

2022 MAP-21 Pavement Performance by Business Plan Network (Based on Total PA Lane Miles*)

MAP-21 Pavement Performance Measures	Good		Fair		Poor		Missing (Max 5%)	
	Lane Miles	%	Lane Miles	%	Lane Miles	%	Lane Miles	%
Interstate	56.6	41.07%	72.6	52.70%	8.6	6.23%	0.7	0.53%
NHS, Non-Interstate	150.7	24.87%	432.7	71.41%	22.5	3.72%	20.4	3.26%
MAP-21 Pavement Performance Measure Targets	Good				Poor			
	2023 Target	2024 Target	2025 Target	2026 Target	2023 Target	2024 Target	2025 Target	2026 Target
Interstate	40%	40%	46%	44%	9%	9%	7%	7%
NHS, Non-Interstate	24%	20%	16%	15%	5%	6%	6%	7%

MAP-21 pavement performance measures required for FHWA reporting include four distress components which translate to good, fair, or poor condition scores. See table on reverse of this page for distress and thresholds. Three conditions apply to each pavement type.

- A pavement 10th mile section is considered in good condition if all three distress components are rated as good. A pavement 10th mile section is considered in poor condition if two or more of its three distress components are rated as poor.
- FHWA requires that no more than 5 percent of a state's NHS Interstate lane-miles be in poor condition. Additionally, state DOTs are required to establish targets.
- FHWA has not established a minimum condition for NHS non-Interstate roadways, but requires the state DOT to establish targets.
- FHWA requires that no more than 5 percent of a state's mileage be unreported or missing.
- Conditions are assessed and analyzed for pavement "sections" that cannot exceed 0.10 miles in length, which differs from PennDOT's historic segment level data.
- MAP-21 performance measures apply to all Interstate and NHS Non-Interstate miles in PA, regardless of ownership. Therefore, PA Turnpike and local-owned miles are in Statewide totals, but not in each District's totals. Local-owned miles are included in MPO/RPO totals as appropriate.
- MAP-21 rulemaking requires that states develop and implement a risk-based asset management plan to achieve and sustain a state of good repair over the life cycle of transportation assets and to improve or preserve the condition of the NHS. Asset Management encompasses two related means of doing so: making infrastructure last as long as reasonably possible, and keeping up on preservation activities to minimize costlier major repairs. Together, these practices extend the life of assets and reduce the cost of maintaining them in the desired state of good repair. This is known as operating the network at the lowest life-cycle cost (LLCC).
- MAP-21 performance measures are not to drive planning and programming, but rather be an indication of performance achieved by states operating at the LLCC.

2022 Pavement Smoothness (IRI) Summary by Business Plan Network (Based on PennDOT Segment Miles)

Business Plan Network	Excellent		Good		Fair		Poor		Median IRI	Tested Seg-Mi
	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%		
Interstate	8.5	13.50%	14.9	23.68%	21.7	34.53%	17.7	28.28%	116	62.7
NHS, Non-Interstate	42.6	14.49%	120.7	41.03%	84.0	28.55%	46.8	15.92%	117	294.1
Non-NHS, ≥ 2000 ADT	66.5	14.45%	184.0	39.96%	106.2	23.06%	103.7	22.53%	149	460.4
Non-NHS, < 2000 ADT	8.7	2.58%	56.6	16.82%	100.7	29.93%	170.5	50.67%	219	336.5
Total - Roadway	126.3	10.95%	376.1	32.60%	312.5	27.09%	338.8	29.37%	148.5	1,153.8

2022 Overall Pavement Index (OPI) Summary by Business Plan Network (Based on PennDOT Segment Miles)

Business Plan Network	Excellent		Good		Fair		Poor		Median OPI
	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	
Interstate	0.0	0.00%	25.8	41.92%	22.9	37.13%	12.9	20.94%	83
NHS, Non-Interstate	12.6	4.33%	151.9	52.25%	88.2	30.34%	38.0	13.08%	82
Non-NHS, ≥ 2000 ADT	45.6	9.95%	149.3	32.58%	210.8	46.02%	52.5	11.45%	78
Non-NHS, < 2000 ADT	22.0	6.57%	171.7	51.36%	99.2	29.68%	41.4	12.38%	73
Total - Roadway	80.2	7.00%	498.6	43.56%	421.1	36.79%	144.8	12.65%	78

Total Miles

PennDOT Seg-Mi	PA Lane Miles
63.1	138.5
297.8	626.4
464.4	
338.4	
1,163.7	

- The IRI and OPI data presented herein is segment level.
- For the Interstate and NHS, Non-Interstate Business Plan Networks, the IRI and OPI data is for 2022. For the Non-NHS Business Plan Networks, the IRI and OPI data for most recent year captured, either 2021 or 2022.
- PennDOT has historically classified Good Interstate IRI as ≤100, and Poor Interstate IRI as >150; for NHS Non-Interstate, Good is ≤120 and Poor is >170. This practice is maintained in the IRI data presented herein, but differs from the MAP-21 definitions defined in the table on the reverse of this page.

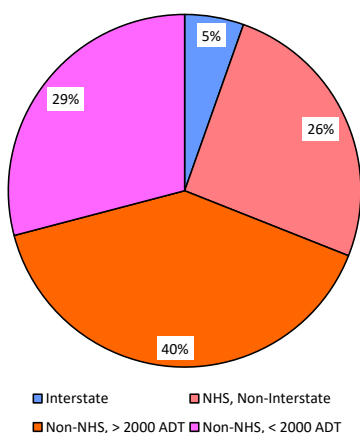
2022 Out-Of-Cycle (OOC) Assessment by Business Plan Network (Based on PennDOT Segment Miles)

Business Plan Network	High Level Bituminous		Low Level Bituminous				Concrete			
	Seg-Mi	OOC Mi ¹	Seg-Mi	OOC Mi ²	OOC Mi ³	Total	Seg-Mi	OOC Mi ⁴	OOC Mi ⁵	Total
Interstate	13.73	2.75	0.00	0.00	0.00	0.00	24.94	41.29	0.00	41.29
NHS, Non-Interstate	171.82	125.63	0.00	0.00	0.00	0.00	17.50	12.65	26.93	39.58
Non-NHS, ≥ 2000 ADT	153.76	190.78	65.19	15.21	59.65	74.86	0.62	2.67	3.53	6.20
Non-NHS, < 2000 ADT	7.51	10.40	176.86	50.70	176.03	226.72	0.10	1.69	1.01	2.70
Total - Roadway	346.83	329.57	242.05	65.91	235.68	301.59	43.16	58.30	31.47	89.77

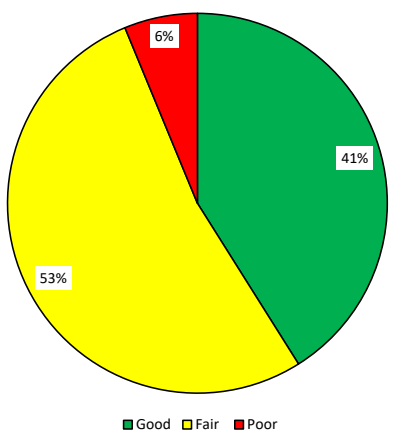
- Out-Of-Cycle Categories:
 - High Level Bituminous Pavement with Age > 12 Years or > 17 Years with Interim Surface Seal
 - Low Level Bituminous Surface with Age > 7 Years
 - Low Level Bituminous Pavement with Age > 20 Years or no Structural Layers
 - Concrete Pavements with Age > 30 Years
 - Concrete Pavements with Age > 20 Years and No Concrete Pavement Restoration (CPR)
- Total Low Level OOC represents the miles that are OOC for either Category 2 or 3. Segments that are OOC for both categories are not double counted. Total Concrete OOC represents the miles that are OOC for either Category 4 or 5. Segments that are OOC for both categories are not double counted.

The IRI miles and Total PennDOT miles include bridge lengths.
 The Total PA miles, used for MAP-21, do not include bridge lengths.
 The Treatment Network miles do not include bridge lengths.

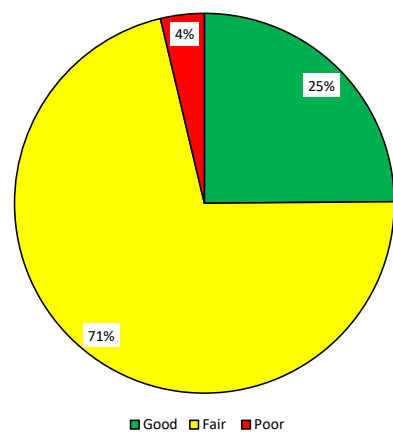
Percent Total PennDOT Segment Miles by Business Plan Network



MAP-21 Interstate Performance All PA Miles



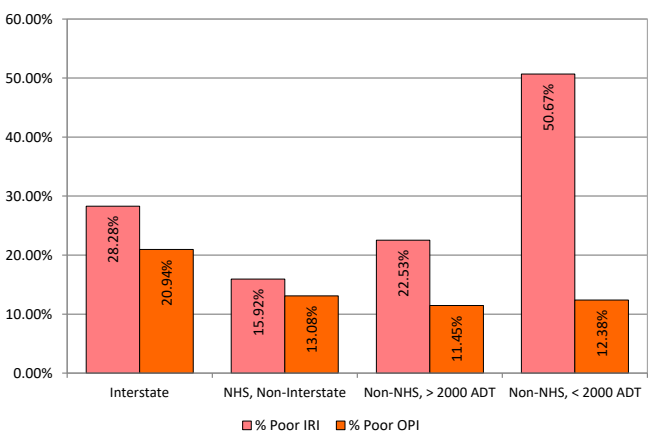
MAP-21 NHS Non-Interstate Performance All PA Miles



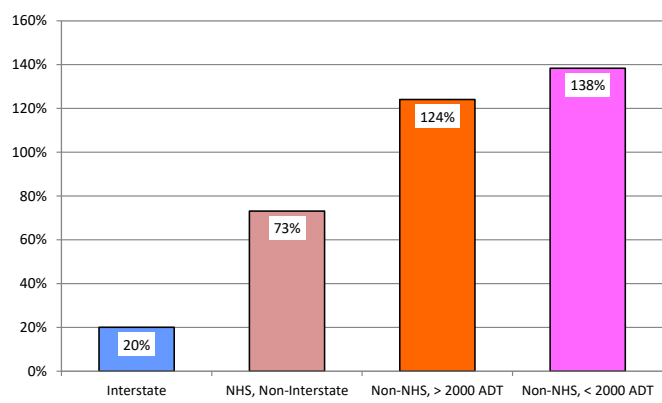
MAP-21 Pavement Conditions and Thresholds

Rating	Good	Fair	Poor
IRI (inches/mile)	<95	95–170	>170
Cracking Percentage	<5	CRCP: 5–10 Jointed: 5–15 Asphalt: 5–20	CRCP: >10 Jointed: >15 Asphalt: >20
Rutting (inches)	<0.20	0.20–0.40	>0.40
Faulting (inches)	<0.10	0.10–0.15	>0.15

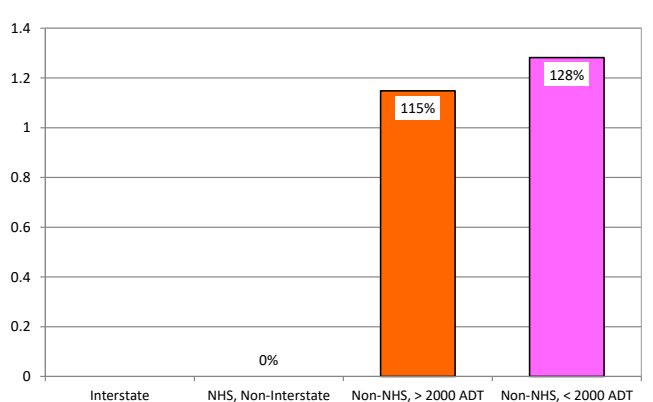
Percent of Poor IRI and Poor OPI by Business Plan Network



Percent of High Level Bituminous Miles Out-Of-Cycle by Business Plan Network



Percent of Low Level Bituminous Miles Out-Of-Cycle by Business Plan Network



Percent of Concrete Miles Out-Of-Cycle by Business Plan Network

