

## ODOT May 20, 2018 Transportation Performance Management Statewide Target Setting

### ***Pavement and Bridge Performance Measures***

Federal rules 23 CFR 490.307 and 23 CFR 490.407 establish measures to evaluate the condition of Ohio's National Highway System (NHS) pavements and bridges. ODOT must establish 2-year and 4-year statewide targets for both metrics within a four year performance period. Additionally, ODOT must establish only 4-year targets for interstate pavements. There are four targets for highways and two for bridges. These measures are listed as follows:

<b>National Highway System Pavement Condition</b>		
<b>Pavements</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Percentage of Interstate Pavements in Good Condition	N/A	50%
Percentage of Interstate Pavements in Poor Condition	N/A	1%
Percentage of Non-Interstate NHS Pavements in Good Condition	35%	35%
Percentage of Non-Interstate NHS Pavements in Poor Condition	3%	3%
<b>National Highway System Bridge Condition</b>		
<b>Bridge</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Percentage of NHS Bridges in Good Condition	50%	50%
Percentage of NHS Bridges in Poor Condition	5%	5%

The targets reflect ODOT's review of eight years of HPMS submitted NHS pavement data and 10 years of bridge condition data. Highways and bridges are both rated as good, fair, or poor. Statewide targets are only required for the poor and good conditions. ODOT's review confirms that a high percentage of Ohio's NHS and Interstate pavements and bridges are in good condition with low percentages of poor conditions. ODOT's Pavement and Bridge Management Systems predict these patterns to continue.

### ***Travel Time Reliability and Freight Movement Performance Measures***

Federal rules 23 CFR 490.507 and 23 CFR 490.607 establish National Highway System travel time reliability and Interstate System freight reliability measures. For both personal travel time reliability and freight travel time reliability measures, ODOT is required to establish 2-year and 4-year targets within a four year performance period. The two measures are listed below:

<b>Level of Travel Time Reliability</b>		
<b>Travel Time Reliability</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Interstate Travel Time Reliability	85%	85%
Non-Interstate NHS Travel Time Reliability	N/A	80%
<b>Level of Truck Travel Time Reliability</b>		
<b>Truck Travel Time Reliability</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Interstate Truck Travel Time Reliability Index	<1.50	<1.50

Level of Travel Time Reliability (LOTRR) is defined as the ratio of the longer travel times (80th percentile) to a “normal” travel time (50th percentile). The measures are the percent of person-miles traveled on the relevant portion of the NHS that are reliable.

Truck Travel Time Reliability (TTTR) is the ratio generated by dividing the 95th percentile travel time by the normal time (50th percentile) for each Interstate segment. The TTTR Index is established by multiplying each segment’s largest ratio of five reporting periods by its length then dividing the sum of all length-weighted segments by the total length of Interstate.

The data to assess travel time reliability and establish targets is sourced from FHWA’s National Performance Management Research Data Set (NPMRDS). ODOT is participating in FHWA’s Performance Management Analytical Tool pooled fund where a contractor assists states in calculating NPMRDS travel time reliability metrics. The NPMRDS is a relatively new dataset. The current iteration reflects only calendar year 2017 data. Accordingly, ODOT does not have historical data to review in establishing targets. ODOT’s Travel Time Reliability and Freight Travel Time Reliability targets are reflective of the calendar year 2017 data available.

**CMAQ Traffic Congestion Performance Measures**

Federal rule 23 CFR 490.707 establishes Congestion Mitigation and Air Quality (CMAQ) Traffic Congestion performance measures for large urbanized areas in Ohio. One measure focuses on monitoring the Peak Hour Excessive Delay (PHED), which is the effort to monitor the time people spend in traffic delays. The other measure focuses on decreasing single occupant vehicle trips (Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel). The measures are listed as follows:

<b>Urbanized Area Peak Hour Excessive Delay</b>		
<b>Peak Hour Excessive Delay (PHED)</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Peak Hour Excessive Delay per Capita – Cincinnati	N/A	<12 hrs. / yr.
Peak Hour Excessive Delay per Capita – Cleveland	N/A	<10 hrs. / yr.
Peak Hour Excessive Delay per Capita – Columbus	N/A	<12 hrs. / yr.
<b>Urbanized Area Percent of Non-SOV Travel</b>		
<b>Percent of Non-SOV Travel</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Percent of Non-SOV Travel – Cincinnati	17.4%	17.4%
Percent of Non-SOV Travel – Cleveland	18.0%	18.5%
Percent of Non-SOV Travel – Columbus	18.2%	19.0%

For the establishment of the PHED measure, ODOT and its partner agencies reviewed data from 2017 using the RITIS Analytics Tool, which draws data from the NPMRDS. Only data from 2017 was reviewed, as this was the only year available in this new dataset. For the establishment of the Percent of Non-SOV Travel Measure, ODOT and its partner agencies used the American Community Survey data’s estimates of the percentage of people that travel to work by means other than driving alone (i.e. carpooling, telework, biking, walking, or taking the bus). ODOT was able to review five years of data, noting stable travel patterns for this measure. Upon analysis, ODOT and its partner agencies adopted targets based on recent travel trends and future expected performance.

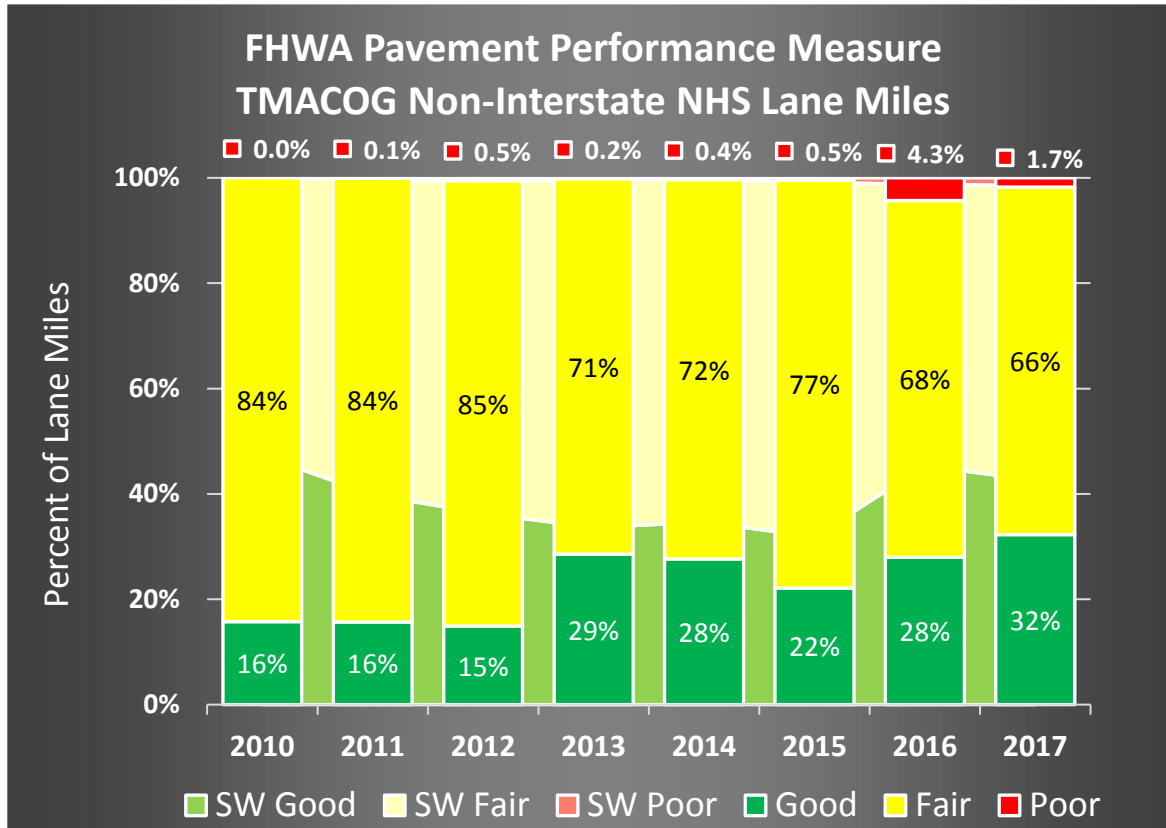
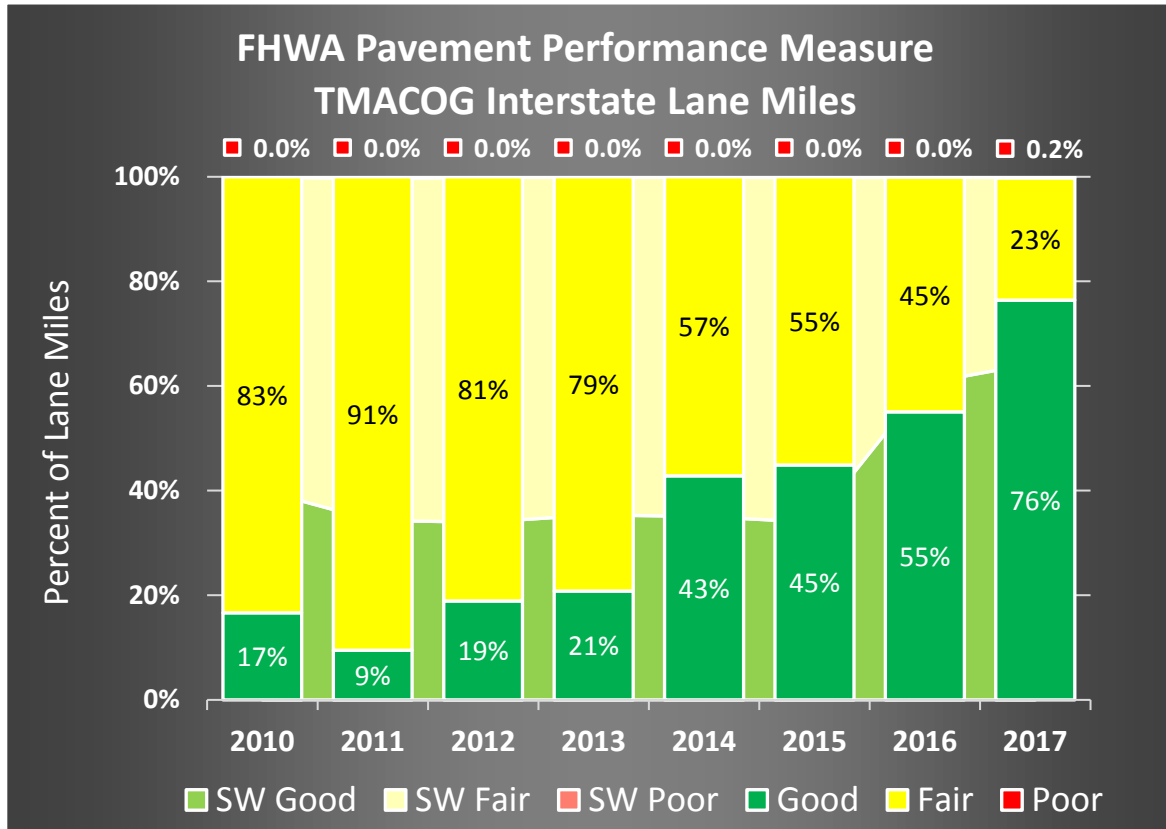
**Total CMAQ Emission Reduction Performance Measures**

Federal rule 23 CFR 490.807 establishes Total CMAQ Emission Reduction performance measures for Ohio’s US EPA designated air quality nonattainment and maintenance areas. There are three mobile source pollutants Ohio is required to set performance targets for: Volatile Organic Compounds (VOCs), Nitrous Oxide (NO<sub>x</sub>), and Particulate Matter at 2.5 Micrometers in Diameter (PM<sub>2.5</sub>). For all three measures, ODOT is required to set both 2-year and 4-year targets within a four year performance period. The measures and targets are listed as follows:

<b>Total CMAQ Emission Reduction</b>		
<b>Total CMAQ Emission Reduction</b>	<b>2 Yr. Target</b>	<b>4 Yr. Target</b>
Volatile Organic Compounds Total Emission Reduction	69 kg/day	69 kg/day
Nitrous Oxide Total Emission Reduction	537 kg/day	537 kg/day
Particulate Matter at 2.5 Micrometers Total Emission Reduction	36 kg/day	36 kg/day

The targets reflect ODOT’s estimate of the emission reductions anticipated from future CMAQ projects in the 21 affected Ohio counties. The targets are based on review of the 2013 – 2016 project emissions data recorded in the Federal Highway Administration’s CMAQ Public Access Database and were averaged to form a trend analysis.

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**Interstate**

TMACOG - Lane Miles					Statewide - Lane Miles			
Year	Good	Fair	Poor	Total	SW Good	SW Fair	SW Poor	Total
2010	148.9	746.4	0.0	895	6,371	9,529	1.1	15,901
2011	84.8	811.0	0.0	896	5,467	10,414	56.9	15,938
2012	175.9	754.6	0.0	930	5,456	10,584	18.3	16,058
2013	194.0	737.6	0.0	932	5,701	10,423	6.4	16,131
2014	399.5	533.6	0.0	933	5,671	10,471	18.6	16,161
2015	427.5	524.1	0.0	952	5,514	10,711	20.9	16,246
2016	535.0	436.7	0.4	972	9,838	6,401	14.5	16,254
2017	807.0	246.6	2.2	1,056	10,624	5,854	21.2	16,498

TMACOG - %					Statewide - %			
Year	Good	Fair	Poor	Total	SW Good	SW Fair	SW Poor	Total
2010	17%	83%	0.0%	100%	40%	60%	0.0%	100%
2011	9%	91%	0.0%	100%	34%	65%	0.4%	100%
2012	19%	81%	0.0%	100%	34%	66%	0.1%	100%
2013	21%	79%	0.0%	100%	35%	65%	0.0%	100%
2014	43%	57%	0.0%	100%	35%	65%	0.1%	100%
2015	45%	55%	0.0%	100%	34%	66%	0.1%	100%
2016	55%	45%	0.0%	100%	61%	39%	0.1%	100%
2017	76%	23%	0.2%	100%	64%	35%	0.1%	100%

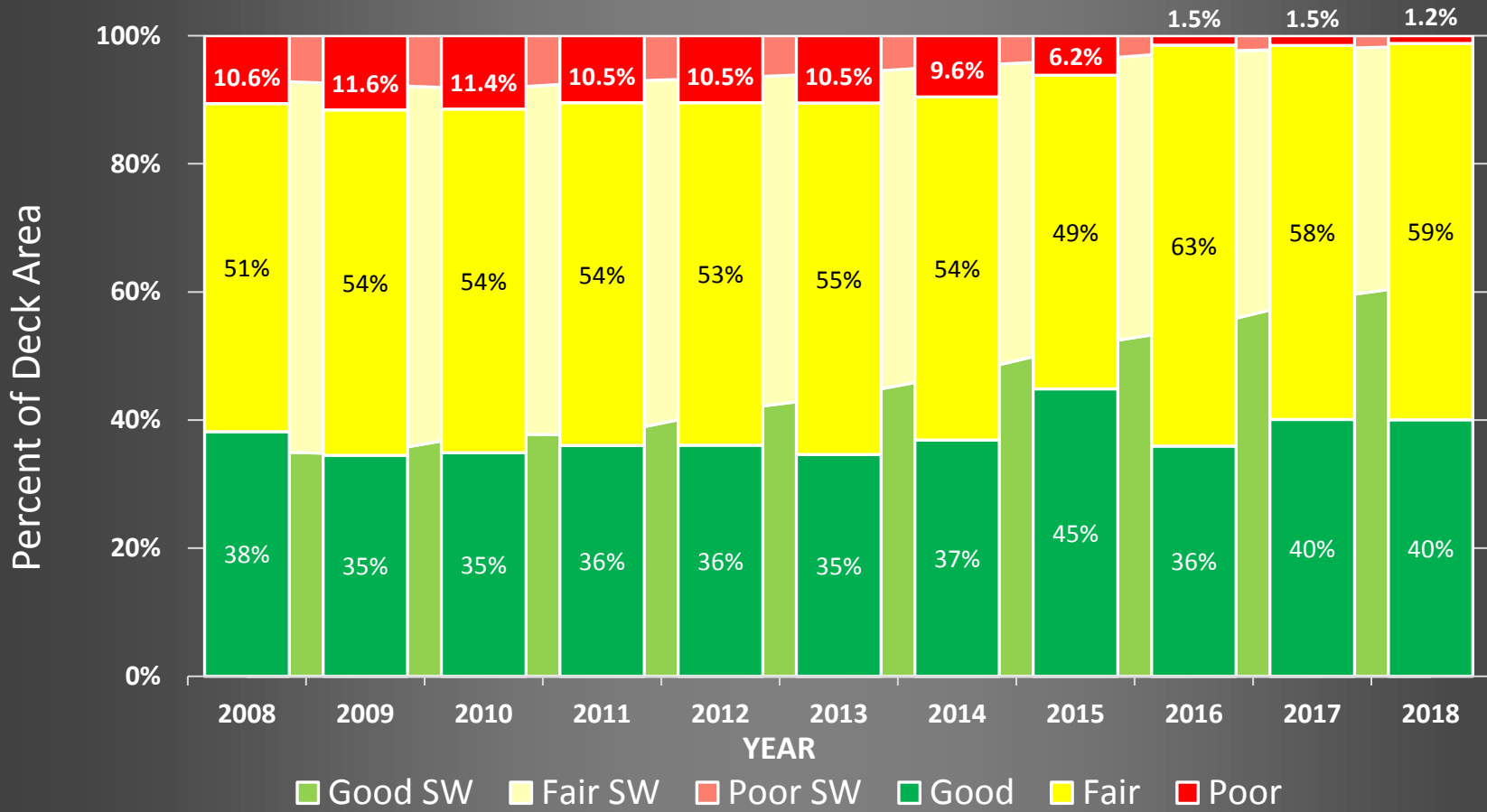
**Non- Interstate**

TMACOG - Lane Miles					Statewide - Lane Miles			
Year	Good	Fair	Poor	Total	SW Good	SW Fair	SW Poor	Total
2010	81.6	435.7	0.0	517	7,717	8,602	1	16,320
2011	79.5	426.0	0.3	506	6,503	9,773	61	16,337
2012	140.1	794.4	4.9	939	8,544	14,835	180	23,559
2013	291.7	728.2	1.8	1,022	8,052	15,806	89	23,948
2014	282.5	736.2	3.7	1,022	8,305	15,547	119	23,972
2015	228.8	799.2	4.8	1,033	7,654	16,185	180	24,018
2016	356.3	862.9	54.8	1,274	11,192	13,217	311	24,719
2017	349.1	714.3	18.9	1,082	11,118	14,629	363	26,110

TMACOG - %					Statewide - %			
Year	Good	Fair	Poor	Total	SW Good	SW Fair	SW Poor	Total
2010	16%	84%	0.0%	100%	47%	53%	0.0%	100%
2011	16%	84%	0.1%	100%	40%	60%	0.4%	100%
2012	15%	85%	0.5%	100%	36%	63%	0.8%	100%
2013	29%	71%	0.2%	100%	34%	66%	0.4%	100%
2014	28%	72%	0.4%	100%	35%	65%	0.5%	100%
2015	22%	77%	0.5%	100%	32%	67%	0.7%	100%
2016	28%	68%	4.3%	100%	45%	53%	1.3%	100%
2017	32%	66%	1.7%	100%	43%	56%	1.4%	100%

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## FHWA NHS Bridge Performance Measure TMACOG (Toledo)



### TMACOG (Toledo) - Square Feet

Year	Good_Area	Fair_Area	Poor_Area	Total_NHS
2008	1,929,803	2,585,165	534,666	5,049,634
2009	1,721,657	2,690,769	577,747	4,990,173
2010	1,723,268	2,648,272	564,206	4,935,746
2011	1,763,825	2,619,932	512,614	4,896,371
2012	1,765,541	2,618,216	512,614	4,896,371
2013	1,690,675	2,676,520	512,614	4,879,809
2014	1,821,742	2,646,625	471,810	4,940,177
2015	2,216,525	2,420,487	304,832	4,941,844
2016	1,748,784	3,041,910	72,473	4,863,167
2017	1,898,576	2,762,995	72,473	4,734,044
2018	1,965,872	2,883,118	58,833	4,907,823

### TMACOG (Toledo) - %

Year	Good_Area	Fair_Area	Poor_Area	Total_NHS
2008	38%	51%	10.6%	100%
2009	35%	54%	11.6%	100%
2010	35%	54%	11.4%	100%
2011	36%	54%	10.5%	100%
2012	36%	53%	10.5%	100%
2013	35%	55%	10.5%	100%
2014	37%	54%	9.6%	100%
2015	45%	49%	6.2%	100%
2016	36%	63%	1.5%	100%
2017	40%	58%	1.5%	100%
2018	40%	59%	1.2%	100%

### Statewide - Square Feet

Year	Good_Area	Fair_Area	Poor_Area	Total_NHS
2008	23,981,528	39,586,919	4,739,689	68,308,136
2009	24,094,374	40,114,728	5,297,083	69,506,185
2010	25,559,661	36,314,842	5,617,638	67,492,141
2011	26,526,545	38,919,447	5,077,619	70,523,611
2012	29,236,093	36,679,871	4,679,522	70,595,486
2013	30,793,246	35,600,121	4,118,504	70,511,871
2014	33,136,010	33,926,608	3,338,336	70,400,954
2015	36,168,556	31,394,066	2,733,086	70,295,708
2016	38,162,819	30,376,005	1,729,081	70,267,905
2017	41,736,374	27,811,129	1,466,494	71,013,997
2018	45,550,758	27,605,329	1,194,471	74,350,558

### Statewide - %

Year	Good SW	Fair SW	Poor SW	Total_NHS
2008	35%	58%	7%	100%
2009	35%	58%	8%	100%
2010	38%	54%	8%	100%
2011	38%	55%	7%	100%
2012	41%	52%	7%	100%
2013	44%	50%	6%	100%
2014	47%	48%	5%	100%
2015	51%	45%	4%	100%
2016	54%	43%	2%	100%
2017	59%	39%	2%	100%
2018	61%	37%	2%	100%

### 2017 Structures listed as poor

Cnty	SFN	Facility Carried by	Location	Deck Area	Deck	Subs.	Super	GA
LUC	4801490	S.R. 25	0.35 Mile N of Sherwood	2,077	N	N	N	4
LUC	4801539	S.R. 25	200 FT.S OF CITY PARK AVE	7,223	3	4	4	4
LUC	4802853	I-75	I-75 over Segur Ave.	16,874	4	7	6	6
LUC	4805143	ALEXIS ROAD	0.01 mile east of Benore	7,008	4	6	4	4
LUC	4805496	DORR STR.	0.1 MI W- WASHINGTON ST.	25,651	3	6	6	6

Currently in ODOT's Workplan  
 Project status Unknown