



# Transportation Performance Measures

November 14, 2018

[www.dchcmpo.org](http://www.dchcmpo.org)

# Today's Objective

- ▶ Status of Transportation Performance Measures (TPM)
- ▶ Review four sets of TPMs for DCHC MPO
- ▶ Forward TPMs to Board for approval.

# TPMs

	TPM	MPO first adoption	Next due date (b)	Expected adoption
1	Transit Asset Management	June 2017	11/14/18	11/14/18
2	Bridge and Pavement	--	11/14/18	11/14/18
	System Performance	--	11/14/18	11/14/18
3	Safety	February 2018	02/27/19	11/14/18
	<del>Peak Hour (a) Excessive Delay</del>	--	--	--

(a) MPO not required to do PHED. Must be over 1 million population and AQ non-attainment. But, goes to over 200,000 in 2022.

(b) Due date is always 180 days after NCDOT reports measures to U.S. DOT.

# TPMs

- ▶ Required by FAST ACT (federal transportation legislation)
- ▶ Process:
  - U.S. DOT final rule becomes effective;
  - NCDOT adopts TPMs;
  - MPOs have 180 days to adopt NCDOT's TPM, or adopt MPO customized TPM
- ▶ Must be integrated into the MTP
- ▶ TIP must describe anticipated effect of the TIP in contributing to achieving Targets
- ▶ Must report Targets to NCDOT

# Transit Asset Management -- TAM

- ▶ TAM final Rule requires MPO transit providers (CHT, GoDurham, GoTriangle, Chatham Transit Network, OPT and Durham County access) and NCDOT-PTD to develop performance measures and targets for State of Good Repairs (SGR) by January 1, 2017.
- ▶ Grantees and sub recipients must comply in some way
- ▶ Tier II agencies are those without rail transit, and having 100 or fewer vehicles in service
- ▶ MPO transit providers **MUST** provide these plans and measures to the MPO
- ▶ TAM plan – updated every 4 years, horizon period of at least 4 years
- ▶ SGR Targets updated annually

# What is a TAM Plan?

- A plan that includes an inventory of capital assets, a condition assessment of these assets, and a decision support tool that leads to the prioritization of transit capital investments,
- A policy that documents the transit provider's commitment to achieving and maintaining a state of good repair (SGR) for all of its capital assets, and
- A strategy for carrying out this policy that includes SGR objectives and performance targets.
- A group plan must have a sponsor. NCDOT-PTD will sponsor group TAM plans for their sub recipients: Durham County Access, Chatham Transit Network and Orange Public Transportation

# TAM Definitions

- ▶ State of Good Repair (SGR) means the condition in which a capital asset is able to operate at a full level of performance.
- ▶ Useful Life Benchmark (ULB) means the expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA.
- ▶ Performance measure means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.
- ▶ Performance target means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by FTA.



# Examples: Asset Categories & Classes

## Category

## Class

### Equipment

- Construction
- Service Vehicles
- Maintenance

### Rolling Stock

- Railcars
- Buses
- Other Passenger Vehicles
- Ferries

### ~~Infrastructure~~

- Fixed Guideway
- Signal Systems
- Structures
- Power

### Facilities

- Support Facilities
- Passenger Facilities
- Parking Facilities

DCHC MPO does not have to have infrastructure in the plans because there is no passenger rail.



# SGR Targets

		GoDurham:		Chapel Hill Transit:		GoTriangle:	
Asset Category - Performance Measure	Asset Class	Useful Life Benchmark	2019 Target	Useful Life Benchmark	2019 Target	Useful Life Benchmark	2019 Target
<b>REVENUE VEHICLES</b>							
Age -- % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	AO - Automobile	0	N/A	8	20%	8	13%
	BU - Bus (61)	14	18%	14	10%	14	13%
	CU - Cutaway Bus (47)	32	55%	10	20%	10	13%
	MB - Mini-bus	0	N/A	10	20%	10	13%
	MV - Mini-van (3)	0	0%	8	20%	8	13%
	SV - Sport Utility Vehicle	0	N/A	8	20%	8	13%
	VN - Van	0	N/A	8	20%	8	13%
	Other	N/A	N/A	8	20%	8	13%
<b>EQUIPMENT</b>							
Age -- % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Non Revenue/Service Automobile (9 Ope+3 Adm)	2	0%	8	20%	8	22%
	Steel Wheel Vehicles	0	N/A	8	20%	8	22%
	Trucks and other Rubber Tire Vehicles (6)	1	0%	8	20%	8	22%
	Maintenance Equipment	5	50%	N/A	N/A	TBD	22%
	Computer Software	5	50%	N/A	N/A	TBD	22%
	Custom 1	(no custom assets)	N/A	N/A	N/A	TBD	22%
<b>FACILITIES</b>							
Condition -- % of facilities with a condition rating above 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration	(no benchmark)	100%	(no benchmark)	100%	(no benchmark)	100%
	Maintenance	(no benchmark)	100%	(no benchmark)	100%	(no benchmark)	100%
	Parking Structures	(no benchmark)	N/A	(no benchmark)	100%	(no benchmark)	100%
	Passenger Facilities	(no benchmark)	100%	(no benchmark)	N/A	(no benchmark)	100%
	Shelter	(no benchmark)	50%	(no benchmark)	100%	(no benchmark)	100%
	Storage	(no benchmark)	100%	(no benchmark)	N/A	(no benchmark)	100%
	Custom 1	(no benchmark)	N/A	(no benchmark)	N/A	(no benchmark)	100%

**Notes:** \* Facilities do not have a Useful Life Benchmark such as "years." The TERM scale is used instead of years.

\* TERM scale example: 5 = excellent, 1 = poor. Useful Life Benchmark values are in years.

# TAM Action Today

- ▶ Review the 1) TAM plans and checklist; 2) TAM Targets, and
- ▶ Recommend that the DCHC MPO Board receive the 1) TAM plans and checklists; 2) adopt the TAM resolution and Targets

## TPM



Transit Asset Management

Bridge and Pavement

System Performance

Safety

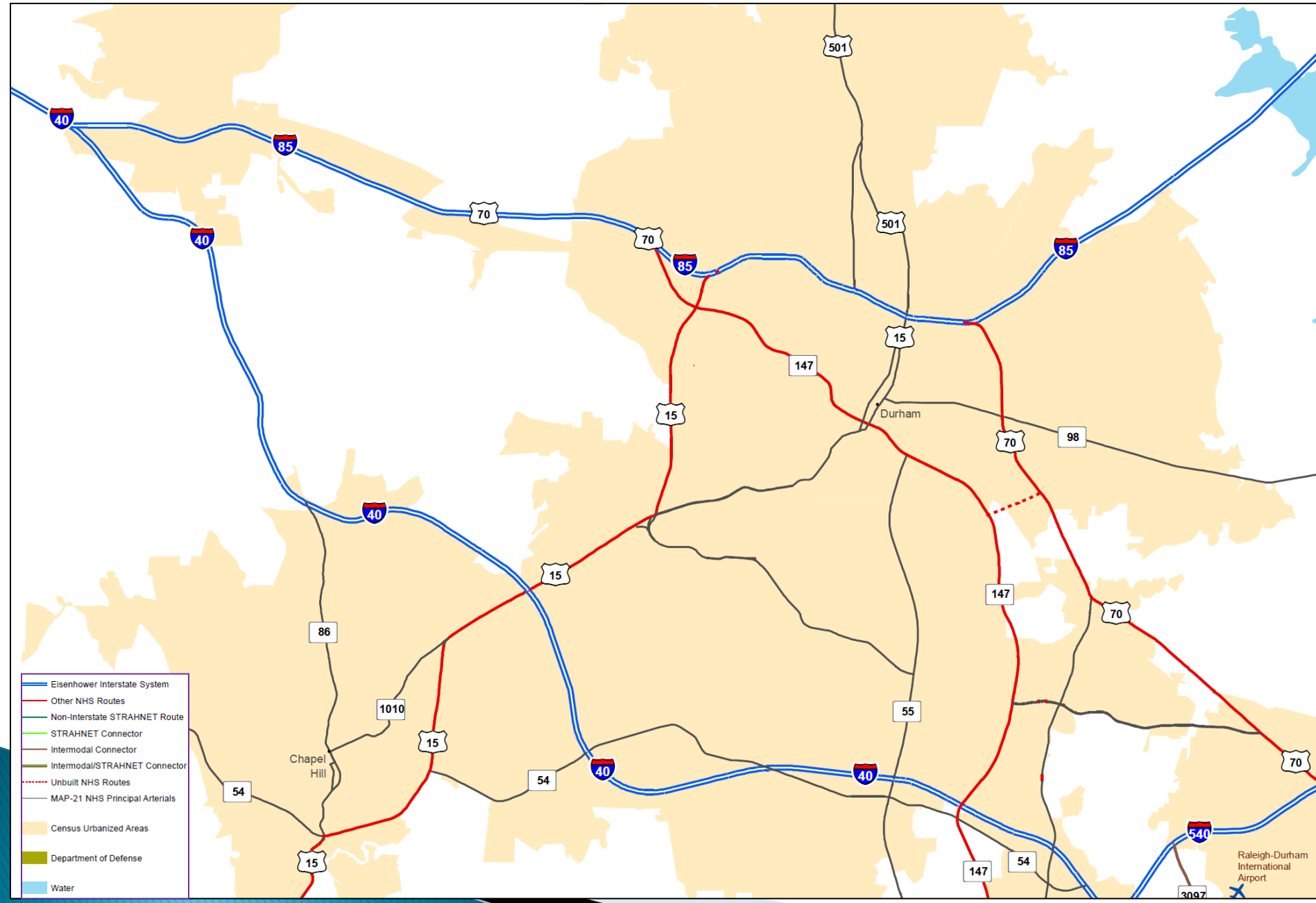


Peak Hour (a) Excessive Delay

## Pavement and Bridge Condition and System Performance

- ▶ Two options:
  - MPO establish own measures
  - Support NCDOT measures
- ▶ MPO will adopt NCDOT measures because NCDOT has data and experience in methodology
- ▶ Includes only roadways and bridges on National Highway System (NHS)
- ▶ If don't show significant progress toward meeting minimum target, NCDOT must obligate funding.

# National Highway System



# Pavement and Bridge Condition, and System Performance

Performance Measure	2-Year Target (1/1/2018 – 12/31/2019)	4-Year Target (1/1/2018 – 12/31/2021)
Interstate Pavement Condition (Good)	(no target)	37.0 %
Interstate Pavement Condition (Poor)	(no target)	2.2 %
Non-Interstate NHS Pavement Condition (Good)	27.0%	21.0%
Non-Interstate NHS Pavement Condition (Poor)	4.2%	4.7%
NHS Bridge Condition (Good)	33.0%	30.0%
NHS Bridge Condition (Poor)	8.0%	9.0%
Interstate Level of Travel Time Reliability	80.0%	75.0%
Non-Interstate NHS Level of Travel Time Reliability	(no target)	70.0%
Interstate Truck Travel Time Reliability	1.65	1.70

These are the same measures and targets in the adoption resolution.

LOTTR of 80% means that 80% of the system over four time periods (AM, mid-day, PM and off-peak) has TTR of 1.5 or better (80<sup>th</sup>/50<sup>th</sup>).

TTR of 1.65 means that the 80th percentile of truck traffic travel time divided by the 50th percentile of truck traffic travel time is 1.65 or lower.

# Pavement and Bridge Condition, and System Performance Action Today

- ▶ Review the 1) **Pavement and Bridge**, and 2) **System Performance**, Targets and
- ▶ Recommend that the DCHC MPO adopt the **Pavement and Bridge** and **System Performance** resolution.

## TPM

X	Transit Asset Management
✓	Bridge and Pavement
✓	System Performance
	Safety
X	Peak Hour (a) Excessive Delay

# Safety Targets

- ▶ Two options:
  - MPO establish own measures
  - Support NCDOT measures
- ▶ MPO will adopt NCDOT measures because NCDOT has data and experience in methodology
- ▶ Includes only state maintained roadways
- ▶ If don't show significant progress toward meeting minimum target, NCDOT must obligate funding.



# Safety Targets

For the 2019 Highway Safety Improvement Plan (HSIP), the goal is to reduce:

- a. total fatalities by 5.59 percent each year from 1,362.8 (2013–2017 average) to 1,214.7 (2015–2019 average) by December 31, 2019.
- b. the fatality rate by 5.02 percent each year from 1.216 (2013–2017 average) to 1.097 (2015–2019 average) by December 31, 2019.
- c. total serious injuries by 6.77 percent each year from 2,865.2 (2013–2017 average) to 2,490.6 (2015–2019 average) by December 31, 2019.
- d. the serious injury rate by 6.12 percent each year from 2.528 (2013–2017 average) to 2.228 (2015–2019 average) by December 31, 2019.
- e. the total non-motorized fatalities and serious injuries by 6.02 percent each year from 457.0 (2013–2017 average) to 403.7 (2015–2019 average) by December 31, 2019.

# Safety Targets Action Today

- ▶ Review the **Safety Targets** and
- ▶ Recommend that the DCHC MPO adopt the **Safety Targets** resolution.

## TPM

X	Transit Asset Management
X	Bridge and Pavement
X	System Performance
✓	Safety
X	Peak Hour (a) Excessive Delay

# 2045 MTP

- Each TPM resolution notes the inclusion in the MPO's 2045 MTP.



**NOW THEREFORE, BE IT FURTHER RESOLVED**, that the DCHC MPO's 2045 Metropolitan Transportation Plan references this resolution to incorporate these targets into the 2045 MTP. (continued)

- The performance measure section of the DCHC MPO's 2045 Metropolitan Transportation Plan (MTP) will reference the most recent adoption of each TPM.



<i>Performance Measure</i>	<i>FAST Act Target</i>
aired within two days by NCDOT	
esting or exceeding useful life benchmark	See most recent measure adopted by MPO
t class meeting or exceeding useful life benchmark	See most recent measure adopted by MPO
ediation rates below 2.0 on Federal Transit	

# Additional Slides

# Safety Targets

## Compare 2018 and 2019

	Targets (reduction per year)		
Safety Measure	2018	2019	% change
Total Fatalities	5.01	5.59	12%
Fatality Rate	4.75	5.02	6%
Total Serious Injuries	5.1	6.77	33%
Serious Injury Rate	4.75	6.12	29%
Total Non-motorized Fatalities and Serious Injuries	5.3	6.02	14%



Metropolitan Planning Organization  
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# State of Good Repair

## Compare 2018 and 2019

		GoDurham:		Chapel Hill Transit:		GoTriangle:		
Asset Category - Performance Measure	Asset Class	Useful Life Benchmark	2019 Target	Useful Life Benchmark	2019 Target	Useful Life Benchmark	2019 Target	2018 Target
<b>REVENUE VEHICLES</b>								
Age -- % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	AO - Automobile	0	N/A	8	20%	8	13%	50%
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	MB - Mini-bus	0	N/A	10	20%	10	13%	50%
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	SV - Sport Utility Vehicle	0	N/A	8	20%	8	13%	50%
	VN - Van	0	N/A	8	20%	8	13%	50%
	Other	N/A	N/A	8	20%	8	13%	50%
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	Steel Wheel Vehicles	0	N/A	8	20%	8	22%	50%
	Trucks and other Rubber Tire Vehicles (6)	1	0%	8	20%	8	22%	50%
	Maintenance Equipment	5	50%	TBD	20%	TBD	22%	50%
	Computer Software	5	50%	TBD	20%	TBD	22%	50%
	Custom 1	(no custom assets)	N/A	TBD	20%	TBD	22%	50%
<b>FACILITIES</b>								
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	Maintenance	(no benchmark)	100%	(no benchmark)	20%	(no benchmark)	100%	0%
	Parking Structures	(no benchmark)	N/A	(no benchmark)	20%	(no benchmark)	100%	0%
	Passenger Facilities	(no benchmark)	100%	(no benchmark)	20%	(no benchmark)	100%	0%
	Shelter	(no benchmark)	50%	(no benchmark)	20%	(no benchmark)	100%	0%
	Storage	(no benchmark)	100%	(no benchmark)	20%	(no benchmark)	100%	0%
	Custom 1	(no benchmark)	N/A	(no benchmark)	20%	(no benchmark)	100%	0%

Note: 2018 facilities condition rating were those facilities below 3.0.