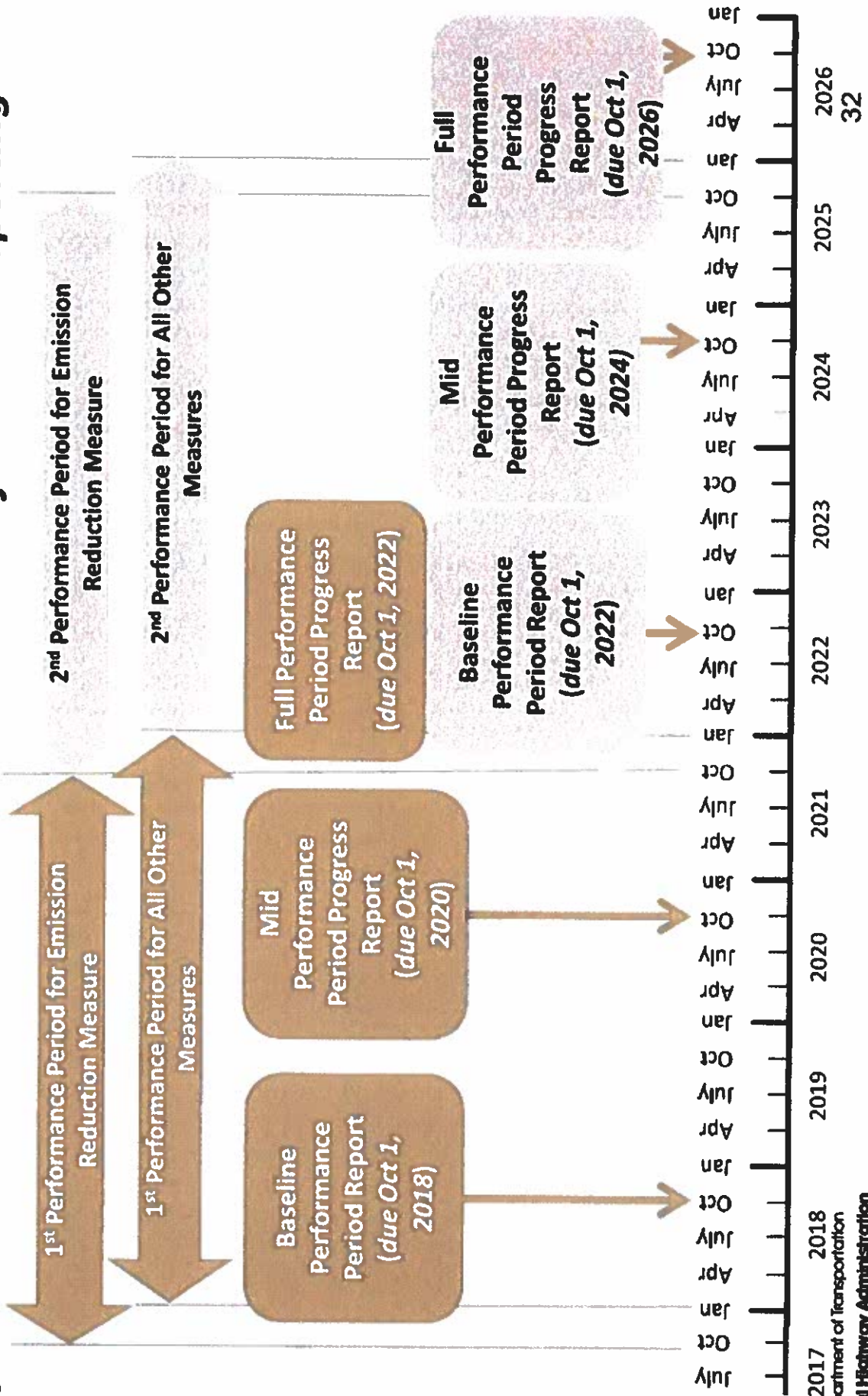




Performance Period and State DOT Biennial Performance Reporting



Accountability and Transparency in Performance Management

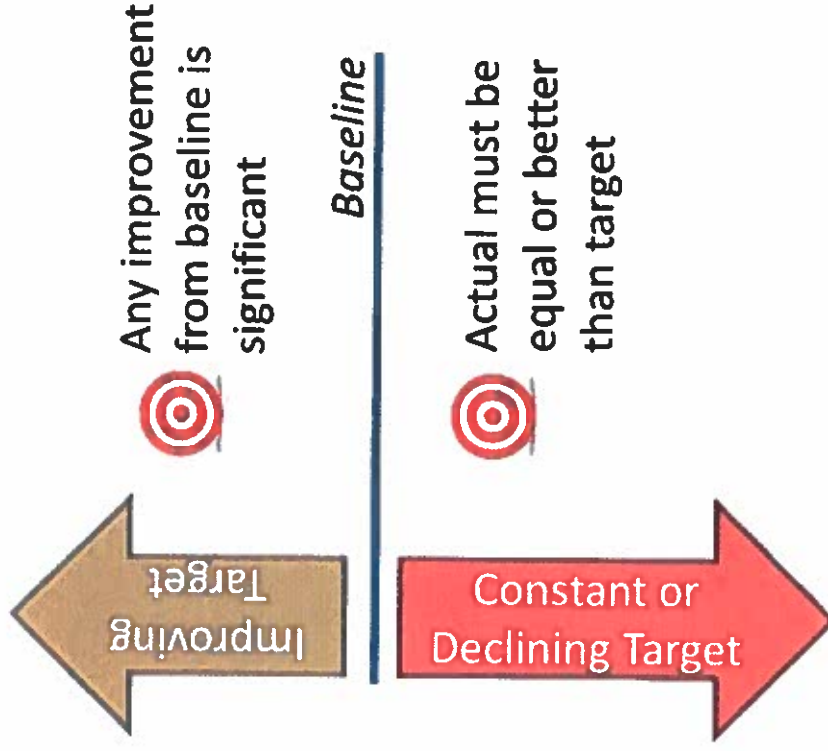
Significant Progress

- State Establishes Targets
 - Improving, Constant or Declining
- Determination

○ Is the actual equal or better than the established target?

OR

○ Is the actual better than the baseline?



Measures: Pavement & Bridge Condition (PM2)

Measure Area	Performance Measures
National Performance Management Measures to Assess Pavement Condition	<ul style="list-style-type: none"> • Percentage of pavements of the Interstate System in Good condition • Percentage of pavements of the Interstate System in Poor condition • Percentage of pavements of the non-Interstate NHS in Good condition • Percentage of pavements of the non-Interstate NHS in Poor condition
National Performance Management Measures to Assess Bridge Condition	<ul style="list-style-type: none"> • Percentage of NHS bridges classified as in Good condition • Percentage of NHS bridges classified as in Poor condition





Pavement TPM Regulations: Performance Measures

Performance Target	Interstate Condition	Non-Interstate NHS Condition
<i>Two-year</i>	% Good	% Good
	% Poor	% Poor
<i>Four-year</i>	% Good	% Good
	% Poor	% Poor



Pavement Condition Thresholds

	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)

Calculation of Pavement Measures

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





Pavement TPM Regulations: Minimum Condition and Penalty

**Minimum Condition Level: % of lane-miles of Interstate
System in poor condition shall not exceed 5.0%**

***FHWA will assess the minimum condition level annually
using data in HPMS as of June 15***

**Penalty: If minimum is not met, State must obligate
more of NHPP funds and transfer some of STP funds to
Interstate Program in next fiscal year**





What Do You Have to Report?

Bridge Condition Measures	
Performance Target	NHS Condition
Two-year	% Good by deck area
	% Poor by deck area
Four-year	% Good by deck area
	% Poor by deck area



Condition Rating Thresholds for Classification

NBI Rating Scale
(from 0 – 9)

9	8	7	6	5	4	3	2	1	0
Good			Fair		Poor				

Bridge	Deck <i>(Item 58)</i>	≥ 7	5 or 6	≤ 4
	Superstructure <i>(Item 59)</i>	≥ 7	5 or 6	≤ 4
	Substructure <i>(Item 60)</i>	≥ 7	5 or 6	≤ 4
	Culvert <i>(Item 62)</i>	≥ 7	5 or 6	≤ 4

Bridge Minimum Condition Level

- 23 USC 119 (implemented in 23 CFR 490)
- Maintain NHS bridges at less than 10.0% of deck area as structurally deficient
- If above 10.0% for a 3-year period
 - Penalty provision takes effect
 - Amount equal to 50% of a State's FY09 Highway Bridge Program apportionment is set aside and obligated
 - Remains in effect until structural deficiency drops to 10.0% or less

PM3 Travel Time Measures Summary...

	DOT/MPO Input (excl. Targets)	Metric	Measure	Volume Component	Occupancy Factor
LOTR- IH	Avg Occupancy AADT	P80/P50	% Reliable PMT (4 time periods)	Yes	Yes
LOTR- Non-IH	Avg Occupancy AADT	P80/P50	% Reliable PMT (4 time periods)	Yes	Yes
TTTR- IH	None	P95/P50	Avg of P95/P50 (of 5 time periods)	NO	NO
Peak Hour Excess Delay	-Speed Limit -8 Hours of Peak Periods -Avg Occupancy -Hourly Volume -Urban Area	Annual Hours of Peak Hour Excessive Delay	Annual Hours Per Capita During Peak Hours	Yes 1M then 200k Population in 4 yrs	Volume Weighted Average Occupancy Factor (cars,buses, trucks)

Set Target Parameters



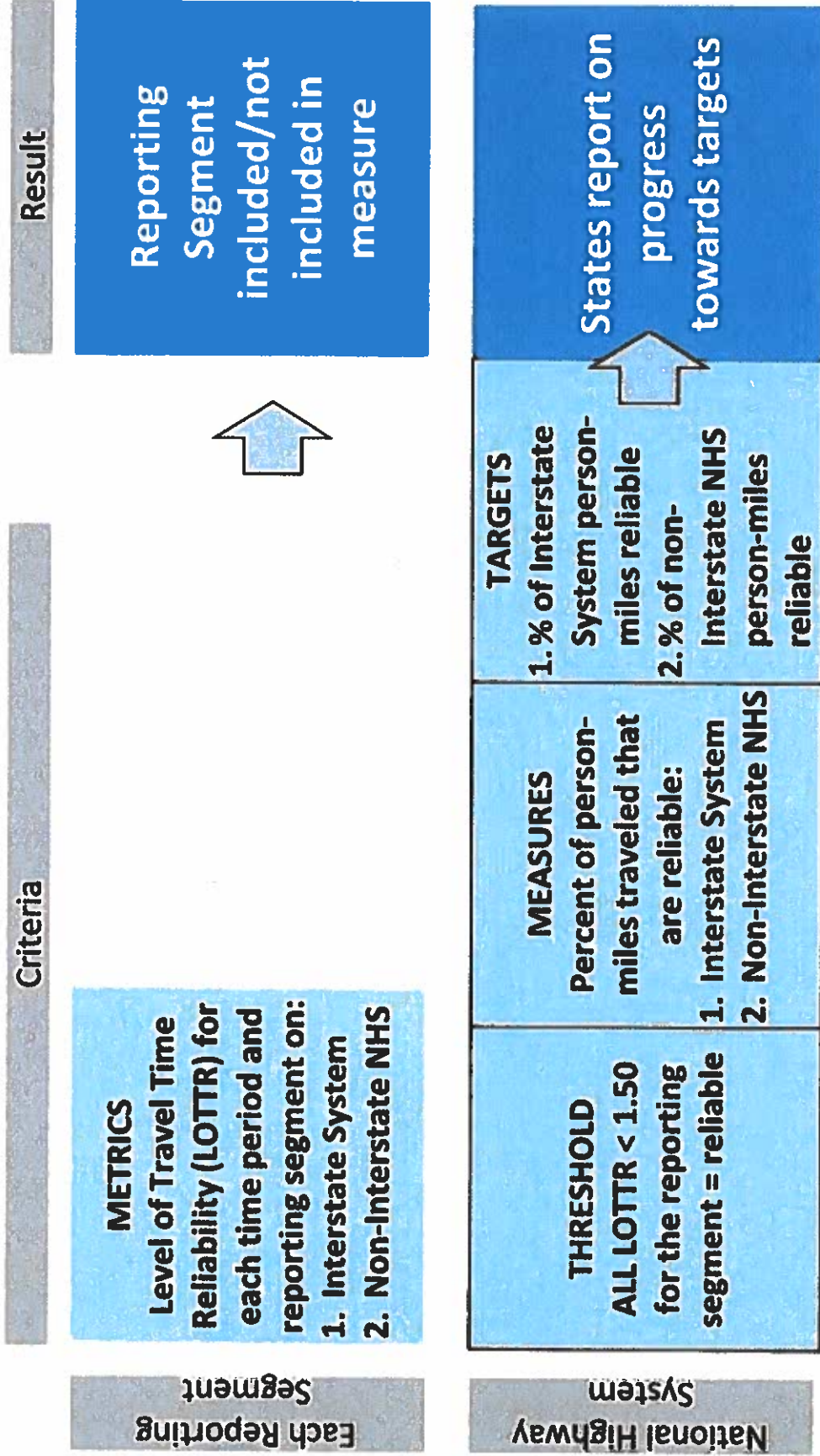
Measures: System Performance & Freight (PM3)

Performance Measures	
Performance of the National Highway System (System Performance)	<ul style="list-style-type: none">• Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable• Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the non-Interstate NHS that are reliable
Freight Movement on the Interstate System	<ul style="list-style-type: none">• Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index





§ 490.507 Travel Time Reliability Measures



Level of Travel Time Reliability (LOTTTR) Metrics

- Calculated for each reporting segment
- Calculated for each of 4 time periods for the entire year (nearest hundredth)

$$LOTTTR_i = \frac{80th \text{ Percentile Travel Time}_i}{50th \text{ Percentile Travel Time}_i}$$

Where i is the time period:

1. 6 a.m. – 10 a.m., weekdays
2. 10 a.m. – 4 p.m., weekdays
3. 4 p.m. – 8 p.m., weekdays
4. 6 am. – 8 p.m., weekends

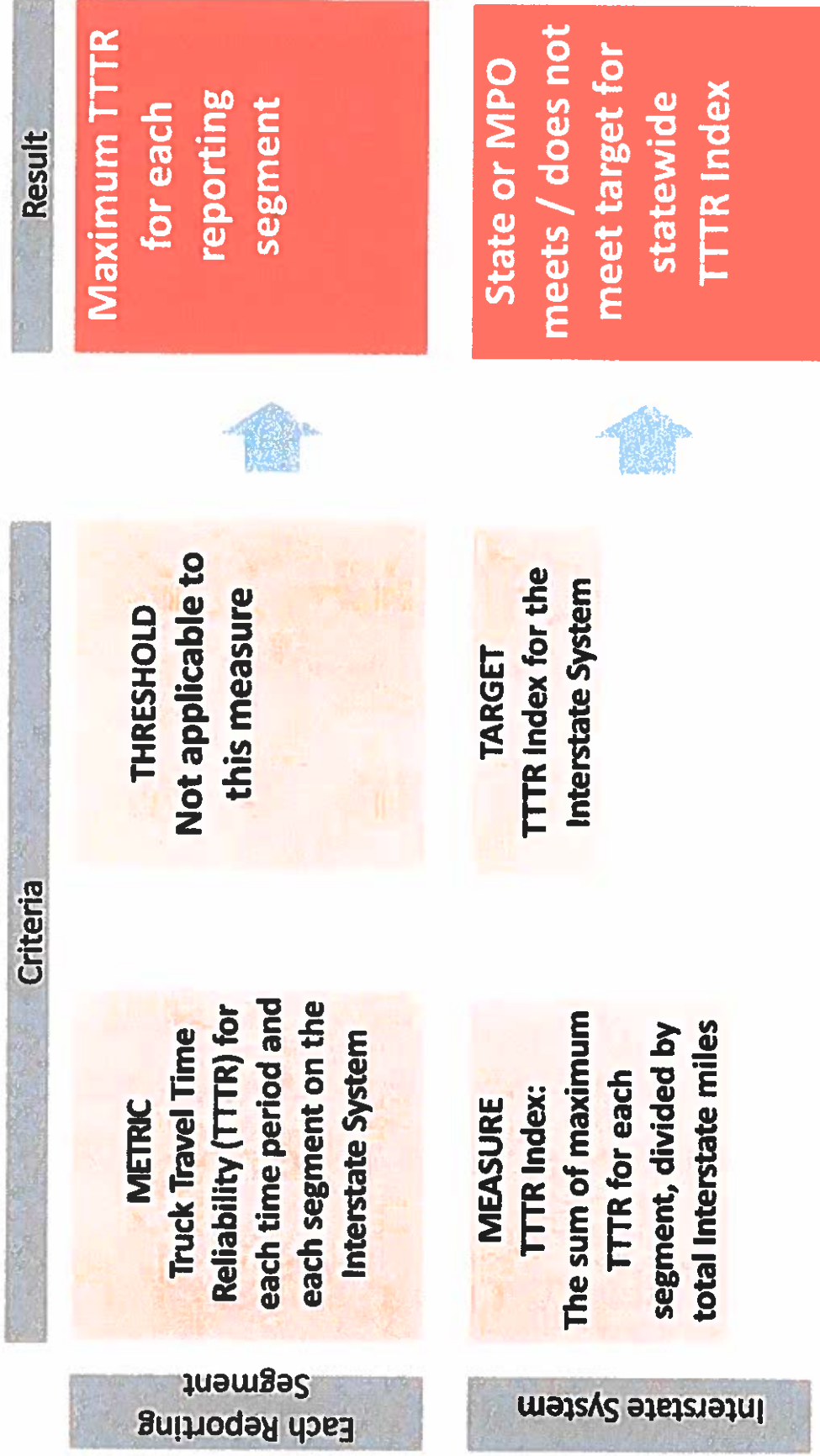
LOTRR Example: Metric

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

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



23 CFR 490.607 Freight Reliability Measure



Truck Travel Time Reliability (TTTR) Metrics

- Computed for each time period for the entire year **for Interstate segments only**, rounded to nearest hundredth

$$TTTR_i = \frac{95th\ Percentile\ Travel\ Time_i}{50th\ Percentile\ Travel\ Time_i}$$

Where i is the time period:

1. 6 a.m. – 10 a.m. weekdays
2. 10 a.m. – 4 p.m. weekdays
3. 4 p.m. – 8 p.m. weekdays
4. 8 p.m. – 6 a.m. all days
5. 6 a.m. – 8 p.m. weekends



23 CFR 490.611 Freight Reliability Metric

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

Example

TTTR: Single Segment, Interstate Highway System

$$\text{TTTR} = \frac{63 \text{ sec}}{42 \text{ sec}} = 1.50$$

6 – 10 a.m.

$$\text{TTTR} = \frac{62 \text{ sec}}{45 \text{ sec}} = 1.38$$

Monday – Friday 10 a.m. – 4 p.m.

$$\text{TTTR} = \frac{85 \text{ sec}}{50 \text{ sec}} = \mathbf{1.70}$$

4 – 8 p.m.

$$\text{TTTR} = \frac{52 \text{ sec}}{40 \text{ sec}} = 1.30$$

Weekends 6 a.m. – 8 p.m.

$$\text{TTTR} = \frac{46 \text{ sec}}{38 \text{ sec}} = 1.21$$

Overnight 8 p.m. – 6 a.m.

1.70

Maximum TTTR





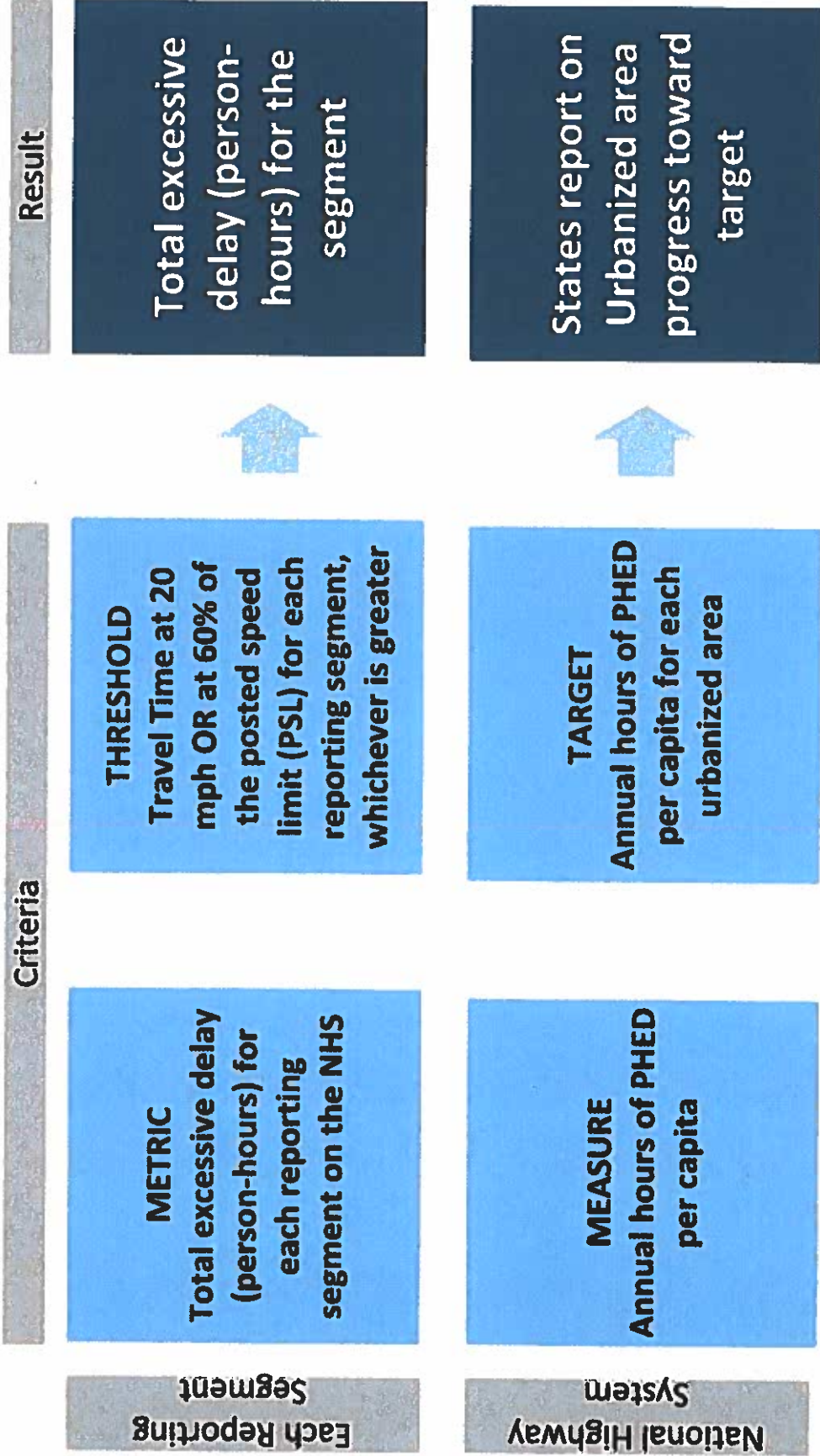
Measures: CMAQ Program (PM3)

Measure Area	Performance Measures
Measures to Assess the CMAQ Program: Traffic Congestion	<ul style="list-style-type: none">• Peak Hour Excessive Delay(PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita• Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel
Measure to Assess the CMAQ Program: On-Road Mobile Source Emissions	<ul style="list-style-type: none">• Emissions Measure: Total Emission Reductions





§ 490.707 Peak Hour Excessive Delay (PHED) Measure



Definition of Peak Periods

- Calculations only need to be done for the following hours for **weekdays** (total 8 hours per day)
 - Morning Peak Hours are 6:00 a.m. – 10 a.m.
 - Afternoon Peak Hours are either (agency choice):
 - 3:00 p.m. – 7:00 p.m. or
 - 4:00 p.m. – 8:00 p.m.