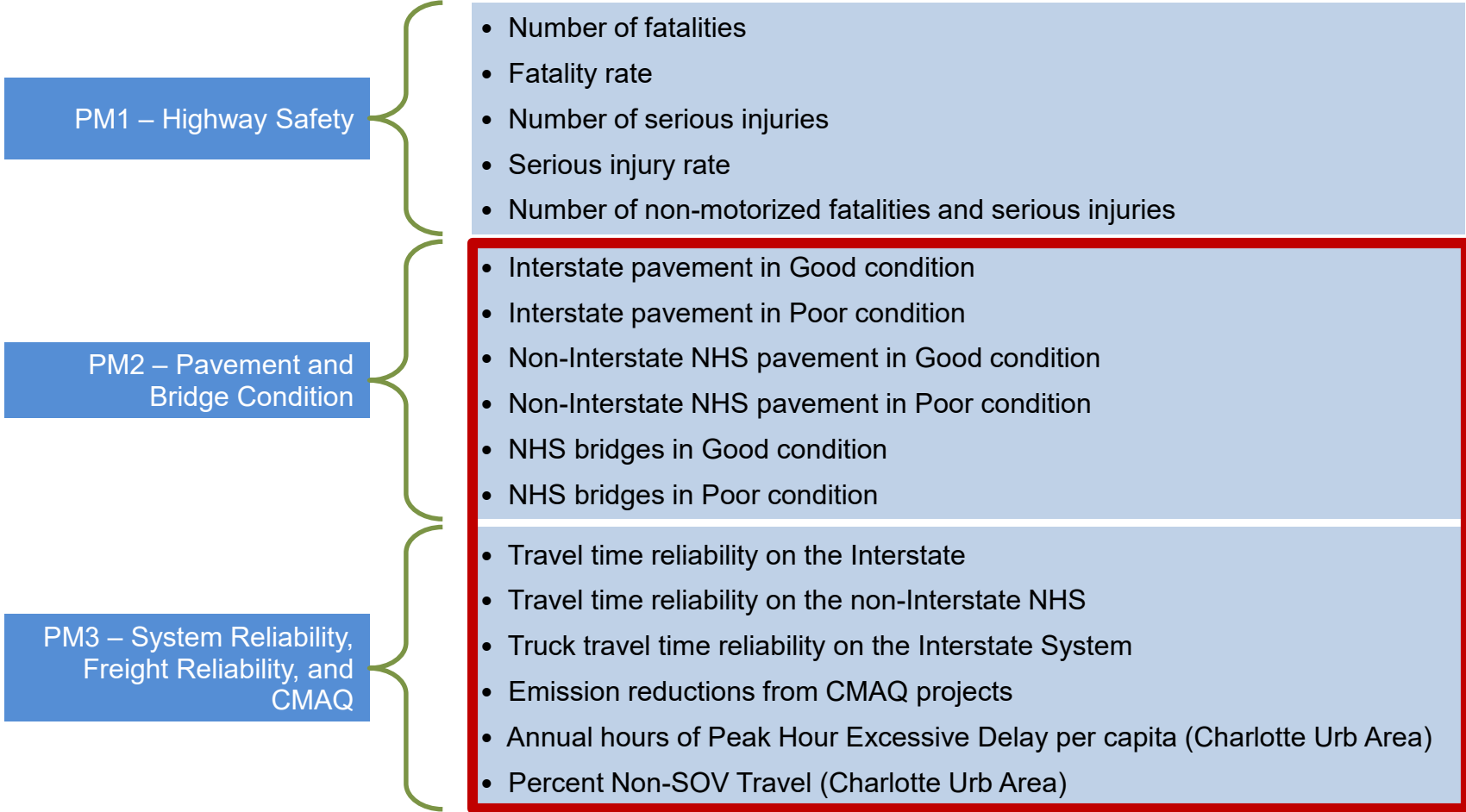# NCDOT Transportation Performance Management (TPM) Targets for the 2022-2025 Performance Period
Pavement, Bridge, and System Performance

Targets established December 15, 2022

FHWA Performance Measures

PM1 – Highway Safety

- Number of fatalities
- Fatality rate
- Number of serious injuries
- Serious injury rate
- Number of non-motorized fatalities and serious injuries

PM2 – Pavement and Bridge Condition

- Interstate pavement in Good condition
- Interstate pavement in Poor condition
- Non-Interstate NHS pavement in Good condition
- Non-Interstate NHS pavement in Poor condition
- NHS bridges in Good condition
- NHS bridges in Poor condition

PM3 – System Reliability, Freight Reliability, and CMAQ

- Travel time reliability on the Interstate
- Travel time reliability on the non-Interstate NHS
- Truck travel time reliability on the Interstate System
- Emission reductions from CMAQ projects
- Annual hours of Peak Hour Excessive Delay per capita (Charlotte Urb Area)
- Percent Non-SOV Travel (Charlotte Urb Area)

FTA Transit Performance Measures

Transit Asset Management

- Equipment (age)
- Rolling stock (age)
- Infrastructure (condition)
- Facilities (performance restrictions)

Transit Safety

- Number and rate of fatalities
- Number rate of reportable injuries
- Safety events
- System reliability

- Transit providers set these targets annually. MPOs update these targets when they update their LRTP.
- Additional information from FTA is available here and here.

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Target Setting Requirements

For PM2 and PM3, states and MPOs must establish 2-year and 4-year targets every four years

State DOTs shall coordinate with relevant MPOs on the selection of targets

MPOs must then establish targets within 180 days
By June 13, 2023

MPOs shall coordinate with the State DOT on the selection of targets

MPOs establish targets by either:

Agreeing to plan and program projects so that they contribute toward the accomplishment of the State targets; or	Committing to a quantifiable target for the MPA

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PM2 – Pavement and Bridge Condition Performance Measures

Pavement:

1. Percent of Interstate pavement in Good condition
2. Percent of Interstate pavement in Poor condition
3. Percent of Non-Interstate NHS pavement in Good condition
4. Percent of Non-Interstate NHS pavement in Poor condition

Bridge:

1. Percent of NHS bridge deck area in Good condition
2. Percent of NHS bridge deck area in Poor condition

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PM3 – Reliability and CMAQ Performance Measures

Travel time reliability:

1. Percent of person miles on the Interstate that are reliable
2. Percent of person miles on the non-Interstate NHS that are reliable

Freight Reliability:

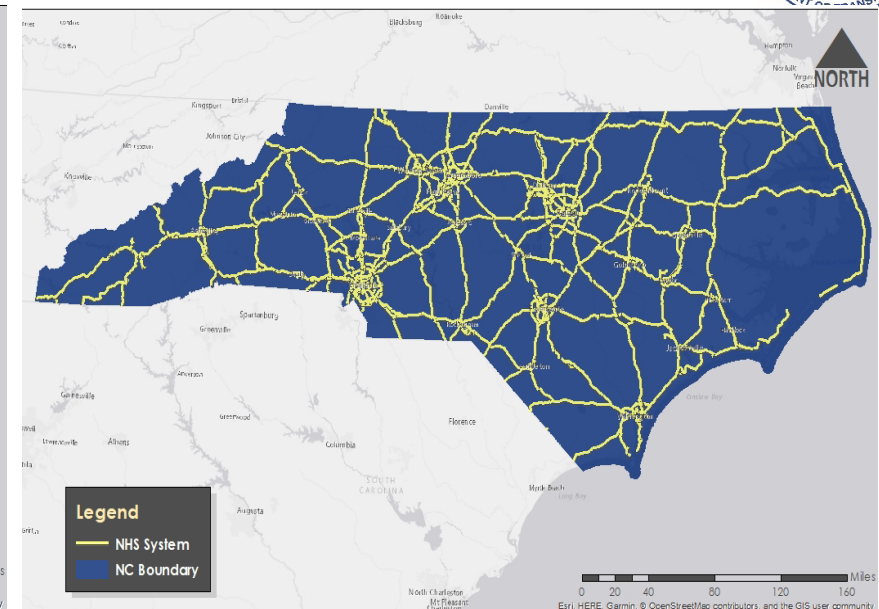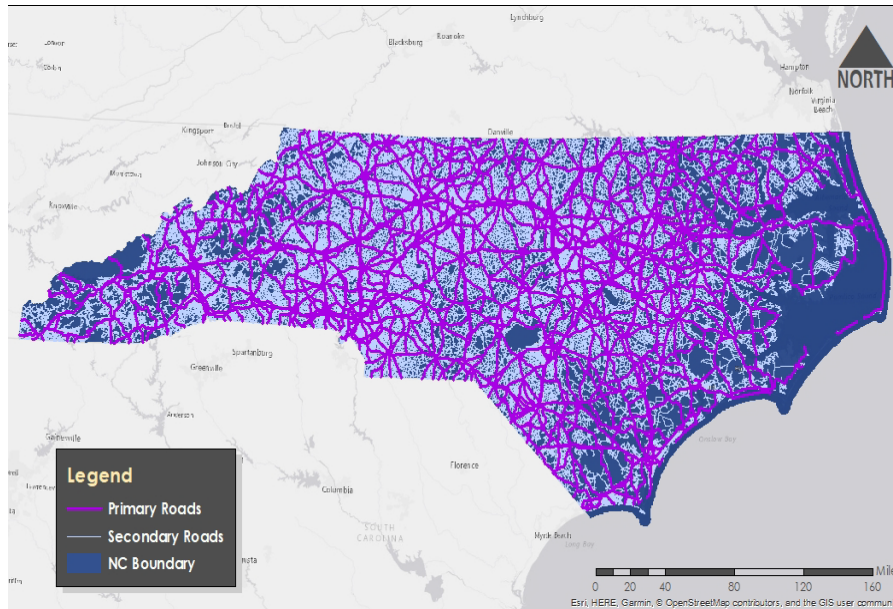1. Interstate truck travel time reliability index

CMAQ:

1. Emission reductions from CMAQ projects
2. Annual hours of peak hour excessive delay per capita*
3. Percent non-SOV travel*

*Charlotte, NC-SC Urbanized area and Concord, NC Urbanized area

NCTPM

NC Maintained vs NHS Inventory

Route Class	Total System	NHS Only
	Lane-miles	Lane-miles
Interstate	6,684.1	6,677.0
Primary	35,191.7	14,221.1
Secondary	124,126.3	699.5
Total	**166,002.1**	**21,597.6**

Source: NCDOT Draft TAMP, 2022. Table 2-1.

The NHS includes Interstate highways, Interstate business, US, NC and selected secondary routes and ramps connecting to an NHS route.

NC TPM

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PM2 – NHS Bridges

The Department maintains 18,438 structures which include 13,647 bridges and 4,791 culverts.
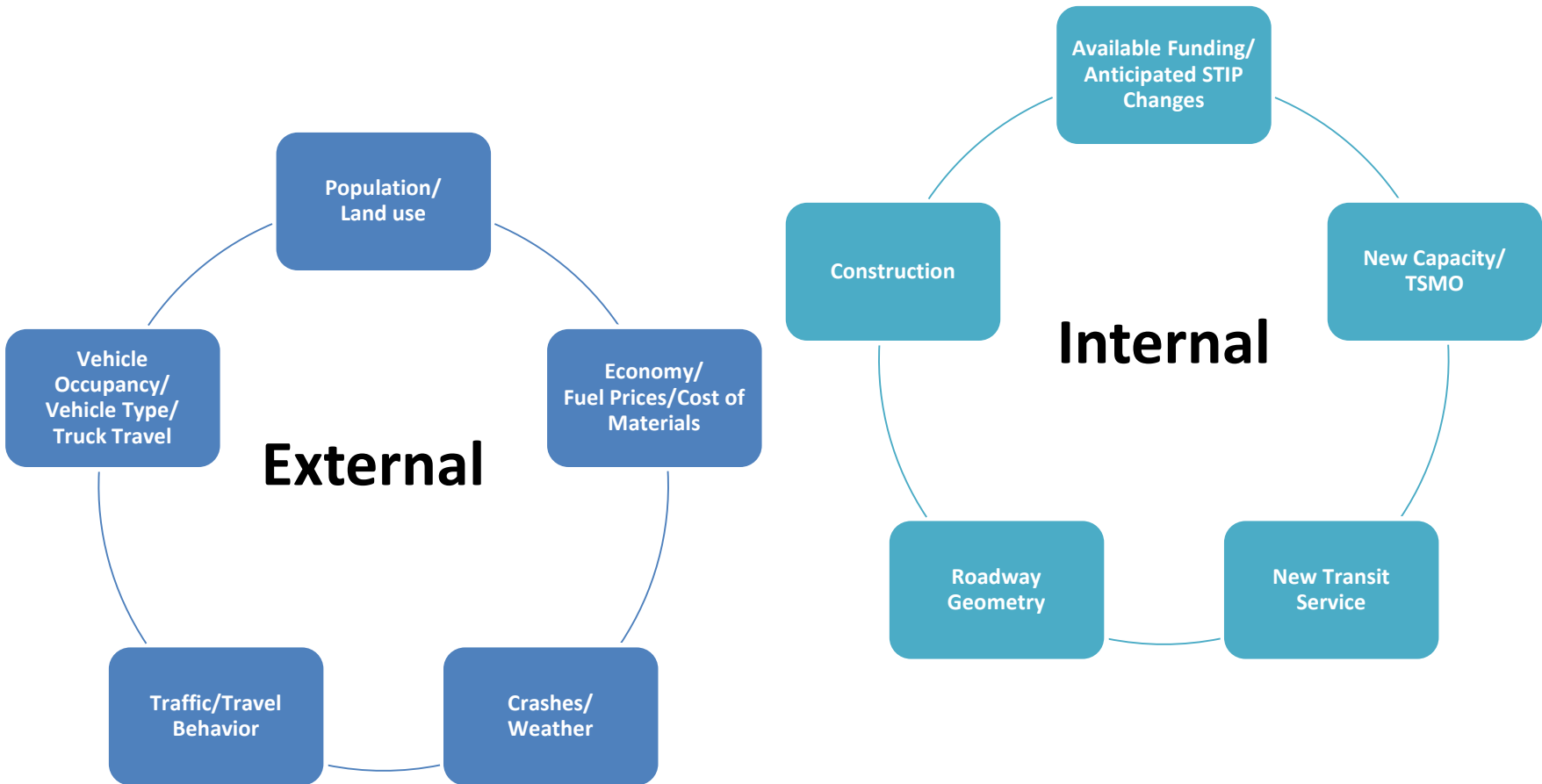
- Of those, 3,839 are on the NHS

System	# of NHS Bridges & Culverts	Deck Area (Sq. Foot)
Interstate	1,415	21,789,834
Primary	2,291	33,353,612
Secondary	104	1,079,745
Local GOV	29	254,247
Total	**3,839**	**56,477,438**

Source: NCDOT Draft TAMP, 2022. Table 2-3.

Factors Influencing Performance

External

- Population/Land use
- Vehicle Occupancy/Vehicle Type/Truck Travel
- Economy/Fuel Prices/Cost of Materials
- Traffic/Travel Behavior
- Crashes/Weather

Internal

- Available Funding/Anticipated STIP Changes
- Construction
- New Capacity/TSMO
- Roadway Geometry
- New Transit Service

NCTPM

Covid/Post-Covid Target Setting

What will performance look like in 2023 and 2025?

- New travel patterns vs. return to pre-2020 equilibrium

- Effects of hybrid and remote work

- Changes in carpooling and transit use

- Economic conditions and fuel prices

- Changes to the STIP due to cost increases

NCTPM

Rationale for 2023 and 2025 Targets

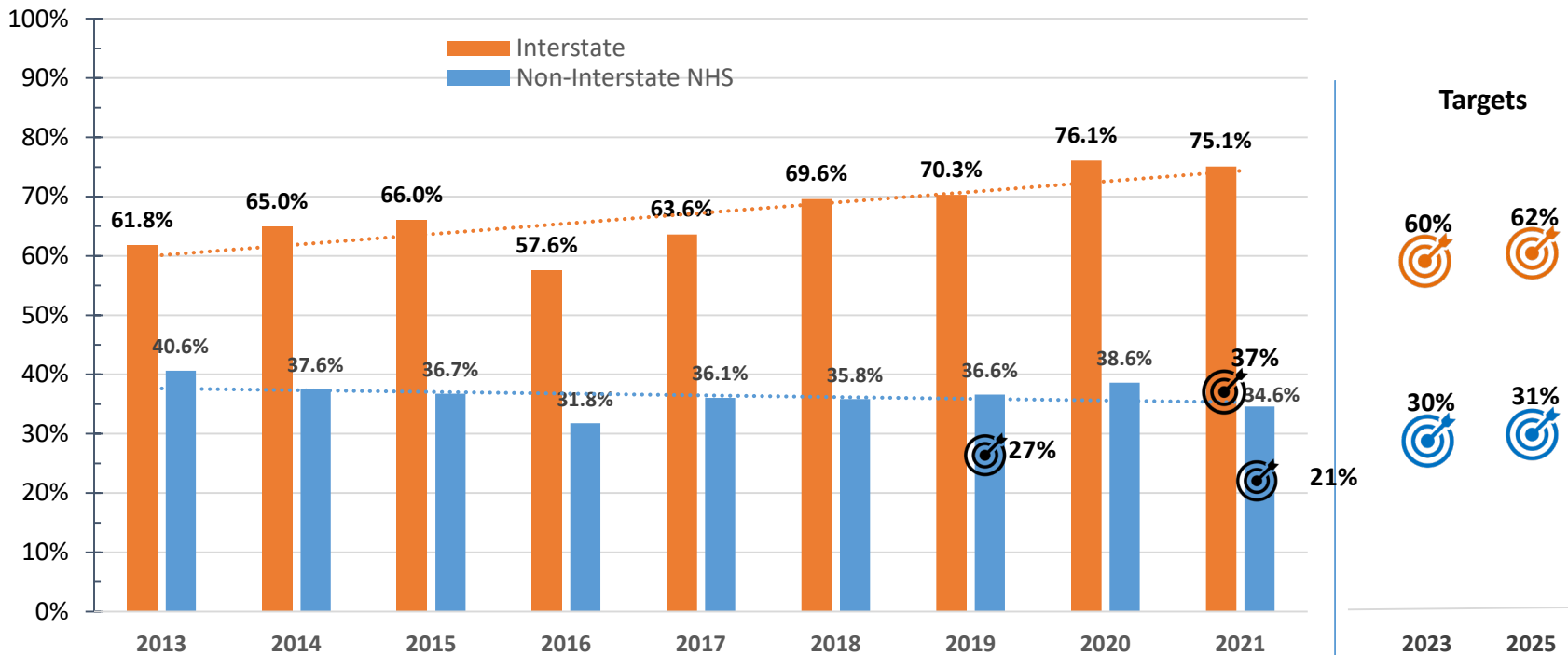|		
Population and VMT will continue to grow	Project cost increases/inflation	STIP and TIP projects unlikely to significantly change trends
IIJA funding increases and opportunities	Maintain conservative and balanced stance given unknowns	Opportunity to assess performance at the midpoint and adjust 4-year targets

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PM2 Pavement in Good Condition

Higher number = better performance

✓ 2019 and 2021 targets were met

Targets

Interstate: 60% (2023), 62% (2025)

Non-Interstate NHS: 30% (2023), 31% (2025)

Note: 2019 targets not required for Interstate pavement during the 2018-2021 performance period.
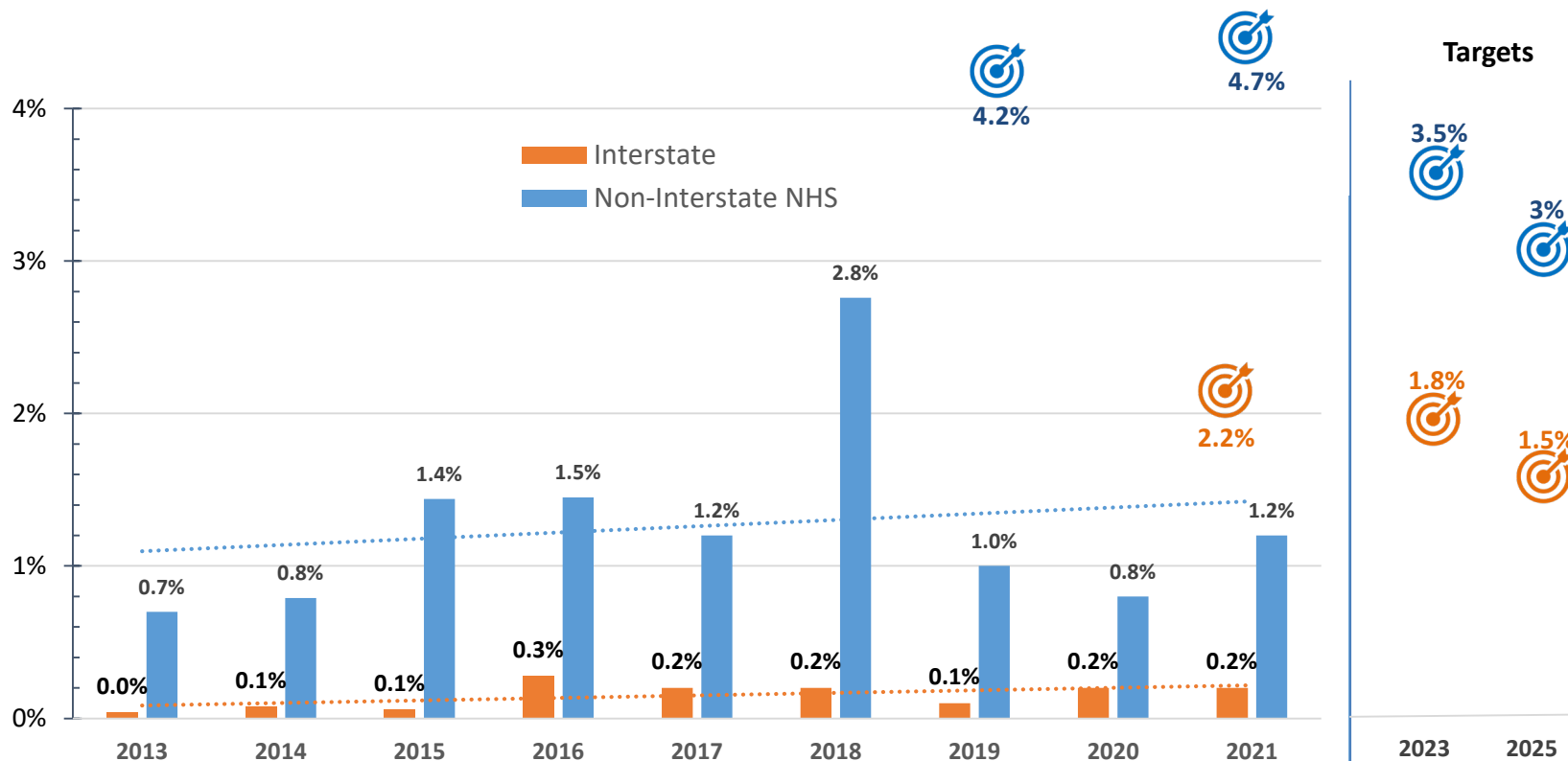
NC TPM

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PM2 Pavement in Poor Condition

Lower number = better performance

✓ 2019 and 2021 targets were met

Note: 2019 targets not required for Interstate pavement during the 2018-2021 performance period.
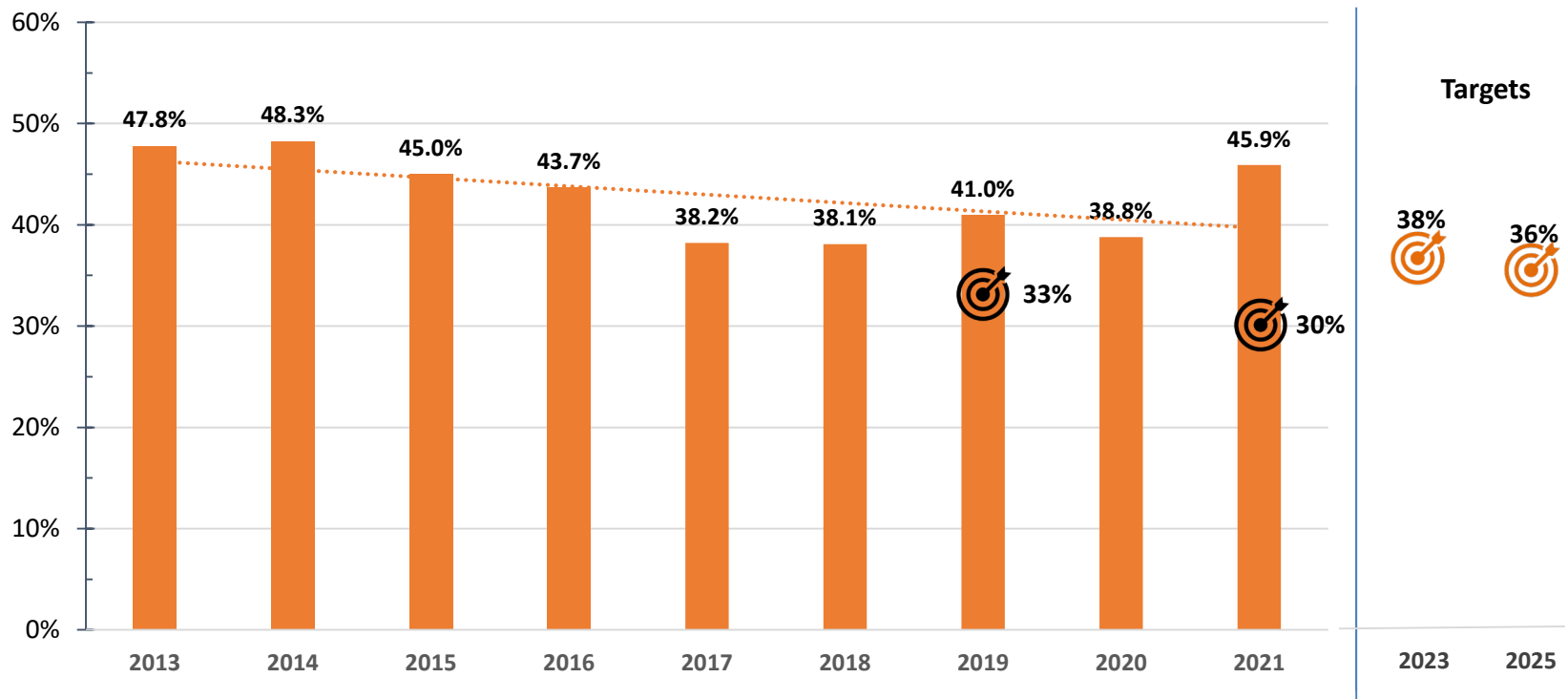
NC TPM ◎

PM2 Bridges – Good Condition

- Percent NHS bridge deck area in good condition
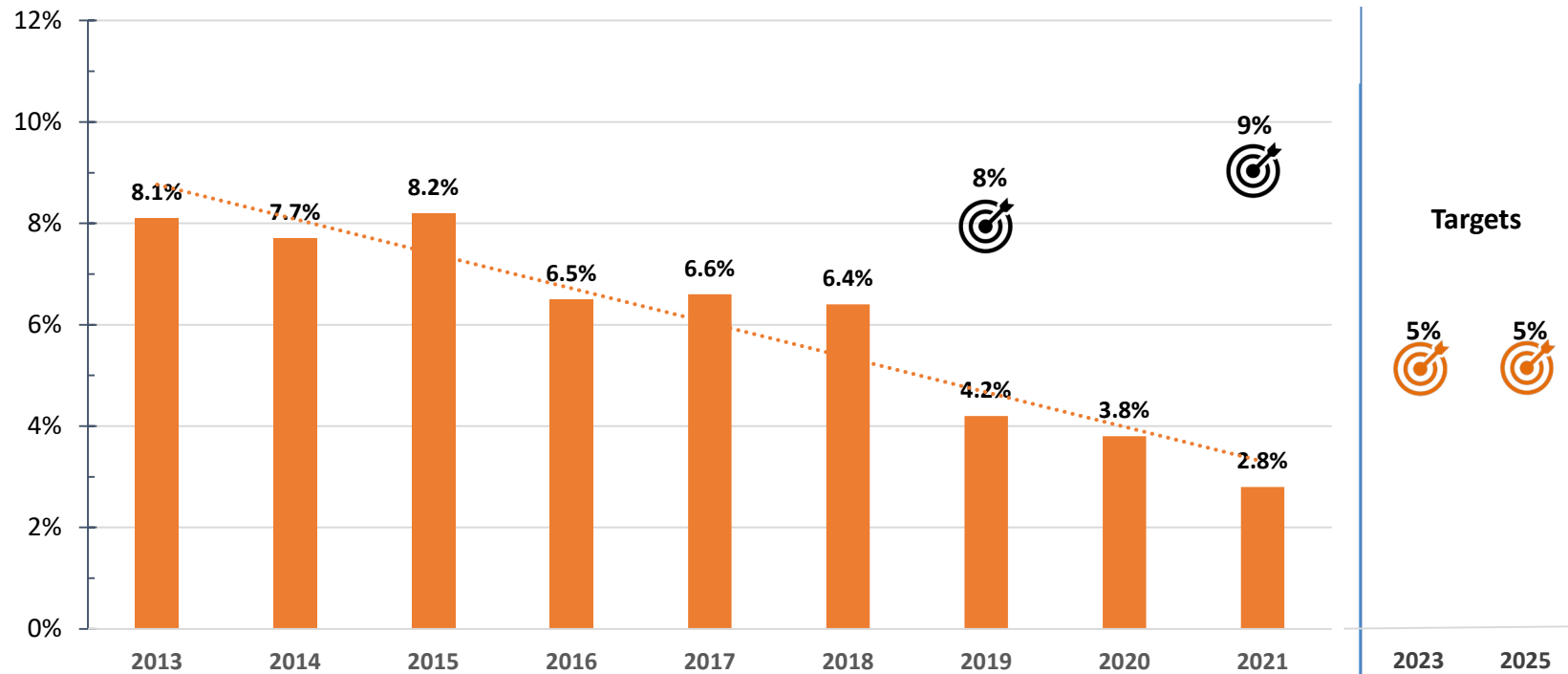- Higher number = better performance

✓ **2019 and 2021 targets met**

Year	Value
2013	47.8%
2014	48.3%
2015	45.0%
2016	43.7%
2017	38.2%
2018	38.1%
2019	41.0% (target 33%)
2020	38.8%
2021	45.9% (target 30%)

Targets
- 2023: 38%
- 2025: 36%

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PM2 Bridges – Poor Condition

- Percent NHS bridge deck area in poor condition
- Lower number = better performance
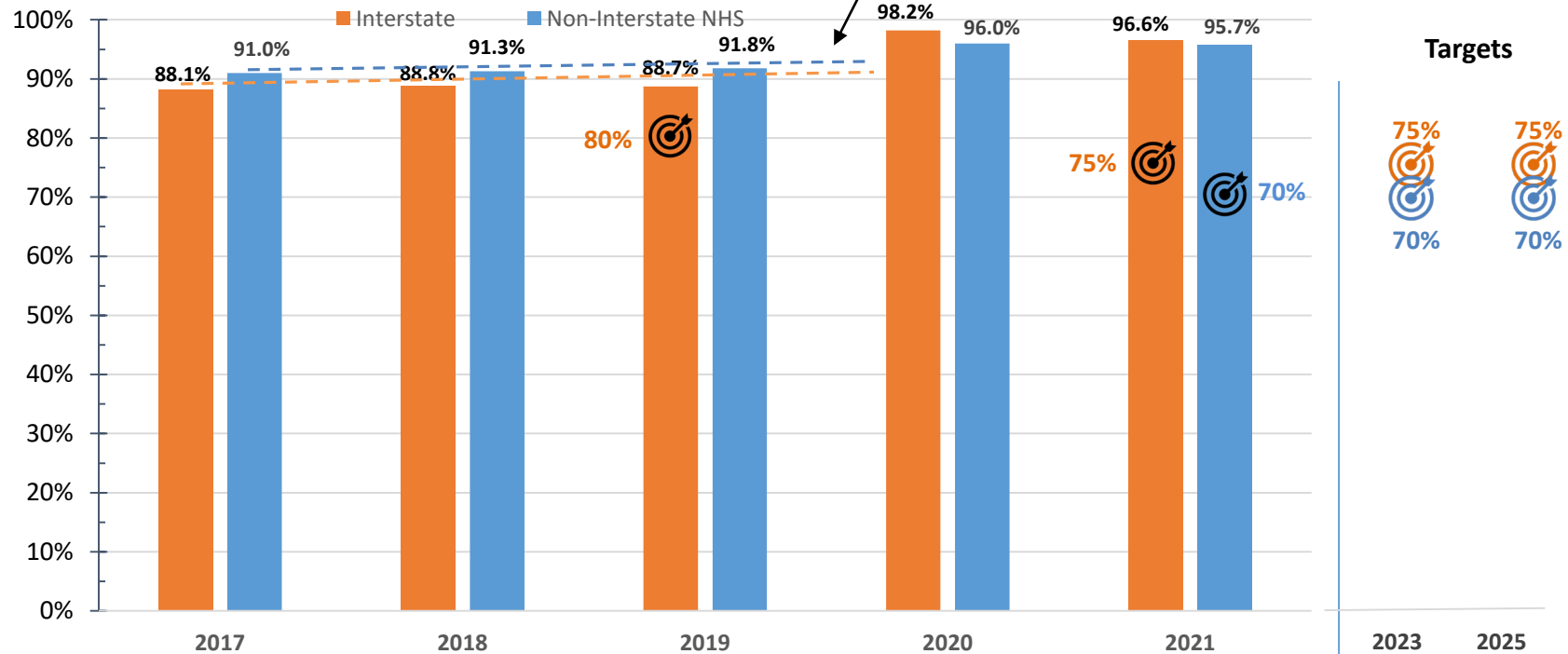
✓ **2019 and 2021 targets met**

PM3 Travel Time Reliability

- Percent of person-miles traveled on the <u>Interstate</u> that are reliable
- Percent of person-miles traveled on the <u>non-Interstate NHS</u> that are reliable
- Higher number = better performance

✓ **2019 and 2021 targets met**

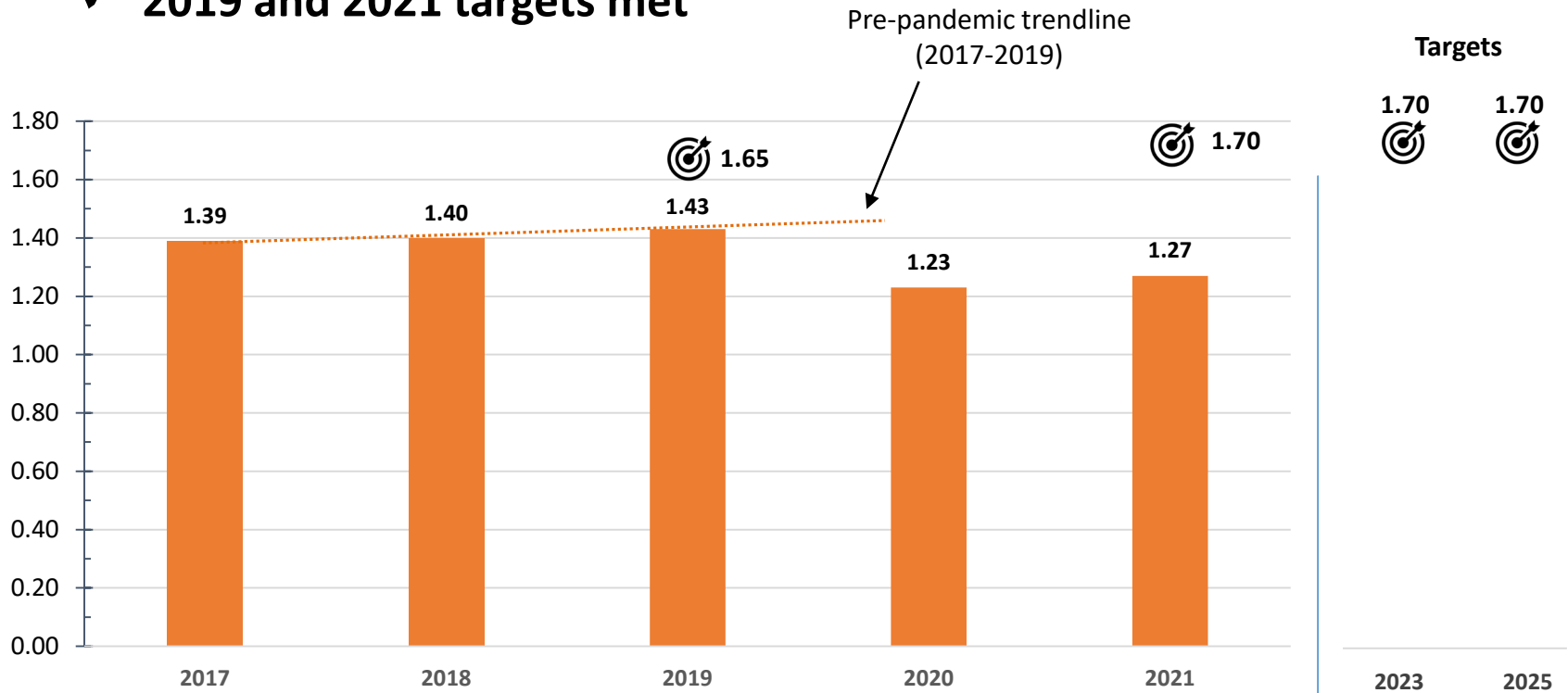*Note: 2-year targets not required for non-NHS Interstate reliability during the 2018-2021 performance period.*

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PM3 Truck Travel Time Reliability Index

- Interstate only
- Lower number = better performance

✓ **2019 and 2021 targets met**

Pre-pandemic trendline (2017-2019)

Targets

1.70   1.70

1.65

1.70

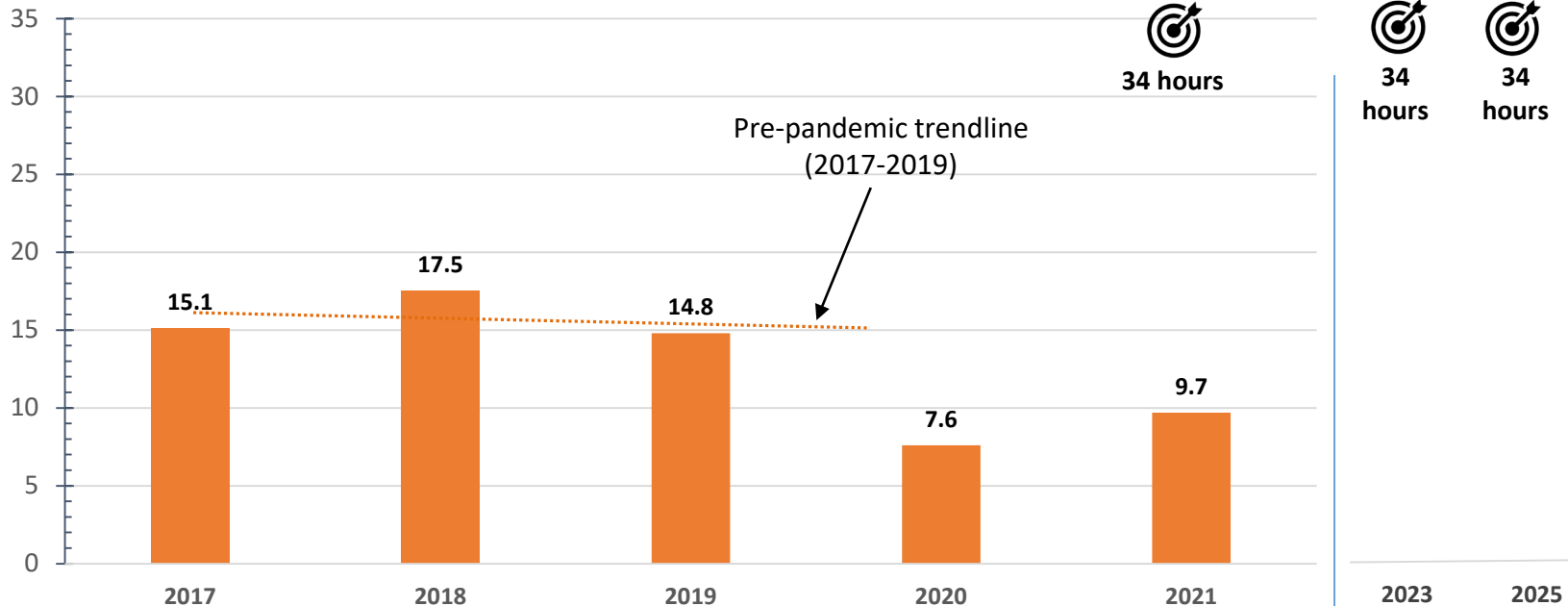| Year	Value
2017	1.39
2018	1.40
2019	1.43
2020	1.23
2021	1.27

2023   2025

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PM3 Peak Hour Excessive Delay (PHED) Charlotte Urbanized Area

- Annual hours of PHED per capita on the NHS

✓ **2021 target met**
(2019 target not required)

Targets

34 hours (2021)

34 hours (2023)   34 hours (2025)

Pre-pandemic trendline (2017-2019)

Chart data: 2017: 15.1, 2018: 17.5, 2019: 14.8, 2020: 7.6, 2021: 9.7

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PM3 Percent Non-SOV Travel – Charlotte Urbanized Area

✓ **2019 and 2021 targets met**

PM3 Peak Hour Excessive Delay (PHED) Concord Urbanized Area
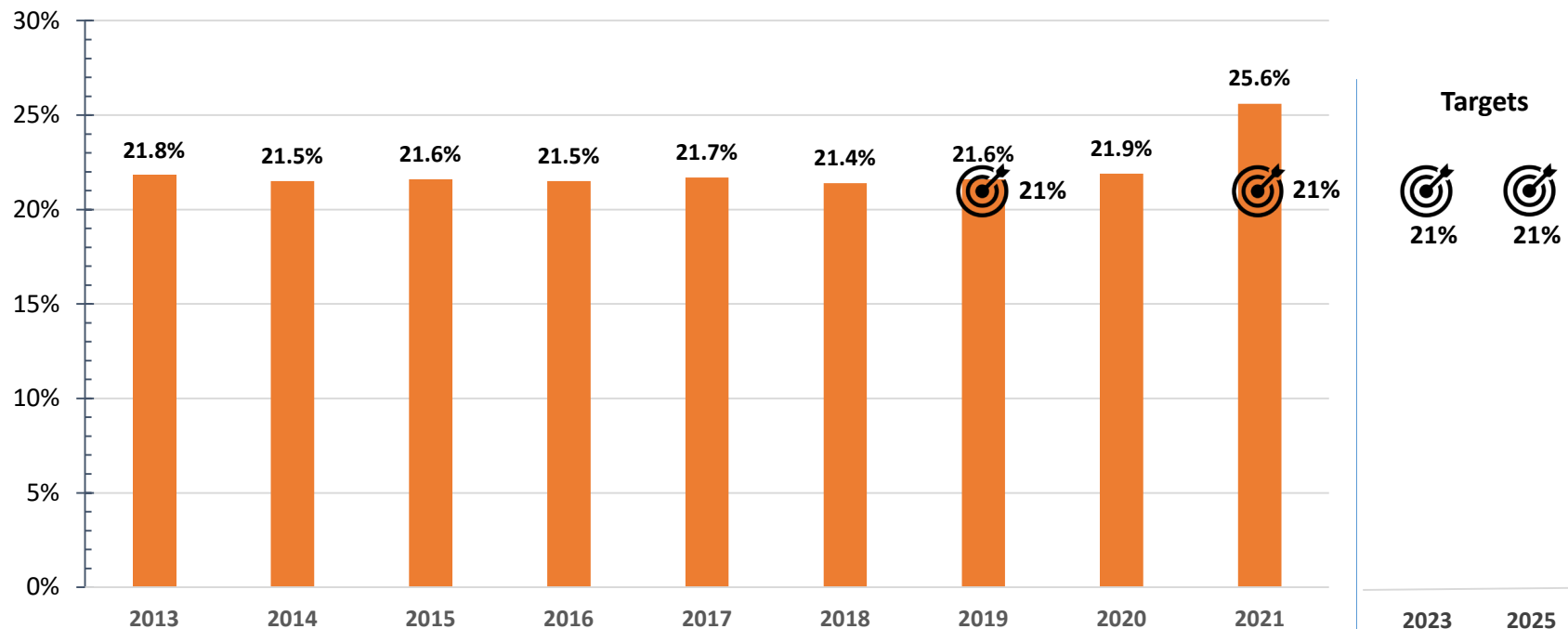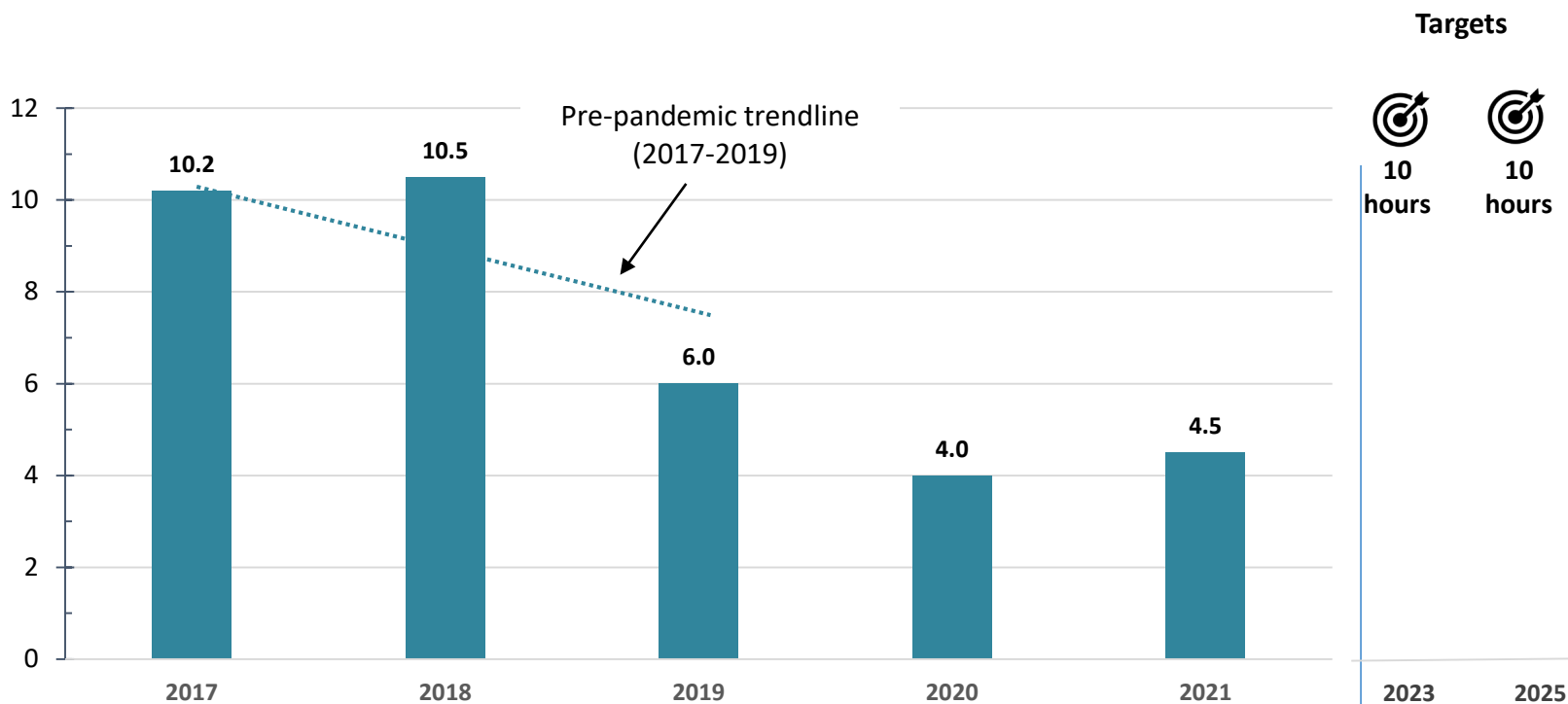
- Annual hours of PHED per capita on the NHS

Targets

Pre-pandemic trendline (2017-2019)

Chart data:
- 2017: 10.2
- 2018: 10.5
- 2019: 6.0
- 2020: 4.0
- 2021: 4.5

Targets:
- 2023: 10 hours
- 2025: 10 hours

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PM3 Percent Non-SOV Travel Concord Urbanized Area

Chart: PM3 Percent Non-SOV Travel, Concord Urbanized Area

Year	Percent
2013	17.2%
2014	17.6%
2015	17.1%
2016	17.3%
2017	17.7%
2018	17.4%
2019	17.9%
2020	18.8%
2021	19.5%

Targets

2023	2025
17%	17%

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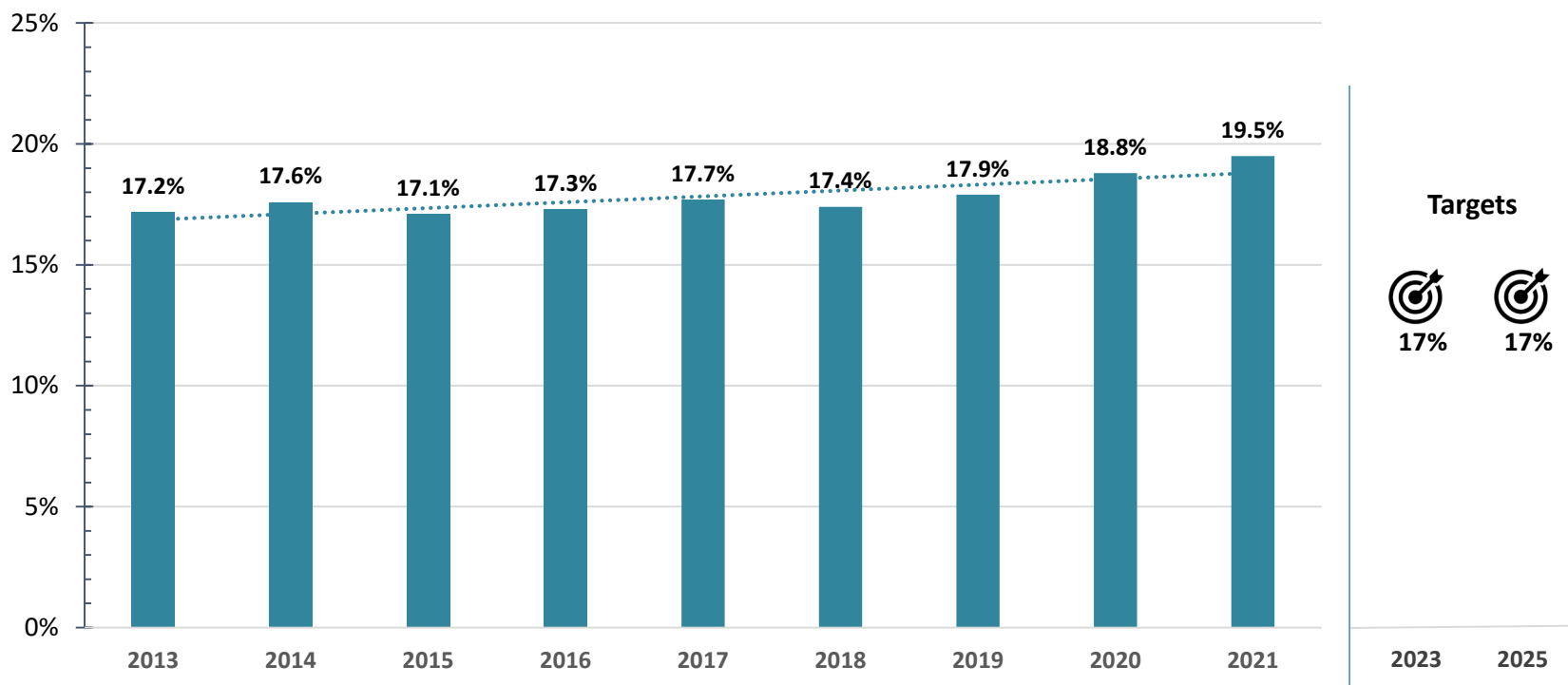
PM3 CMAQ Emissions Reductions

- Total emissions reductions from CMAQ projects (kg/day)

✓ **2019 and 2021 targets met**

Baseline (2014-2017)	2018-2019 Actual	2020-2021 Actual	2019 Target	2021 Target	2023 Target	2025 Target
VOC 11.135 NOx 32.907	VOC 133.747 NOx 429.415	VOC 90.606 NOx 245.308	VOC ≤ 0.252 NOx ≤ 2.360	VOC ≤ 0.504 NOx ≤ 4.720	VOC ≤ 0.557 NOx ≤ 2.229	VOC ≤ 1.114 NOx ≤ 4.458

All emissions are in kg/day

NC$_{TPM}$