent Bridge Deck Area	In Good Condition	29.4%
	Percent Bridge Deck Area	In Poor Condition	3.9%
Highway Reliability	Percent Person Miles Traveled Interstate / NHS (excl. Interstate)	Level of Travel Time Reliability	58.5% / 72.7%
Freight	Index	Truck Travel Time Reliability	2.12
Congestion	Annual Hours per Capita	Peak Hour Excessive Delay	26.7
	Percentage	Non-SOV Travel	37.2%
Vehicular Emissions	Total Emissions Reduction (kg/day)	VOCs / NOx	2.195 / 4.703
Transit Asset Management	Percentage	Service Vehicles exceeding Useful Life	5.0% (Bus)
	Percentage	Revenue Vehicles exceeding Useful Life	16.6% (Truck)
	Percentage	Track Segments with Performance Restrictions	3.8% (Heavy Rail)
	Percentage	Facilities rated Marginal or Poor	6.3% (Pass. Facilities)
Transit Safety	Number and Rate (per Revenue Vehicle Mile)	Fatalities by Mode (showing Bus)	0 / 0
	Number and Rate (per Revenue Vehicle Mile)	Reportable Injuries by Mode (showing Bus)	411 / 0.69
	Number and Rate (per Revenue Vehicle Mile)	Reportable Safety Events by Mode (showing Bus)	463 / 0.78
	Mean Distance	Between Major Mechanical Failures by Mode (showing Bus)	13,654

Pavement & Bridge Condition – Targets

Interstate Pavement	CY 2018 – 2021 Four Year Target
(1) Percentage of pavements on the **Interstate** System in **Good** condition	**52.7%**
(2) Percentage of pavements on the **Interstate** System in **Poor** condition	**1.7%**
NHS (Non-Interstate) Pavement	
(3) Percentage of pavements on the **NHS** (excl. Interstate) in **Good** condition	**31.1%**
(4) Percentage of pavements on the **NHS** (excl. Interstate) in **Poor** condition	**7.0%**
Bridges	
(5) Percentage of **NHS Bridges** Classified as in **Good** Condition	**29.4%**
(6) Percentage of **NHS Bridges** Classified as in **Poor** Condition	**3.9%**

Targets set by the TPB on July 18, 2018

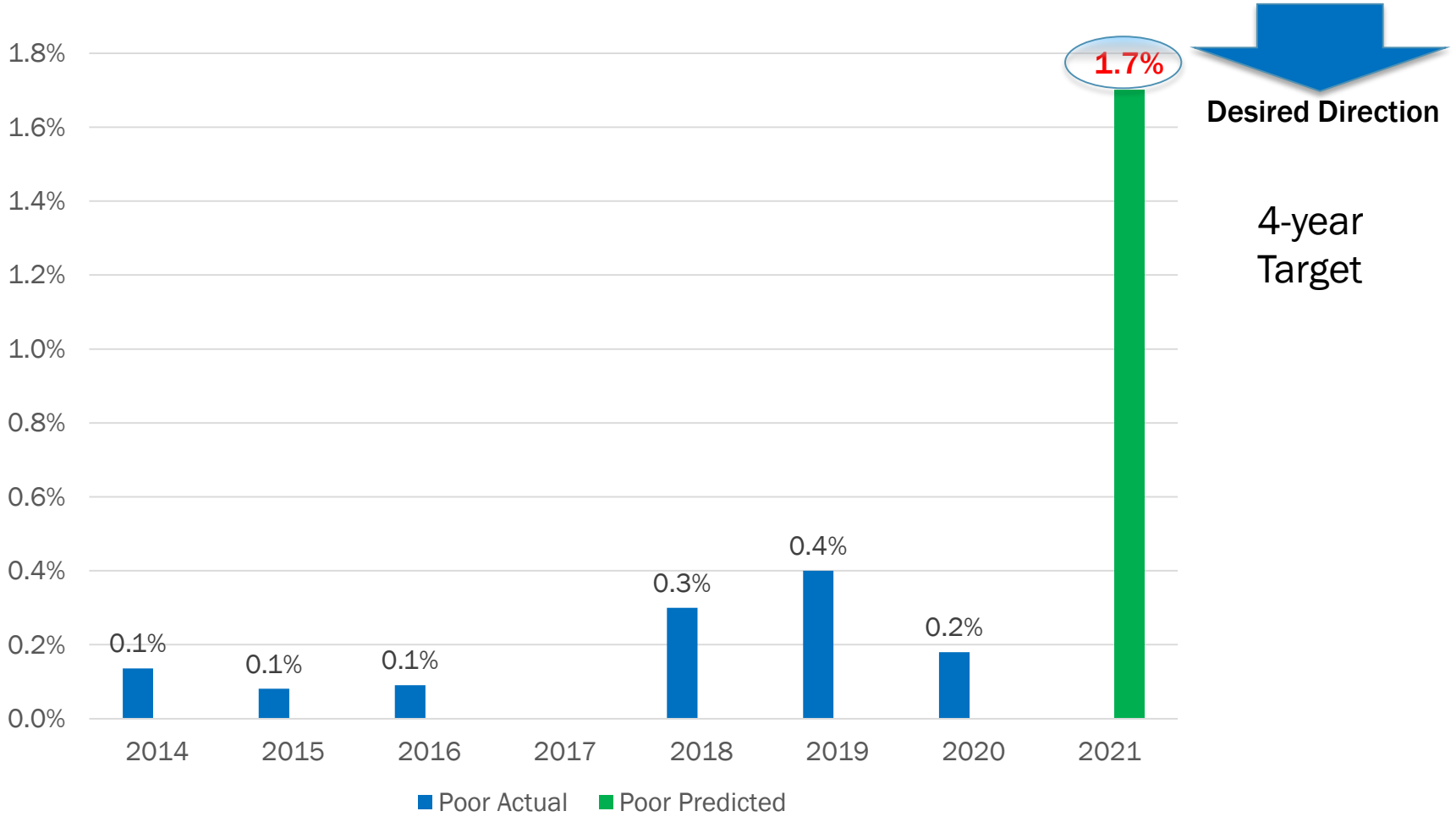
Interstate Pavement: Performance vs. Targets (Good Condition)



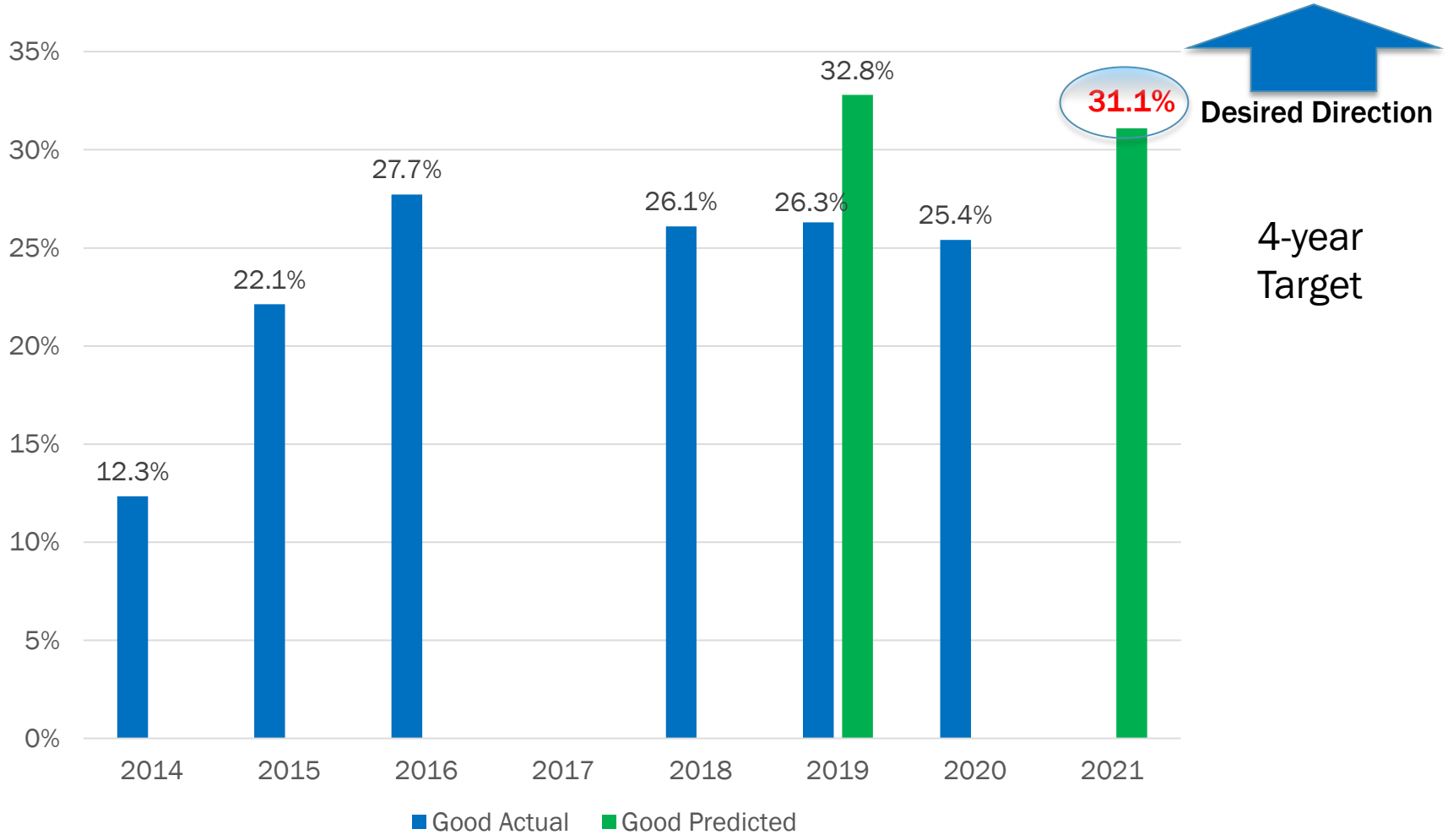
Desired Direction

4-year Target

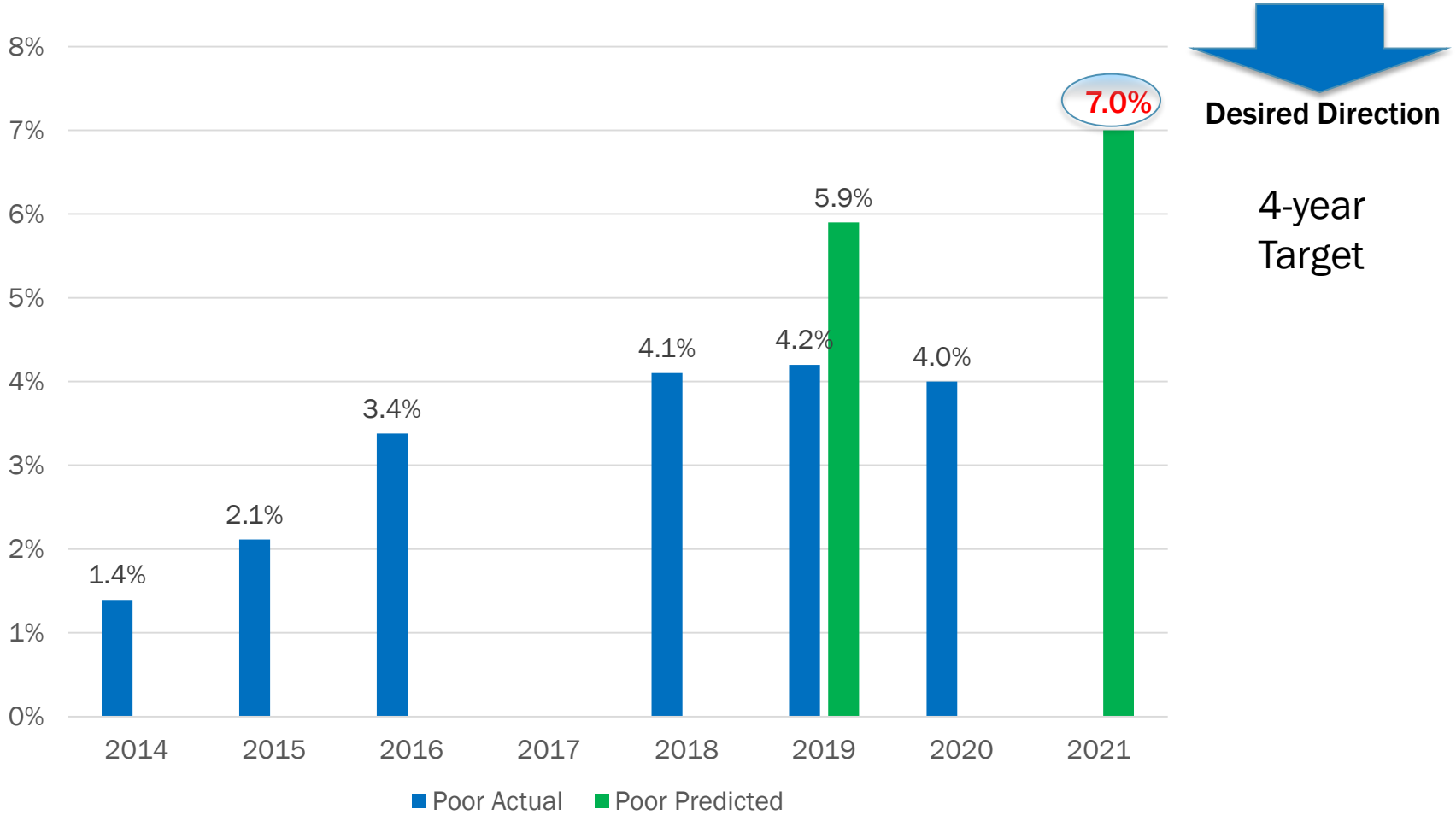
Interstate Pavement: Performance vs. Targets (Poor Condition)



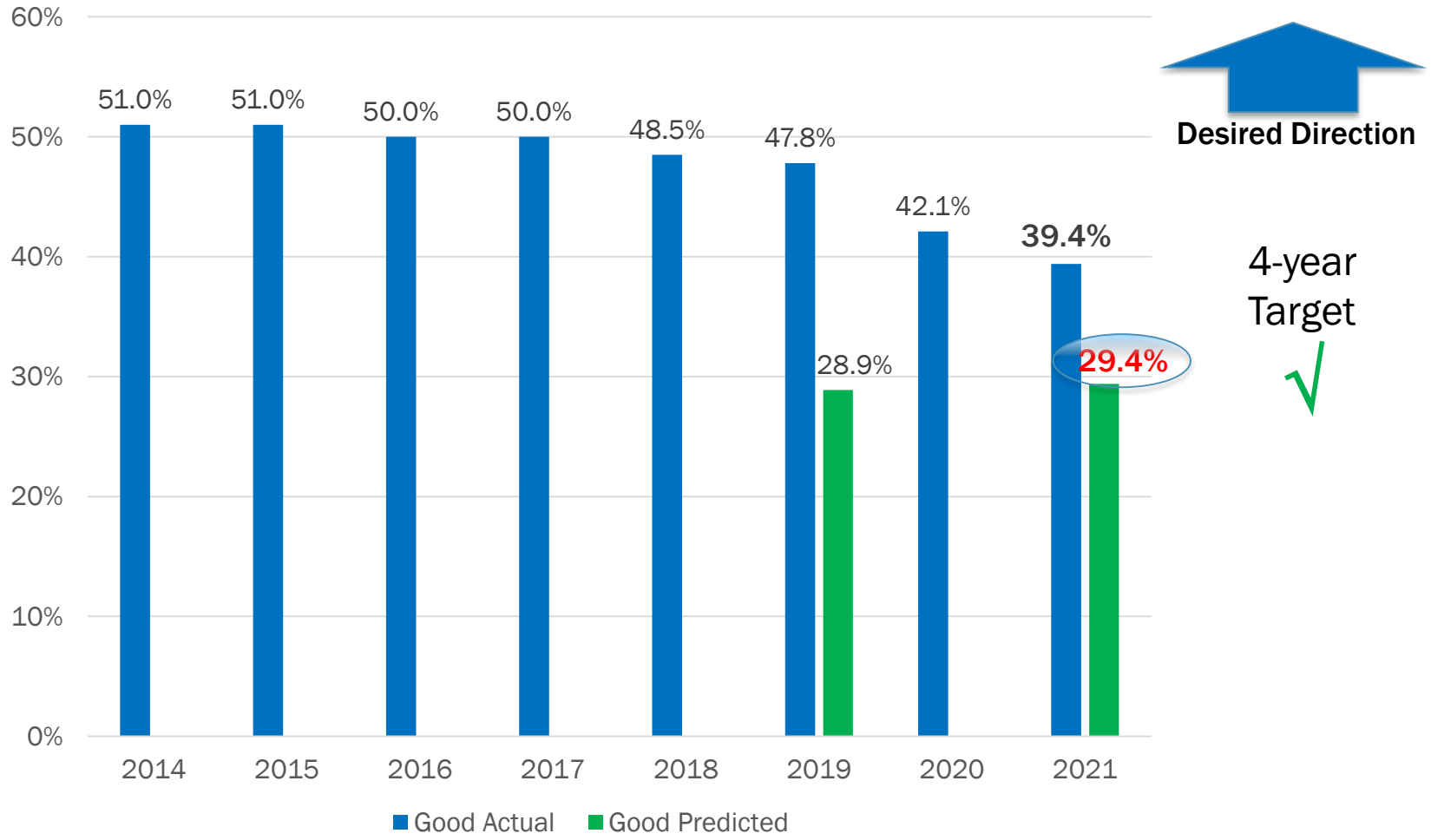
NHS (Non-Interstate) Pavement: Performance vs. Targets (Good)



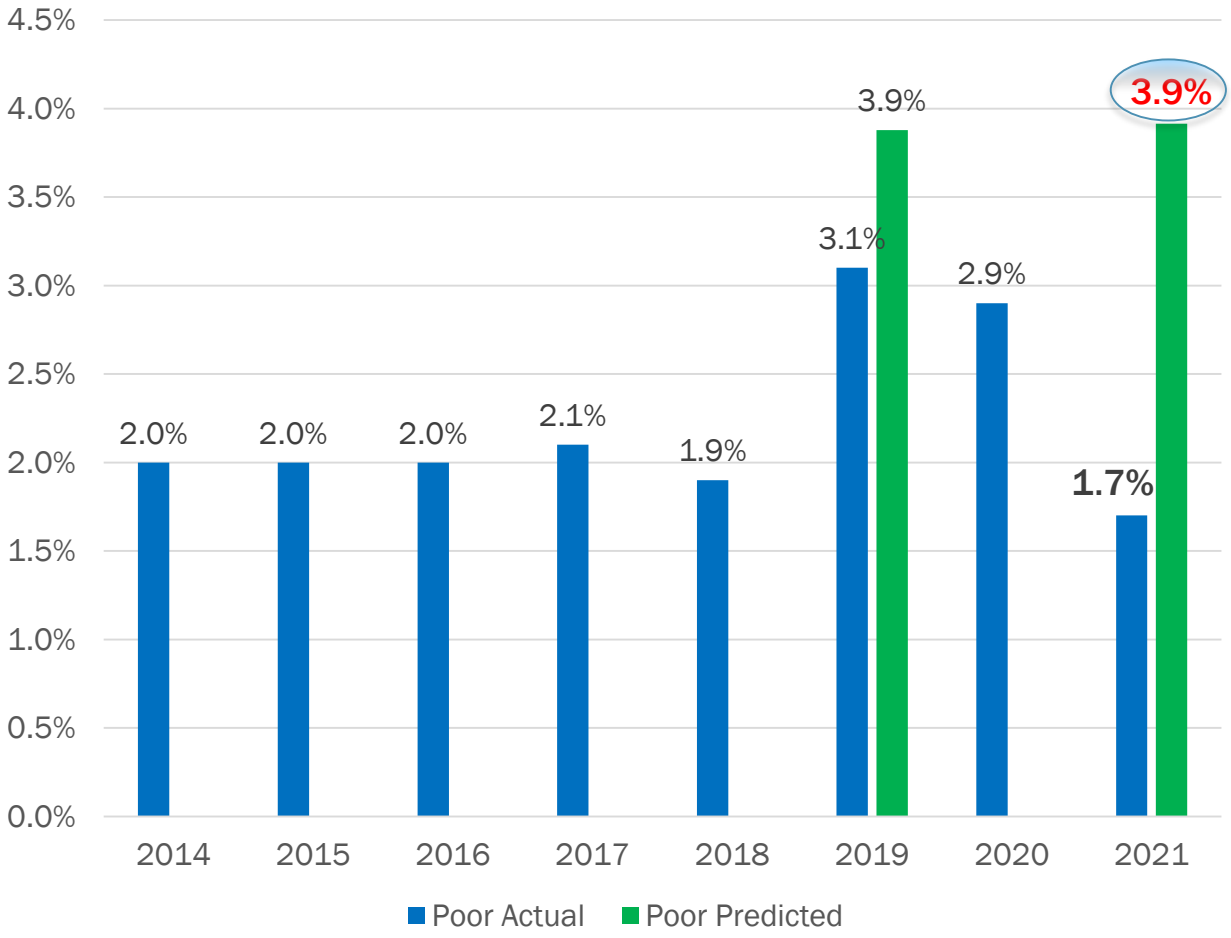
NHS (Non-Interstate) Pavement: Performance vs. Targets (Poor)



Bridges: Performance vs. Target (Good)



Bridges: Performance vs. Target (Poor)



Desired Direction

4-year Target

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National Highway System & Freight: Overview of Performance Measures

	Performance Measures
National Highway System	**Interstate Travel Time Reliability (TTR)** - Percent of person-miles traveled on the Interstate System that are reliable
	NHS (Non-Interstate) Travel Time Reliability (TTR) - Percent of person-miles traveled on the non-Interstate National Highway System (NHS) that are reliable

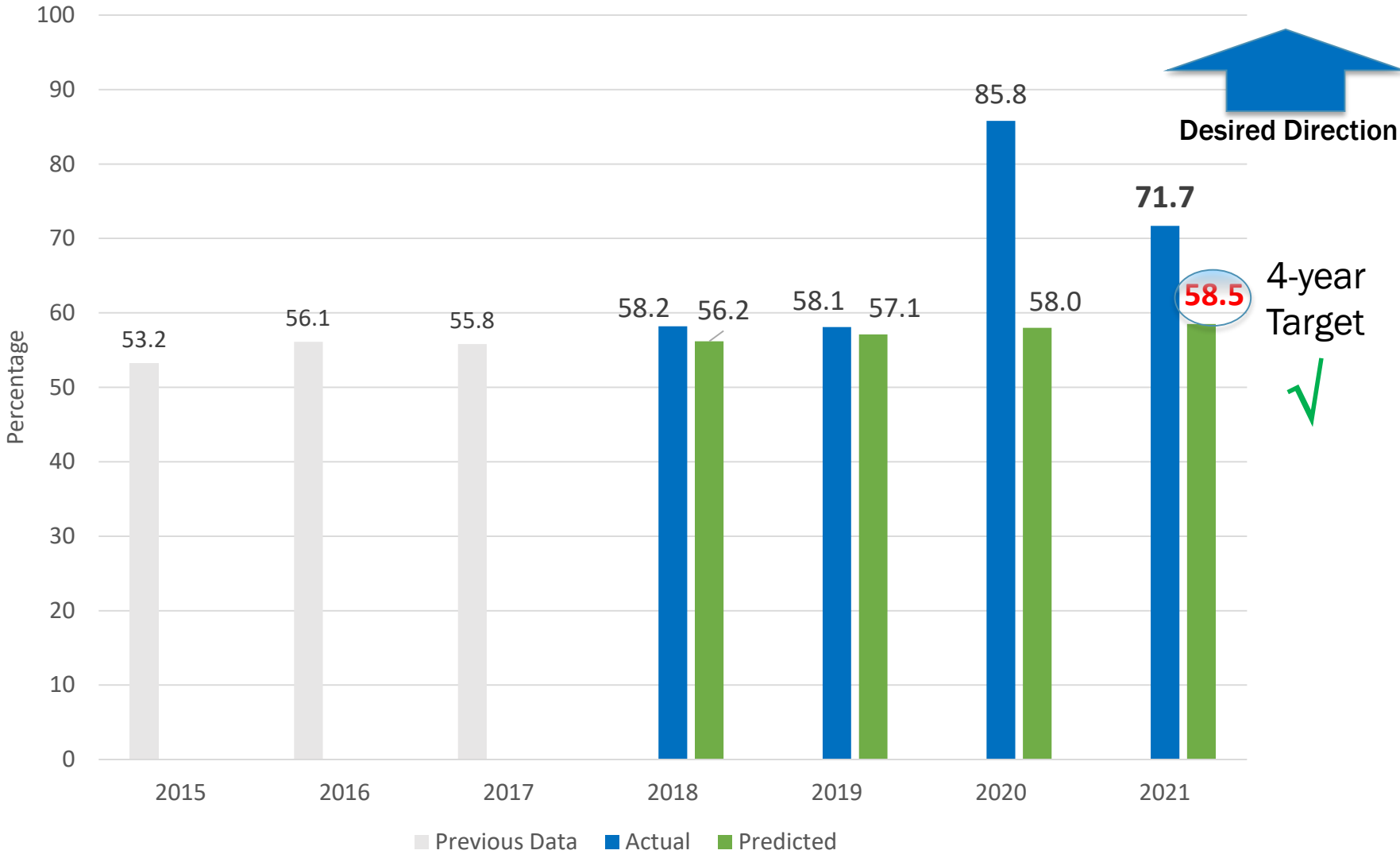
	Performance Measures
Freight Movement	**Freight Reliability (TTTR)** - Measurement of travel time reliability on the Interstate System using a Truck Travel Time Reliability (TTTR) Index

Highway System and Freight – Targets

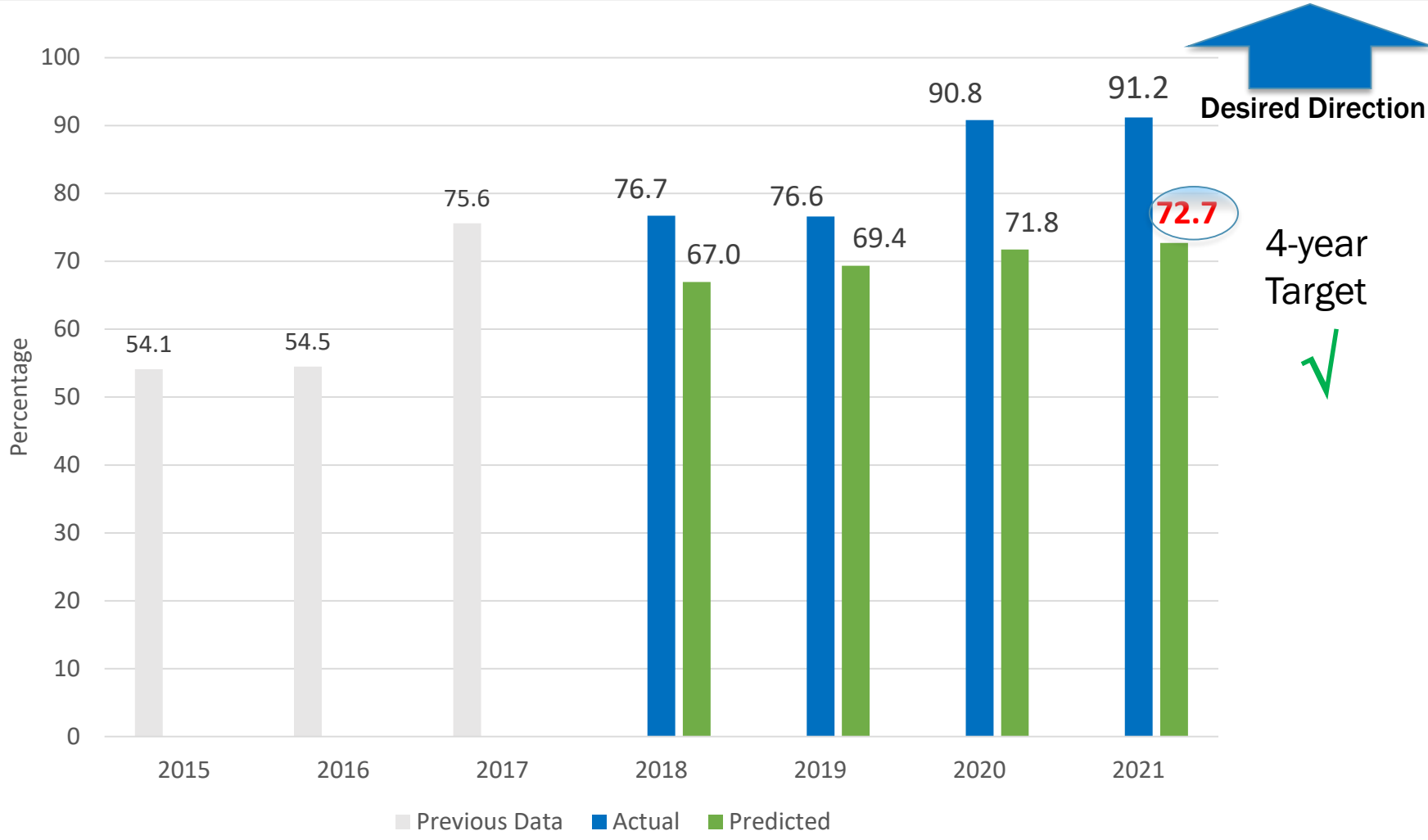
	CY 2018 – 2021 Four Year Target
TTR – Interstate Percent of person-miles traveled on the Interstate System that are reliable	58.5%
TTR – Non-Interstate NHS Percent of person-miles traveled on the non-Interstate NHS that are reliable	72.7%
TTTR Index Ratio of the Interstate System Mileage providing for Reliable Truck Travel Times	2.12

Targets set by the TPB on July 18, 2018

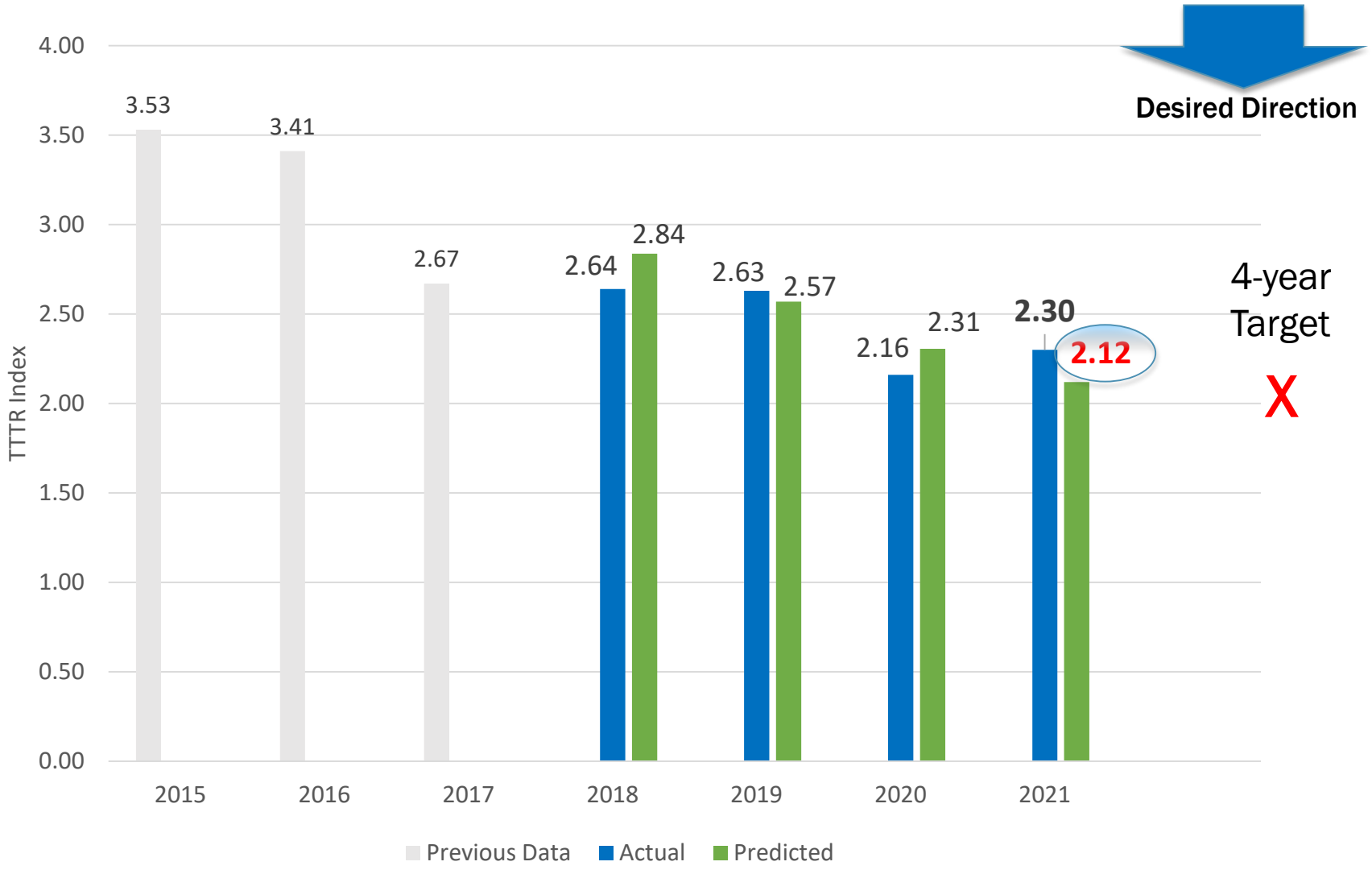
TTR (Interstate): Performance vs. Target



TTR (NHS Non-Interstate): Performance vs. Target



TTTR Index: Performance vs. Target



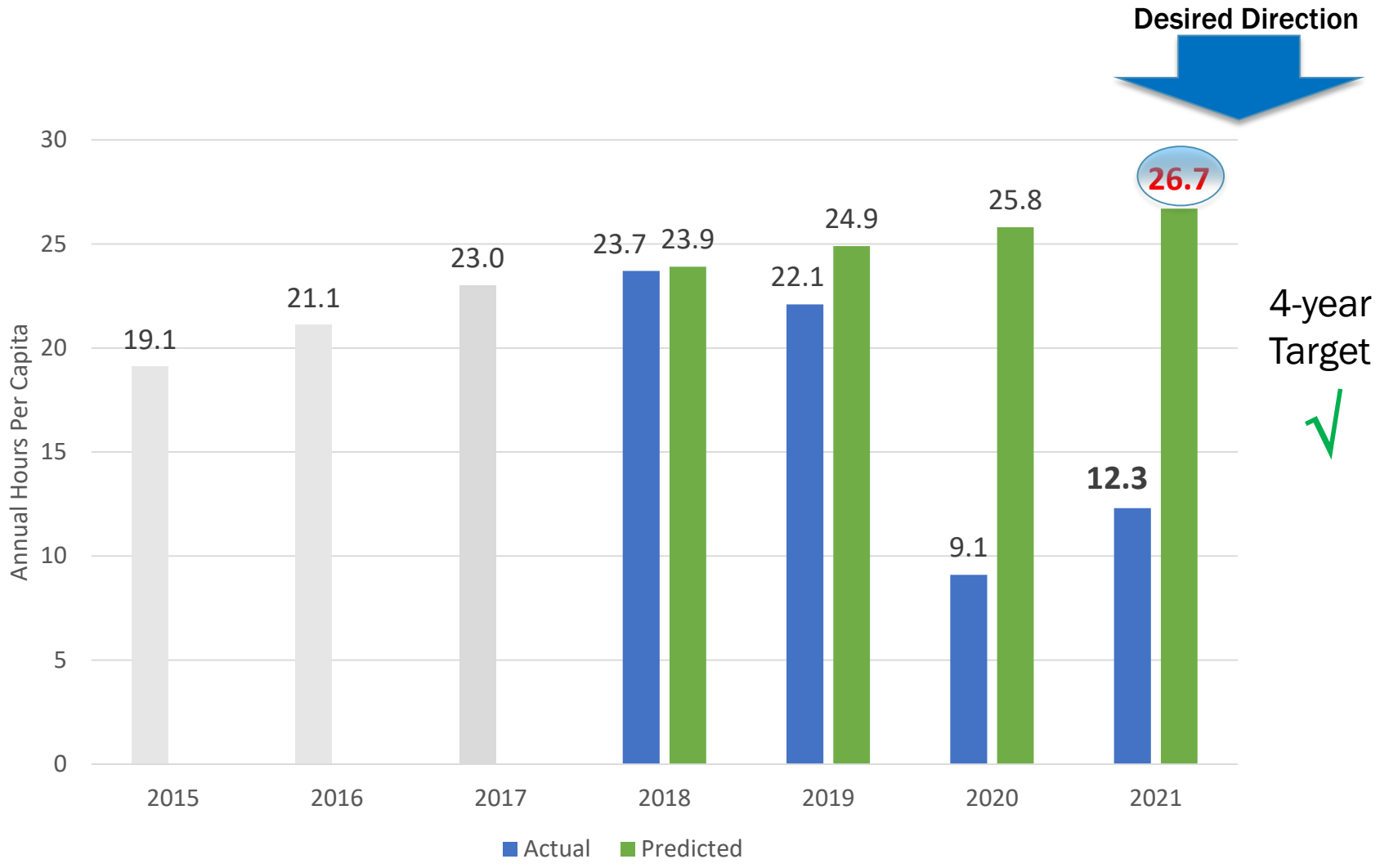
System Performance: CMAQ Program
(Congestion Mitigation and Air Quality)

	Performance Measures
CMAQ Program: Traffic Congestion	**Peak Hour Excessive Delay (PHED)** – Annual hours of peak hour excessive delay per capita
	Mode Share - Percent of Non-SOV Travel on the National Highway System (NHS)

Performance Measures for the Washington DC-MD-VA urbanized area	CY 2018 – 2019 Two Year Target	CY 2018 – 2021 Four Year Target
Peak Hour Excessive Delay (PHED)	Not Required	26.7 Hours**
Mode Share (Non-SOV)	36.9%	37.2%

Targets set by the TPB on June 20, 2018

Traffic Congestion: PHED Performance vs. Target



Observations on Performance

- The impacts of the pandemic on the highway travel performance measures are evident
  - TTR (Interstate), TTR (NHS Non-Interstate) and PHED changed significantly
  - The Truck Travel Time Index (TTTR) decreased in 2020 to below predicted, but rebounded in 2021, leading to the region missing its target
    - The TTTR is focused on major roads
    - The region's target was probably too ambitious, being largely impacted by performance improving (index falling) in years prior to 2018
- The 4-year performance measure targets are set for conditions at the end of the performance period, i.e., the 2021 performance. They are not based on averages throughout the period

CMAQ Program Targets

The three CMAQ Program targets are set regionally:

1. Peak Hours of Excessive Delay (PHED), and
2. Mode Share (Non-SOV)
   - Are set for the Washington DC-MD-VA urbanized area (UZA)
3. CMAQ Program Emissions Reductions - VOCs and NOx
   - Have targets set for the non-attainment area

The TPB has previously taken the lead in developing the targets for these three measures and plans to do so again this year

- DOTs and MPOs must adopt identical regional targets for these three measures
- Goal is to have TPB set targets in May/June timeframe
- TPB must complete the MPO CMAQ Performance Plan with MPO targets and submit to State DOTs by September

Other Performance Measures

- Highway Safety and Transit Safety targets are set annually; targets recently set by board
- Transit Asset Management targets to be set March 2022
- 2020 data for CMAQ Traffic Congestion: Mode Share (Non-SOV) performance measure will be available March 17, 2022
  - Met 2-year target
- CMAQ Emissions Reduction performance measure data (which follows Federal fiscal year and is cumulative) needs to collected from State DOTs
  - Have already met and exceeded 4-year targets with 2019 and 2020 performance (cumulative measure)

Next Steps

- TPB staff will be coordinating with DOT staff on the PBPP requirements
  - Data collection and review of actual performance
  - Discussion of methodology for predicating future performance and setting targets
- TPB staff will lead on the development of the 2022-2025 CMAQ Program targets
  - Must be identical targets adopted by the three State DOTs as well as adjoining MPOs (FAMPO, BRTB)
  - Anticipate briefing TPB in May with approval in June
  - Complete MPO CMAQ Performance Plan
- Develop regional targets for Highway Assets and other Highway System Performance targets
  - Anticipate TPB briefing and approval in September – November timeframe

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